INTRODUCTION

The Infoblox WAPI is an interface based on REST (REpresentational State Transfer), also called a RESTful web API. It uses HTTP methods for operations and supports input and output in JSON and XML.

1.1 Notation

The following conventions are used to describe syntax for WAPI methods and objects:

<table>
<thead>
<tr>
<th>What</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>objref</td>
<td>A reference to an object. This must be a reference returned from an earlier call. For more information, see Object Reference.</td>
</tr>
<tr>
<td>WAPI</td>
<td>Used as a generic start in an URL. In real calls, this needs to be replaced with /wapi/v2.9 or similar syntax.</td>
</tr>
<tr>
<td>objtype</td>
<td>The name of an object type, such as network.</td>
</tr>
<tr>
<td>field</td>
<td>The name of a field, such as comment.</td>
</tr>
<tr>
<td>value</td>
<td>The value of an item, such as a field. The value must be quoted according to where it is used. For information, see Naming and Values.</td>
</tr>
<tr>
<td>[thing]</td>
<td>These brackets are used to signify an optional value.</td>
</tr>
<tr>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>thing...</td>
<td>... is used at the end of an item to signify that it can be repeated multiple times. Items must be separated in accordance with where they are used, such as &amp; in arguments.</td>
</tr>
<tr>
<td>{ }</td>
<td>These brackets are used to group information in descriptions.</td>
</tr>
</tbody>
</table>

1.2 Transport and Authentication

WAPI uses HTTPS (HTTP over SSL/TLS) as the transport mechanism. The server certificate used for WAPI is the same certificate used by NIOS for the GUI and PAPI.

WAPI supports only authentication that uses HTTP Basic Authentication. It is supported to use the connection for multiple requests. In this case, authentication is handled by supplying the cookie (ibapauth) that was returned after the initial authentication. This cookie can be invalidated by sending a POST request to /wapi/v2.9/logout.

WAPI supports the same underlying authentication methods that NIOS supports for username and password. All WAPI users must have permissions that grant them access to the API (same as PAPI).
1.3 Backward Compatibility

The Infoblox WAPI has a versioning scheme that is independent of the NIOS versioning scheme. The current WAPI version is 2.9.

A current WAPI version is backward compatible with WAPI releases that have the same major WAPI version or with designated earlier major versions. Though the protocol itself may not be strictly backward compatible, the server emulates the correct behavior, when necessary.

For example, a client that uses WAPI version X behaves the same way in version Y if X is supported by Y (that is X is lower than Y and X has the same major version as Y or X uses a major version that is supported by Y).

The WAPI protocol is versioned (see URL in General Syntax and Options) independently from NIOS. Refer to the release notes for information about the WAPI version.

Requirements and exceptions:

- Rely on errors returned by HTTP Error Status only, not by text messages or other components.
- New objects and fields may exist in a later WAPI version. Thus, additional fields may be returned and must be ignored.
- New syntaxes and values may be supported. Do not rely on receiving errors for illegal usage.
- In the URL, use the WAPI version that corresponds to the behavior you expect. Do not combine requests using different WAPI versions in the same session or connection.

1.4 General Syntax and Options

All WAPI requests consist of three parts; URL, Arguments and Data (body).

URL

The first part of the URL identifies the requests as a WAPI request and specifies the expected version of WAPI. The URL syntax is `wapi/v_major.minor`, e.g. `wapi/v3.4/`. The current version of the API is 2.9.

The second part of the URL identifies the resource, such as a network, on which the request operates.

Arguments

CGI query arguments (after ?) can be used to specify general options and method specific options and data for the request. All options start with the character _ (underscore).

The general options are:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_return_type</td>
<td>Data format for returned values; defaults to json. Valid choices: json, json-pretty, xml, xml-pretty. -pretty variants are the same except that they are formatted for readability. For more information, see Data Formats.</td>
</tr>
<tr>
<td>_method</td>
<td>An alternative way of specifying HTTP method and overrides the method used. The default is to use the actual HTTP method. Valid choices: GET, PUT, DELETE and POST</td>
</tr>
</tbody>
</table>

Argument key = value pairs must be separated with &. The values must be quoted using % xx notation if they contain the following: =, &, +, %, or space.

You can specify only atomic values as arguments (i.e. booleans, integers, or strings). You must use a method that contains a body if lists or structures are needed. Example: POST with _method=GET can be used for searching.

In all method descriptions, you can use general options with all requests unless specifically noted.
The methods have additional options as described in their respective sections.

The following table lists the scheduling and approval specific options. Note that you can apply these options only to PUT, POST and DELETE requests.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_schedinfo.scheduled_time</td>
<td>If set, the requested operation will be scheduled for later execution at the specified time (specified in Epoch seconds). A reference to the created scheduledtask object will be returned. Only one of scheduled_time and schedule_now can be set in the request.</td>
</tr>
<tr>
<td>_schedinfo.schedule_now</td>
<td>If set to True, the operation will be scheduled for execution at the current time. Note that only scheduled_time or schedule_now can be set in the request.</td>
</tr>
<tr>
<td>_schedinfo.predecessor_task</td>
<td>Optional reference to a scheduled task that will be executed before the submitted task.</td>
</tr>
<tr>
<td>_schedinfo.warnlevel</td>
<td>Optional warning level for the operation, valid values are ‘WARN’ and ‘NONE’. If not specified, ‘NONE’ will be used.</td>
</tr>
<tr>
<td>_approvalinfo.comment</td>
<td>Comment for the approval operation (this can be optional or required depending on the settings for the approval workflow).</td>
</tr>
<tr>
<td>_approvalinfo.query_mode</td>
<td>Optional query mode for the approval operation. Valid values are “true” or “false”, if this is set to true and the request would have required approval, an error message will be returned. The default value for this is “false”.</td>
</tr>
<tr>
<td>_approvalinfo.ticket_number</td>
<td>Ticket number for the approval operation (this can be optional or required depending on the settings for the approval workflow).</td>
</tr>
</tbody>
</table>

**Data (Body)**

Contains data that is dependent on the method. For information about data format and how to specify it, see Data Formats. Only, PUT, and POST methods can have a Body on input. All methods have Body on output.

**Example**

The GET request:

https://1.2.3.4/wapi/v2.9/networkview?
_return_type=xml-pretty&name=default

Returns with a body:

```xml
<?xml version="1.0"?><list><value type="object"><is_default type="boolean">true</is_default><_ref>networkview/ZG5zLm5ldHdvcmtdml1dyQwZG5zLm5ldHdvcmtdml1dyQw:default/true/_ref><name>default</name></value></list>
```

**1.5 Naming and Values**

WAPI uses a leading underscore (_) for all reserved arguments, fields, and items. Example: `_return_type` and `_ref`. Fields in objects always start with a letter (a-z) and are followed by a zero or more letters, digits, and underscores. No other characters are used in field identifiers.

Field and argument values must be quoted according to where they are used. Examples:
URL/CGI args, x-www-form-urlencoded:

Use %xx encoding for “%”, “;”, “/”, “?”, “:”, “@”, “&”, “=”,”+, “$”, “,” and “” (a space)

JSON Data:

Use JSON quoting, as specified at http://json.org

XML Data

Use XML quoting (& etc.) as needed for XML.

Values set in WAPI object fields might differ from the effective value used for that particular field during product operation, which could be a value inherited from the Grid or the Grid Member depending on the particular object in question and the state of the object use flags.

1.6 Object Reference

WAPI Objects are referenced using their Object References. WAPI returns this reference when an object is created, modified, deleted or read. This reference is used to identify the object for the same operations.

An object reference is a string with the following format, without spaces:

wapitype / refdata [ : name1 [ { / nameN }... ] ]

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>wapitype</td>
<td>The object type being referenced. Example: network.</td>
</tr>
<tr>
<td>refdata</td>
<td>Opaque internal object identifier. A sequence of letters, digits, “-” (dash) and “_” (underscore).</td>
</tr>
<tr>
<td>nameN</td>
<td>Object type dependent name component N. The component describes the object being referenced. This is only returned for objects with a defined name format. It is always optional on input and never used by the server.</td>
</tr>
</tbody>
</table>

The documentation for each object type describes the format of its name components. Name components are separated by “/” (or only one component without a “/”). Each name component uses the URL quoting method (%xx notation) when necessary (for example if it contains a “/” character).

If the name is defined for the object type, it can be used by a client to get basic information about an object without retrieving the full object. Example: the name of a host. However, an object’s name is not guaranteed to uniquely identify an object unless specifically noted in its description.

The name is not used by the WAPI server on input, and any supplied value is disregarded. For example, a client is free to send a previously returned reference to the server, with or without the name part, including the leading colon (:). The result is not affected.

Note that non-ascii values in name are returned using % notation, and should be interpreted as hex-encoded utf-8.

Example:

record: cname/2G5 . . . . DE:t1.webapi16.foo.bar/default

1.7 Function Calls

Functions are associated with particular objects. The method specific option _function should be used to specify the name of function to call. Only POST method allows function calls. You can use either CGI argument key = value pairs or request’s data(body) to specify values for function arguments. Simultaneous use of CGI arguments and data(body) is not supported.
Example 1

The POST request:

```
https://1.2.3.4/wapi/v2.9/network/
ZG5zLm5ldHdvcmsgMTAuMC4wLjAvMjQvMA:10.0.0.0/24/default?
_function=next_available_ip&num=3
```

Returns with a body:

```
{
    "ips": [
        "10.0.0.1",
        "10.0.0.2",
        "10.0.0.3"
    ]
}
```

Example 2

The POST request:

```
https://1.2.3.4/wapi/v2.9/network/
ZG5zLm5ldHdvcmsgMTAuMC4wLjAvMjQvMA:10.0.0.0/24/default?
_function=next_available_ip
```

Sent with a body:

```
{
    "num": 3
}
```

Returns with a body:

```
{
    "ips": [
        "10.0.0.1",
        "10.0.0.2",
        "10.0.0.3"
    ]
}
```

1.8 Extensible Attributes

Object types that allow for extensible attributes have a field called extattrs, which can be read by including the name in the _return_fields option of the GET method.

Extensible attributes are sets of name value pairs in which the values can be lists, if the attribute allows for multiple values.

Searching for extensible attributes requires the use of a special syntax, as described under the GET method.

1.9 Use Flags

Some fields are associated with a corresponding boolean flag value that has the prefix use_. For example, ttl is associated with the flag use_ttl. In an object, the value of this field will only take effect when its use flag is true. Otherwise, the value will be inherited from a higher level setting.
Use flags and fields that contain the flags behave mostly like other object fields. They are special in the following ways:

- All use flags have names such as “use_*”, where “*” is typically the name of the associated field. Multiple fields may share the same use flag.
- Use flags can be read using `_return_fields`.
- If a field is part of the default fields returned on read (“basic object”), its associated use flag (if any) will also be included in the default set.
- Use flags can be written by PUT or POST requests.
- Writing a field that has a corresponding use flag will automatically set the use flag to true, unless the same request also sets the use flag to false.

1.10 Data Formats

Input

The body of the HTTP request contains data for the PUT and POST requests only. The format of the data defaults to JSON, but it can be changed using Content-Type: header. The valid content types are:

<table>
<thead>
<tr>
<th>Content Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>application/json</td>
<td>JSON format, see <a href="http://json.org">http://json.org</a> for more information.</td>
</tr>
<tr>
<td>application/xml</td>
<td>XML format, see <a href="#">XML Format</a> for more information.</td>
</tr>
<tr>
<td>text/xml</td>
<td>Alternative way to specify application/xml.</td>
</tr>
<tr>
<td>application/x-www-form-urlencoded</td>
<td>Arguments to method encoded in body. This is the same as specification after <code>?</code>, but it can handle longer sequences and is directly supported by HTML forms. If arguments are encoded in the body, CGI query arguments won’t be allowed.</td>
</tr>
</tbody>
</table>

Output

Data returned to the client defaults to JSON, but can be changed using either Accept: header or `_return_type`. Accept: takes the same values as Content-Type, listed above (for exceptions to this, see Error Handling); `_return_type` overrides any Accept: header.

1.11 XML Format

WAPI uses the following XML constructs:

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;list&gt;</td>
<td>Array, child nodes are items in list. Names of child elements are not significant (and can be same).</td>
</tr>
<tr>
<td>&lt;X type=&quot;object&quot;&gt;</td>
<td>Object X, child nodes are members of object. X can be any value if used outside an object context</td>
</tr>
<tr>
<td>&lt;X type=&quot;T&quot;&gt;</td>
<td>Field X of object. Its value is the text of the element. Allowed types (T) are int, float, boolean and string (as in XML Schema Definition). String is the default and is not explicitly specified using type= on output.</td>
</tr>
<tr>
<td>&lt;X null=&quot;true&quot;/&gt;</td>
<td>Field X with value null/None.</td>
</tr>
</tbody>
</table>

Field syntax is used for “bare” values in list/array or as single values. X is not significant and will always be value on output.

No name spaces are used or specified.

Example: XML (xml-pretty style):

```
```

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If X is considered an illegal XML tag name, or if it begins with “tag” and is followed by a number it will be renamed to tag0-N and an additional “name” property will be added on retrieval and expected on input. For example, the XML for an object with extensible attributes that contain spaces in their names would look like the following:

```xml
<?xml version="1.0"?><list><value type="object"><network>8.0.0.0/8</network><extattrs type="object"><tag0 name="12345" type="object"><value>d</value></tag0><tag1 name="tag0" type="object"><value>c</value></tag1><tag2 name="this is a test" type="object"><value>b</value></tag2></extattrs></value></list>
```

### 1.12 Error Handling

All errors return a HTTP status code of 400 or higher.

All methods use the following generic error status codes. Specific return codes used for a method are specified for each method.

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td><strong>Bad Request.</strong> The request from the client is incorrect. This could be syntax errors in the request or data conflict issues on the server side. The request should not be repeated as is unless the error condition has been cleared (i.e. either the request syntax corrected or the state of the database changed.)</td>
</tr>
<tr>
<td>500</td>
<td><strong>Server Error.</strong> The error was not caused by any error in the request. Depending on the error the request may be successfully repeated as is. If not possible to resolve, please report to Infoblox (including the full error return with the “trace”).</td>
</tr>
</tbody>
</table>

4xx codes refer to errors caused by the request or the data. To some extent, all of these are user errors.

5xx codes refer to server or internal errors. These errors point to deficiency in the server code and are not usually possible under normal conditions.

When the server returns an error with status code >= 400, the body is always in JSON format, irrespective of any Accept or _return_types.
The returned message conforms to JSON, but is formatted to ensure that the first line of the body always contains the text “Error,” an error type, and an error message.

A client that only gives a description of the error can simply show the first returned line.

The full returned error data is an object with the following fields (all values are strings):

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error</td>
<td>Error type (followed by an explanation after :).</td>
</tr>
<tr>
<td>code</td>
<td>Symbolic error code.</td>
</tr>
<tr>
<td>text</td>
<td>Explanation of the error.</td>
</tr>
<tr>
<td>trace</td>
<td>Debug trace from the server, only if debug is on.</td>
</tr>
</tbody>
</table>

Example of Error Return (trace shortened):

```json
{
  "Error": "AdmConProtoError: Unknown argument/field: netwdork",
  "code": "Client.Ibap.Proto",
  "text": "Unknown argument/field: netwdork",
  "trace": " File "/infoblox/common/lib/python/info..."
}
```
2.1 GET

Search and Read Objects: GET Method

HTTP GET is used to read a single object or to search for objects.

Syntax

GET WAPI / objref [ ? option... ]

or

GET WAPI / objtype [ ? { option | condition }... ]

Description

GET is used to read objects. The objects to read can be specified either by using an Object Reference (objref) to read one specific object or by searching for objects of a specific type (objtype) with the given search conditions.

Arguments to the search (objtype) form are field names and values to match. If no arguments are used, all object for the object type objtype are returned.

The number of objects returned is limited by the option _max_results or, if _max_results is not specified, 1000 objects. If _max_results is not specified, the appliance returns an error when the number of returned objects would exceed 1000. Similarly, if _max_results is set to -500 (maximum of 500 objects) the appliance returns an error if the number of returned objects would exceed 500.

Options
<table>
<thead>
<tr>
<th>Method Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_max_results</td>
<td>Maximum number of objects to be returned. If set to a negative number the appliance will return an error when the number of returned objects would exceed the setting. The default is -1000. If this is set to a positive number, the results will be truncated when necessary.</td>
</tr>
<tr>
<td>_return_fields</td>
<td>List of returned fields separated by commas. The use of _return_fields repeatedly is the same as listing several fields with commas. The default is the basic fields of the object.</td>
</tr>
<tr>
<td>_return_fields+</td>
<td>Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).</td>
</tr>
<tr>
<td>_return_as_object</td>
<td>If set to 1, a results object will be returned (see below for more information). If not specified, it defaults to 0.</td>
</tr>
<tr>
<td>_paging</td>
<td>If set to 1, the request is considered a paging request (see below for more information). If not specified, it defaults to 0. If set, _max_results must also be set.</td>
</tr>
<tr>
<td>_page_id</td>
<td>If set, the specified page of results will be returned.</td>
</tr>
<tr>
<td>_proxy_search</td>
<td>If set to ‘GM’, the request is redirected to Grid master for processing. If set to ‘LOCAL’, the request is processed locally. This option is applicable only on vConnector grid members. The default is ‘LOCAL’.</td>
</tr>
<tr>
<td>_schema</td>
<td>If this option is specified, a WAPI schema will be returned (see below for more information).</td>
</tr>
<tr>
<td>_schema_version</td>
<td>If this option is specified, a WAPI schema of particular version will be returned. If options is omitted, schema version is assumed to be 1. For the full list of available versions please refer to information below.</td>
</tr>
<tr>
<td>_get_doc</td>
<td>If this option is specified, a WAPI schema with documentation will be returned. Applicable only when _schema_version is 2.</td>
</tr>
<tr>
<td>_schema_searchable</td>
<td>If this option is specified, search only fields will also be returned. Applicable only when _schema_version is 2.</td>
</tr>
</tbody>
</table>

**Arguments**

There can be no arguments to objtype or it can have one or multiple conditions in the following format:

```
{ field | * attribute [ <space> ] } [ modifiers ] = value
```

Where:

- **field** is a documented field of the object.
- **attribute** is the name of an extensible attribute. Must be prefixed by an asterisk (*) and optionally followed by a single space.
- **modifiers** is optional and can be one or more search modifiers supported by the field or extensible attribute value type.
- **value** is the value or regular expression to search for.

When combining multiple conditions, all must be satisfied in order to match an object (i.e. conditions are combined with AND).

When a field is a list or an extensible attribute that can have multiple values, the condition is true if any value in the list matches.

If no modifiers are used, it is an exact match.

**Search Modifiers**

A search argument can use the following modifiers:
<table>
<thead>
<tr>
<th>Modifier</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Negates the condition.</td>
</tr>
<tr>
<td>:</td>
<td>Makes string matching case insensitive.</td>
</tr>
<tr>
<td>~</td>
<td>Regular expression search. Expressions are unanchored.</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less than or equal.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than or equal.</td>
</tr>
</tbody>
</table>

Only one of the following can be specified at one time: greater than, less than, and regular expressions.

You can find the modifiers that are supported by each field in the respective documentation. Unsupported combinations will result in an error.

Depending on the attribute type, following are modifiers supported by extensible attributes:

integer and date support !, < and >. All other types behave like strings and support !, ~ and :.

Data Returned

In the object reference form (objref) only one object is returned (as an object, not a list). In the search form (objtype) the request always returns a list of objects (even if zero or one objects is returned).

Objects returned will by default consist of a set of basic fields, as listed in the documentation. The option _return_fields can be used to request a specific set of fields to return.

Fields that have no value (not set in the NIOS database) or that are not allowed to be accessed by the user because of group access rights will not be returned (i.e. silently left out of the result).

Returned objects will also contain a _ref field, containing the reference of the object. This can be used in subsequent calls that require a reference.

If a search matches no objects, an empty list will be returned.

If a results object is requested, an object with the following fields will be returned:

<table>
<thead>
<tr>
<th>Field</th>
<th>Present</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>result</td>
<td>Always</td>
<td>Actual result of the read operation, this is a list of objects.</td>
</tr>
<tr>
<td>next_page_id</td>
<td>Optional</td>
<td>If there was a paging request, this is the ID for the next page of results.</td>
</tr>
</tbody>
</table>

Some fields refer to other subobjects. Some of these fields also support nested return fields (see the field’s ‘Type’ section for more information). In the case of nested return fields, you can request specific fields of the subobject by concatenating them to the parent field using the ‘.’ (period) character.

For example, during a search for record:host, you can request the return of the ‘bootserver’ field in subobject ‘ipv4addrs’ by passing a return field in the form of ‘ipv4addr.bootserver’.

You can also specify subobject fields as part of a _return_fields+ invocation. In this case, the specified return field will be returned in addition to the standard fields for the specified subobject.

If an empty subobject field is passed, and the subobject field is a reference-only field, it is equivalent to asking for the standard fields of that subobject. This can be useful if the subobject field returns only the reference of the subobject by default. For example, in the ‘permission’ object, the ‘object’ field normally contains only the reference of the object to which the permission applies. To request the standard fields for the object, you can pass the following return field to the search: ‘object.’ (Note the trailing period).

If a field can support multiple object types, for example ‘record’ inside allrecords, only fields common to all the multiple object types should be specified as subobject fields. Otherwise if a subobject for which the subfield is not valid exists, an error would be returned.
Return Status/Errors

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Normal return. Referenced object or result of search in body.</td>
</tr>
<tr>
<td>400</td>
<td>Results set would contain more than _max_results objects (only generated if _max_results is negative).</td>
</tr>
<tr>
<td>404</td>
<td>Referenced object not found (if objref form is used, empty list and 200 is returned for empty search result)</td>
</tr>
</tbody>
</table>

Results paging

For searches that return a large number of results, paging is desirable.

To start a paging request, the initial search request must have _paging and _return_as_object set to 1, and _max_results set to the desired page size.

The server will then return a results object that contains the next_page_id field and the result field set to the first page of results.

Note that the next_page_id field only contains URL-safe characters so it can be used as is and no quotation characters are required for subsequent requests.

To get more results, you should send GET requests to the original object and set _page_id to the ID string returned in the previous page of results.

The server does not return a next_page_id field in the last page of results. Paging requests are considered independent requests, so the set of results might change between requests if objects are added or removed from the server at the same time when the requests are occurring.

For an invocation example, see the sample code section in the manual here.

WAPI Schema Fetching

If the _schema option is passed, the request will execute a schema fetch. Other options, such as _max_results, _return_fields, etc., will be ignored.

The WAPI schema returned in the format requested using either the Accept: header or _return_type as specified by WAPI.

Note that this is not intended to be a schema as defined by JSON or XML standards.

If a WAPI schema is requested using the _schema option without specifying objtype, an object with the following fields will be returned:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>requested_version</td>
<td>Actual requested version of the WAPI schema.</td>
</tr>
<tr>
<td>supported_objects</td>
<td>List of supported objects in the requested version.</td>
</tr>
<tr>
<td>supported_versions</td>
<td>List of all supported versions.</td>
</tr>
</tbody>
</table>

Example. Use a GET request to get the WAPI schema:

https://1.2.3.4/wapi/v1.0/?_schema

Returns with a body (lists shortened):

```json
{ "requested_version": "1.0", "supported_objects": ["ipv4address", "ipv6address", "ipv6network", "ipv6networkcontainer", "ipv6range", "macfilteraddress", "network", ...], "supported_versions": ["1.0", "1.1", "1.2", "1.2.1", ...] }
```

If the described above is done specifying _schema_version=2, then following field will be returned additionally:
Table:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>schema_version</td>
<td>The version of schema description requested.</td>
</tr>
<tr>
<td>supported_schema_versions</td>
<td>List of supported versions for schema description.</td>
</tr>
</tbody>
</table>

Example:

https://1.2.3.4/wapi/v2.5/?_schema=1&_schema_version=2

Returns with a body (lists shortened):

```json
{
  "requested_version": "2.5",
  "schema_version": "2",
  "supported_schema_versions": ["1", "2"],
  "supported_objects": ["ad_auth_service", ... ],
  "supported_versions": ["2.3","2.5", ... ]
}
```

If the `objtype` is specified for WAPI schema fetching, an object with the following fields will be returned:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cloud_additional_restrictions</td>
<td>List of cloud restrictions.</td>
</tr>
<tr>
<td>fields</td>
<td>List of fields of the object.</td>
</tr>
<tr>
<td>restrictions</td>
<td>List of object restrictions.</td>
</tr>
<tr>
<td>type</td>
<td>Requested <code>objtype</code>.</td>
</tr>
<tr>
<td>version</td>
<td>Actual requested version of the WAPI object schema.</td>
</tr>
</tbody>
</table>

The fields specific to schema description #2:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>schema_version</td>
<td>The version of schema description requested.</td>
</tr>
<tr>
<td>wapi_primitive</td>
<td>Determines if the requested WAPI primitive is object, structure or function call.</td>
</tr>
</tbody>
</table>

The list of object restrictions that contain supported operations for the object. Example of operations: “create”, “delete”, “read”, “update”, “function call”, “permissions”, “global search”, “scheduling”, “csv”.


The returned `fields` list is composed by individual objects each describing a field of the API object. These objects have the following members:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>is_array</td>
<td>True if this field is an array.</td>
</tr>
<tr>
<td>name</td>
<td>Name of this field.</td>
</tr>
<tr>
<td>searchable_by</td>
<td>String with supported search modifiers: “=”, “!”, “:”, “~”, “&lt;”, “&gt;”.</td>
</tr>
<tr>
<td>standard_field</td>
<td>True for fields that are returned by default.</td>
</tr>
<tr>
<td>supports</td>
<td>List of supported operations: “s”, “w”, “u”, “r”.</td>
</tr>
<tr>
<td>type</td>
<td>List of supported types.</td>
</tr>
<tr>
<td>wapi_primitive</td>
<td>Determines if the requested WAPI primitive is object, structure or function call.</td>
</tr>
</tbody>
</table>

The fields specific to schema description #2:

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<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>schema_version</td>
<td>The version of schema description requested.</td>
</tr>
<tr>
<td>wapi_primitive</td>
<td>Determines if the requested WAPI primitive is object, structure or function call.</td>
</tr>
<tr>
<td>supports_inline_funcall</td>
<td>Determines if the field can be initialized by calling an inline function.</td>
</tr>
<tr>
<td>doc</td>
<td>The documentation of this field. It’s applicable only when _get_doc=1 is used. The returned documentation string might contain ReStructuredText directives.</td>
</tr>
</tbody>
</table>

The version #2 delivers all information regarding structures and function calls.

Please keep in mind that **enum_values** is changed in #2. It cannot be a dictionary, as it was in #2, but a list.

Example. Use a GET request to get the ‘networkview’ WAPI object schema for WAPI version 1.4:

https://1.2.3.4/wapi/v1.4/networkview?\_schema

Returns with a body (lists shortened):

```json
{ "cloud_additional_restrictions": ["all"],
 "fields": [{
   "is_array": false,
   "name": "comment",
   "searchable_by": ":~=",
   "standard_field": true,
   "supports": "rwus",
   "type": ["string"]
 }, {
   "is_array": false,
   "name": "name",
   "searchable_by": ":~=",
   "standard_field": true,
   "supports": "rwus",
   "type": ["string"]
 }, ...
 ],
 "restrictions": ["scheduling", "csv"],
 "type": "networkview",
 "version": "1.4"
}
```

Example of new information for version #2 (the same request as above but different objtype and HTTP arguments):

https://1.2.3.4/wapi/v2.9/grid?\_schema=1&\_schema_version=2&\_get_doc=1

Returns with a body (lists shortened and cut):

```json
{ "doc": "Test connectivity to the REST API endpoint.",
 "is_array": false,
 "name": "test_connection",
 "schema": {},
 "input_fields": [],
 "output_fields": [
   { "doc": "The overall status of connectivity test.",
     "enum_values": [ "FAILED",
```

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2.2 POST

Create Object: POST Method

The POST method is used to create a new object. It can also be used for all other operations via the `wapi object`

Syntax POST `WAPI / objtype [ ? { options | field = value }... ]`

Description The data for the request must contain all required fields of the `objtype`. Data can be given as
arguments as shown above or as the body of the request (but not both).

<table>
<thead>
<tr>
<th>Method Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_return_fields</td>
<td>A list of returned fields separated by commas. The use of _return_fields repeatedly is the same as listing several fields with commas. The default is the basic fields of the object.</td>
</tr>
<tr>
<td>_return_fields+</td>
<td>Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).</td>
</tr>
</tbody>
</table>

Options can be given only as query arguments as shown above, they cannot be included in the body of the request.

Arguments Arguments can be used to supply the object instead of using the body.

Data (Body) Data for object to be created. Can be used as alternative to arguments. All fields marked as required for the object must be supplied. All fields not supplied will be defaulted as specified for the object. See Use Flags for information about special handling for these fields.

Data Returned Object Reference of the object created, returned as a string.

If required, specify the `_return_fields` option to examine the values of fields that were set by the appliance as part of the insertion. It is possible for the appliance to return the newly inserted object, instead of a reference string.

Passing an empty value to the `_return_fields` option will cause only the object reference to be set inside the returned object. Passing an empty value to the `_return_fields+` option will cause the returned object to contain its standard fields. Passing any other values will return the specified fields.

Return Status/Errors

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Object created (success)</td>
</tr>
</tbody>
</table>

2.3 PUT

Update Object: PUT Method

The PUT method is used to update an existing object. The syntax of PUT is:

Syntax PUT WAPI / objref [ ? { option | field = value }... ]

Description PUT is used to update an existing object (given by the Object Reference, objref in the request). Only the fields supplied are updated (except as described for Use Flags).

<table>
<thead>
<tr>
<th>Method Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>_return_fields</td>
<td>List of returned fields separated by commas. The use of _return_fields repeatedly is the same as listing several fields with commas. The default is the basic fields of the object.</td>
</tr>
<tr>
<td>_return_fields+</td>
<td>Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).</td>
</tr>
</tbody>
</table>

Options can be given only as query arguments as shown above, they cannot be included in the body of the request.

Arguments The data to be updated can be given as argument as shown in the syntax or as the body of the request (but not both).

Data (Body) Data for object to be updated. Can be used as alternative to arguments.

Data Returned
Object Reference of the object modified, returned as a string. The object reference may have been changed by the operation.

If required, specify the `_return_fields` option to examine the values of fields that were set by the appliance as part of the update. It is possible for the appliance to return the newly updated object, instead of a reference string.

Passing an empty value to the `_return_fields` option will cause only the object reference to be set inside the returned object. Passing an empty value to the `_return_fields+` option will cause the returned object to contain its standard fields. Passing any other values will return the specified fields.

Return Status/Errors

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Object updated (success)</td>
</tr>
</tbody>
</table>

2.4 DELETE

Delete Object: DELETE Method

The DELETE method is used to delete an object.

Syntax DELETE WAPI / objref [ ? option... ]

Description DELETE is used to delete an existing object (given by the Object Reference, `objref` in the request).

Options There are no DELETE specific options.

Arguments There are no general DELETE arguments. Some of the objects has object-specific DELETE arguments, which are described in the ‘Delete arguments’ section of their respective documentation.

Data Returned Returns the Object Reference of the deleted object as a string.

Return Status/Errors

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Object deleted (success)</td>
</tr>
</tbody>
</table>
CHAPTER THREE

OBJECTS

3.1 ad_auth_service : Active Directory Authentication Service object.

This object allows you to specify an Active Directory (AD) authentication method and the AD authentication servers that Infoblox uses to authenticate administrators.

Object Reference

References to ad_auth_service are object references. The name part of the Active Directory Authentication Service object reference has the following components:

- The name of the Active Directory authentication service.

Example: ad_auth_service/ZG5zLm5ldHdvcmtdmlldyQxMTk:Infoblox

Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>
**ad_domain**

*ad_domain*
The Active Directory domain to which this server belongs.

**Type**
String.

**Create**
The default value is *undefined*.

**Search**
The field is available for search via
- `':= '` (case insensitive search)
- `'=' ` (exact equality)
- `'~=' ` (regular expression)

**additional_search_paths**

*additional_search_paths*
The unordered list of additional search paths for nested group querying.

**Type**
String array.

**Create**
The default value is *empty*.

**Search**
The field is not available for search.

**comment**

*comment*
The descriptive comment for the AD authentication service.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is available for search via
- `':= '` (case insensitive search)
- `'=' ` (exact equality)
• ‘~=’ (regular expression)

disable_default_search_path

disable_default_search_path
Determines whether the default search path for nested group querying is used.

Type
Bool.

Create
The default value is False.

Search
The field is not available for search.

disabled

disabled
Determines if Active Directory Authentication Service is disabled.

Type
Bool.

Create
The default value is False.

Search
The field is not available for search.

domain_controllers

domain_controllers
The AD authentication server list.

Type
A/An Active Directory Authentication Server struct array.

Create
The default value is undefined.

Search
The field is not available for search.
**name**

**name**
The AD authentication service name.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

**Search**
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**
name is part of the base object.

**nested_group_querying**

**nested_group_querying**
Determines whether the nested group querying is enabled.

**Type**
Bool.

**Create**
The default value is `False`.

**Search**
The field is not available for search.

**timeout**

**timeout**
The number of seconds that the appliance waits for a response from the AD server.

**Type**
Unsigned integer.

**Create**
The default value is 5.

**Search**
The field is not available for search.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>ad_domain</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>additional_search_paths</td>
<td>[String]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>disable_default_search_path</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>disabled</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>domain_controllers</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>nested_group_querying</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.2 admingroup : Admin Group object.

An Admin Group object creates and manages a local admin group on the Infoblox appliance. The privileges and properties that are set for the group apply to all the admin accounts that are assigned to the group.

#### Object Reference

References to admingroup are object references.

#### Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

#### Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

#### access_method

Access methods specify whether an admin group can use the GUI and the API to access the appliance or to send Taxii messages to the appliance. Note that API includes both the Perl API and RESTful API.

Type
Enum values array.

**Valid values are:**

- API
- CLOUD_API
- GUI
- TAXII

**Create**
The default value is `['GUI', 'API', 'TAXII']`.

**Search**
The field is not available for search.

### comment

**comment**
Comment for the Admin Group; maximum 256 characters.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**
comment is part of the base object.

### disable

**disable**
Determines whether the Admin Group is disabled or not. When this is set to False, the Admin Group is enabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.
**email_addresses**

The e-mail addresses for the Admin Group.

**Type**

String array.

**Create**

The default value is *empty*.

**Search**

The field is not available for search.

**enable_restricted_user_access**

Determines whether the restrictions will be applied to the admin connector level for users of this Admin Group.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

**extattrs**

Extensible attributes associated with the object.

For valid values for extensible attributes, see *the following information*.

**Type**

Extensible attributes.

This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Create**

The default value is *empty*.

**Search**

For how to search extensible attributes, see *the following information*.  

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**name**

name
The name of the Admin Group.

Type
String.

Values with leading or trailing white space are not valid for this field.

Create
The field is required on creation.

Search
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

Notes
name is part of the base object.

---

**roles**

roles
The names of roles this Admin Group applies to.

Type
String array.

Create
The default value is `empty`.

Search
The field is available for search via
- `=` (exact equality)

---

**superuser**

superuser
Determines whether this Admin Group is a superuser group. A superuser group can perform all operations on the appliance, and can view and configure all types of data.

Type
Bool.

Create
The default value is `False`.

Search
The field is available for search via
• ‘=’ (exact equality)

**user_access**

The access control items for this Admin Group.

**Type**
A/An *Address ac* struct array.

**Create**
The default value is:
`empty`

**Search**
The field is not available for search.

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>access_method</td>
<td>[Enum]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>email_addresses</td>
<td>[String]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>enable_restricted_user_access</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>roles</td>
<td>[String]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>superuser</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>user_access</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.3 adminrole : Admin Role object.

An Admin Role object creates and manages a local admin role on the Infoblox appliance. A Role object is used to aggregate a set of permissions (represented by Permission objects).

The *name* part of the admin role object reference has the following components:

• Name of the Admin Role object

Example: `adminrole/ZG5zLm5ldHdvcmtdmlldyQxMTk:default`

### Object Reference

References to adminrole are *object references*. 
Restrictions

The object does not support the following operations:

- Scheduling

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): **comment, name**.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

**comment**

**comment**

The descriptive comment of the Admin Role object.

**Type**

String.

**Create**

The default value is *empty*.

**Search**

The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

**Notes**

comment is part of the base object.

**disable**

**disable**

The disable flag.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**
The field is not available for search.

**extattrs**

Extensible attributes associated with the object.

For valid values for extensible attributes, see the following information.

**Type**

Extensible attributes.

This field allows +/- to be specified as part of the field name when updating the object, see the following information.

**Create**

The default value is *empty*.

**Search**

For how to search extensible attributes, see the following information.

**name**

The name of an admin role.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The field is required on creation.

**Search**

The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~’ (regular expression)

**Notes**

name is part of the base object.

**Fields List**

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>:= ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>:= ~</td>
</tr>
</tbody>
</table>

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3.4 adminuser : Admin User object.

An admin account provides access to the Infoblox appliance. An admin account inherits the privileges and properties of the group to which it belongs.

Object Reference

References to adminuser are object references. The name part of a dmin User properties object reference has the following components:

- The name of the admin user

Example: adminuser/ZG5zLm5ldHdvcmtfdmlldyQxMTk:user1

Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): admin_groups, comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin_groups</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>password</td>
<td>See the field description for more information</td>
</tr>
</tbody>
</table>

admin_groups

The names of the Admin Groups to which this Admin User belongs. Currently, this is limited to only one Admin Group.

Type

String array. The array supports a maximum of 1 element(s).

Create

The field is required on creation.

Search

The field is available for search via

- ‘=’ (exact equality)
Notes

admin_groups is part of the base object.

**auth_type**

The authentication type for the admin user.

**Type**

String.

**Valid values are:**

- LOCAL
- REMOTE

**Create**

The default value is *LOCAL*.

**Search**

The field is not available for search.

**ca_certificate_issuer**

The CA certificate that is used for user lookup during authentication.

**Type**

String.

This field supports nested return fields as described [here](#).

**Create**

The default value is *empty*.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**client_certificate_serial_number**

The serial number of the client certificate.

**Type**

String.

**Create**

The default value is *empty*.

**Search**
The field is available for search via

- ‘=’ (exact equality)
- ‘~=” (regular expression)

**comment**

Comment for the admin user; maximum 256 characters.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The default value is *empty*.

**Search**

The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=” (regular expression)

**Notes**

comment is part of the base object.

**disable**

**disable**

Determines whether the admin user is disabled or not. When this is set to False, the admin user is enabled.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

**email**

**email**

The e-mail address for the admin user.

**Type**

String.

**Create**
The default value is *empty*.

**Search**
The field is not available for search.

### enable_certificate_authentication

**enable_certificate_authentication**
Determines whether the user is allowed to log in only with the certificate. Regular username/password authentication will be disabled for this user.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

### extattrs

**extattrs**
Extensible attributes associated with the object.

For valid values for extensible attributes, see *the following information*.

**Type**
Extensible attributes.

This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Create**
The default value is *empty*.

**Search**
For how to search extensible attributes, see *the following information*.

### name

**name**
The name of the admin user.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

**Search**
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=’ (regular expression)

Notes
name is part of the base object.

<table>
<thead>
<tr>
<th>password</th>
</tr>
</thead>
</table>

**password**
The password for the administrator to use when logging in.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The password field is required if auth_type is not REMOTE.

**Search**
The field is not available for search.

**Notes**
password is not readable.

<table>
<thead>
<tr>
<th>time_zone</th>
</tr>
</thead>
</table>

**time_zone**
The time zone for this admin user.

**Type**
String.

**Valid values are:**
- (UTC + 10:00) Brisbane
- (UTC + 10:00) Canberra, Sydney
- (UTC + 10:00) Guam
- (UTC + 10:00) Hobart
- (UTC + 10:00) Melbourne, Victoria
- (UTC + 10:00) Vladivostok
- (UTC + 11:00) Magadan
- (UTC + 11:00) Solomon Islands
- (UTC + 12:00) Anadyr
- (UTC + 12:00) Auckland
• (UTC + 12:00) Fiji
• (UTC + 12:00) Marshall Islands
• (UTC + 1:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
• (UTC + 1:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
• (UTC + 1:00) Brussels, Copenhagen, Madrid, Paris
• (UTC + 1:00) Sarajevo, Skopje, Sofija, Warsaw, Zagreb
• (UTC + 2:00) Athens, Vilnius
• (UTC + 2:00) Bucharest
• (UTC + 2:00) Cairo
• (UTC + 2:00) Harare
• (UTC + 2:00) Helsinki
• (UTC + 2:00) Jerusalem
• (UTC + 2:00) Kaliningrad
• (UTC + 3:00) Baghdad, Istanbul, Kuwait, Minsk, Riyadh
• (UTC + 3:00) Moscow, St. Petersburg, Volgograd
• (UTC + 3:00) Nairobi
• (UTC + 3:30) Tehran
• (UTC + 4:00) Baku
• (UTC + 4:00) Dubai
• (UTC + 4:00) Samara
• (UTC + 4:30) Kabul
• (UTC + 5:00) Ekaterinburg
• (UTC + 5:00) Islamabad, Karachi
• (UTC + 5:30) Bombay, Calcutta, Madras, New Delhi
• (UTC + 5:30) Colombo
• (UTC + 6:00) Dhaka
• (UTC + 6:00) Omsk
• (UTC + 6:30) Rangoon
• (UTC + 7:00) Bangkok, Hanoi
• (UTC + 7:00) Krasnoyarsk
• (UTC + 8:00) Beijing, Chongqing, Shanghai
• (UTC + 8:00) Hong Kong
• (UTC + 8:00) Irkutsk
• (UTC + 8:00) Perth
• (UTC + 8:00) Singapore
• (UTC + 8:00) Taipei
• (UTC + 9:00) Osaka, Sapporo, Tokyo
• (UTC + 9:00) Seoul
• (UTC + 9:00) Yakutsk
• (UTC + 9:30) Adelaide
• (UTC + 9:30) Darwin
• (UTC - 10:00) Hawaii
• (UTC - 11:00) Midway Island, Samoa
• (UTC - 12:00)
• (UTC - 1:00) Azores
• (UTC - 2:00) Mid-Atlantic
• (UTC - 3:00) Brasilia
• (UTC - 3:00) Buenos Aires
• (UTC - 3:30) Newfoundland
• (UTC - 4:00) Atlantic Time (Canada)
• (UTC - 4:00) Caracas
• (UTC - 4:00) Santiago
• (UTC - 5:00) Bogota, Lima, Quito
• (UTC - 5:00) Eastern Time (US and Canada)
• (UTC - 5:00) Indiana (East)
• (UTC - 6:00) Central Time (US and Canada)
• (UTC - 6:00) Mexico City, Tegucigalpa
• (UTC - 6:00) Saskatchewan
• (UTC - 7:00) Arizona
• (UTC - 7:00) Mountain Time (US and Canada)
• (UTC - 8:00) Pacific Time (US and Canada), Tijuana
• (UTC - 9:00) Alaska
• (UTC) Casablanca
• (UTC) Coordinated Universal Time
• (UTC) Dublin
• (UTC) Lisbon
• (UTC) London

Create
The default value is (UTC) Coordinated Universal Time.

Search
The field is not available for search.

Notes
time_zone is associated with the field `use_time_zone` (see use flag).

<table>
<thead>
<tr>
<th>use_time_zone</th>
<th>use_time_zone</th>
<th>use_time_zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use flag for: time_zone</td>
<td>Type</td>
<td>Bool.</td>
</tr>
<tr>
<td>The default value is <code>False</code>.</td>
<td>Create</td>
<td>The field is not available for search.</td>
</tr>
<tr>
<td>Search</td>
<td>The field is not available for search.</td>
<td></td>
</tr>
</tbody>
</table>

**Search-only Fields**

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.

<table>
<thead>
<tr>
<th>role</th>
<th>role</th>
<th>role</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Role name to search for. If an empty string is specified, all users without Roles will be searched.</td>
<td>Type</td>
<td>String.</td>
</tr>
<tr>
<td>Search</td>
<td>The field is available for search via</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• ‘=’ (exact equality)</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>role is a search-only field.</td>
<td></td>
</tr>
</tbody>
</table>
Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin_groups</td>
<td>[String]</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>auth_type</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ca_certificate_issuer</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>client_certificate_serial_number</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>= ~</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>email</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>enable_certificate_authentication</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>password</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>time_zone</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>use_time_zone</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Required in some cases, see detailed field description above.

Search-only Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>role</td>
<td>String</td>
<td>=</td>
</tr>
</tbody>
</table>

3.5 authpolicy : The authentication policy object.

The authentication policy defines which authentication server groups the appliance uses to authenticate admins and lists the local admin groups that map to the remote admin groups.

Object Reference

References to authpolicy are object references.

The name part of an authentication policy object has following components:

- The ‘authpolicy’ string

Example:authpolicy/ZG5zLm5ldHdvcmtdmldyQxMTk:authpolicy

Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.
**Fields**

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): **default_group**, **usage_type**.

### admin_groups

**admin_groups**

The list of names of local admin groups that are mapped to remote administration groups.

**Type**

String array.

**Create**

The default value is `empty`.

**Search**

The field is not available for search.

### auth_services

**auth_services**

The array that contains an ordered list of refs to `localuser:authservice` object, `ldap_auth_service` object, `radius:authservice` object, `tacacsplus:authservice` object, `ad_auth_service` object, `certificate:authservice` object.

**Type**

An array of the following objects: `localuser:authservice`, `ldap_auth_service`, `radius:authservice`, `tacacsplus:authservice`, `ad_auth_service`, `certificate:authservice`.

This field supports nested return fields as described [here](#).

**Create**

The default value is *The default is a list that contains the reference to localuser:authservice object.*

**Search**

The field is not available for search.

### default_group

**default_group**

The default admin group that provides authentication in case no valid group is found.

**Type**

String.

**Create**

The default value is `empty`.

**Search**
The field is available for search via
  • ‘=’ (exact equality)

Notes
default_group is part of the base object.

**usage_type**

**usage_type**
Remote policies usage.

**Type**
String.

**Valid values are:**
  • AUTH_ONLY
  • FULL

**Create**
The default value is FULL.

**Search**
The field is available for search via
  • ‘=’ (exact equality)

Notes
usage_type is part of the base object.

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin_groups</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>auth_services</td>
<td>obj</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>default_group</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>usage_type</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
</tbody>
</table>

### 3.6 cacertificate : CA Certificate object.

An CA Certificate object represents a CA certificate description.

**Object Reference**

References to cacertificate are *object references*. The *name* part of a cacertificate object reference has the following components:

  • The certificate subject name.

Example: cacertificate/SW5mb2Jsb3ggQXBwbGllhbmlNl:some_authority
Restrictions

The object does not support the following operations:

- Create (insert)
- Modify (update)
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): distinguished_name, issuer, serial, used_by, valid_not_after, valid_not_before.

distinguished_name

distinguished_name
The certificate subject name.

Type
String.

Search
The field is available for search via

- ‘=’ (exact equality)

Notes

distinguished_name is part of the base object.
distinguished_name cannot be updated.
distinguished_name cannot be written.

issuer

issuer
The certificate issuer subject name.

Type
String.

Search
The field is available for search via

- ‘=’ (exact equality)
Notes
issuer is part of the base object.
issuer cannot be updated.
issuer cannot be written.

<table>
<thead>
<tr>
<th>serial</th>
</tr>
</thead>
</table>

**serial**
The certificate serial number in hex format.

**Type**
String.

**Search**
The field is available for search via

- ‘=’ (exact equality)

Notes
serial is part of the base object.
serial cannot be updated.
serial cannot be written.

<table>
<thead>
<tr>
<th>used_by</th>
</tr>
</thead>
</table>

**used_by**
Information about the CA certificate usage.

**Type**
String.

**Search**
The field is not available for search.

Notes
used_by is part of the base object.
used_by cannot be updated.
used_by cannot be written.

<table>
<thead>
<tr>
<th>valid_not_after</th>
</tr>
</thead>
</table>

**valid_not_after**
The date after which the certificate becomes invalid.

**Type**
Timestamp.

**Search**
The field is not available for search.

Notes
valid_not_after is part of the base object.
valid_not_after cannot be updated.
valid_not_after cannot be written.

valid_not_before

valid_not_before
The date before which the certificate is not valid.

Type
Timestamp.

Search
The field is not available for search.

Notes
valid_not_before is part of the base object.
valid_not_before cannot be updated.
valid_not_before cannot be written.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>distinguished_name</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>issuer</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>serial</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>used_by</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>valid_not_after</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>valid_not_before</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3.7 certificate:authservice : Certificate authentication service object.

This object represents an certificate authentication service.

Object Reference

References to certificate:authservice are object references. The name part of the Certificate authentication service object reference has the following components:

- The name of the certificate authentication service object.

Example: certificate:authservice/ZG5zLm5ldHvcmtfdm1ldyQxMTk:Infoblox
Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ca_certificates</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

auto_populate_login

auto_populate_login

Specifies the value of the client certificate for automatically populating the NIOS login name.

Type

String.

Valid values are:

- AD_SUBJECT_ISSUER
- SAN_EMAIL
- SAN_UPN
- SERIAL_NUMBER
- S_DN_CN
- S_DN_EMAIL

Create

The default value is S_DN_CN.

Search

The field is not available for search.

certificates

certificates
The list of CA certificates.

**Type**
A/An *cacertificate* object array.
This field supports nested return fields as described [here](#).

**Create**
The field is required on creation.

**Search**
The field is not available for search.

---

### comment

**comment**
The descriptive comment for the certificate authentication service.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is available for search via

- ' *= ' (case insensitive search)
- ' = ' (exact equality)
- ' =~ ' (regular expression)

---

### disabled

**disabled**
Determines if this certificate authentication service is enabled or disabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Type</th>
<th>Create</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable_password_request</td>
<td>Determines if username/password authentication together with client certificate authentication is enabled or disabled.</td>
<td>Bool.</td>
<td>The default value is True.</td>
<td>The field is not available for search.</td>
</tr>
<tr>
<td>enable_remote_lookup</td>
<td>Determines if the lookup for user group membership information on remote services is enabled or disabled.</td>
<td>Bool.</td>
<td>The default value is False.</td>
<td>The field is not available for search.</td>
</tr>
<tr>
<td>max_retries</td>
<td>The number of validation attempts before the appliance contacts the next responder.</td>
<td>Unsigned integer.</td>
<td>The default value is 0.</td>
<td>The field is not available for search.</td>
</tr>
<tr>
<td>name</td>
<td>The name of the certificate authentication service.</td>
<td>String.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Values with leading or trailing white space are not valid for this field.

Create
The field is required on creation.

Search
The field is available for search via
- ‘:=' (case insensitive search)
- ‘=' (exact equality)
- ‘~=’ (regular expression)

Notes
name is part of the base object.

### ocsp_check

**ocsp_check**

Specifies the source of OCSP settings.

**Type**

String.

**Valid values are:**

- AIA_AND_MANUAL
- AIA_ONLY
- DISABLED
- MANUAL

Create
The default value is MANUAL.

Search
The field is not available for search.

### ocsp_responders

**ocsp_responders**

An ordered list of OCSP responders that are part of the certificate authentication service.

**Type**

A/An OCSP Responder struct array.

Create
The default value is undefined.

Search
The field is not available for search.
recovery_interval

The period of time the appliance waits before it attempts to contact a responder that is out of service again. The value must be between 1 and 600 seconds.

Type
Unsigned integer.

Create
The default value is 30.

Search
The field is not available for search.

remote_lookup_password

The password for the service account.

Type
String.

Create
The default value is empty.

Search
The field is not available for search.

Notes
remote_lookup_password is not readable.

remote_lookup_service

The service that will be used for remote lookup.

Type
String.

This field supports nested return fields as described here.

Create
The default value is empty.

Search
The field is not available for search.
### remote_lookup_username

**remote_lookup_username**
The username for the service account.

**Type**
String.

**Create**
The default value is *empty*.

**Search**
The field is not available for search.

### response_timeout

**response_timeout**
The validation timeout period in milliseconds.

**Type**
Unsigned integer.

**Create**
The default value is *1000*.

**Search**
The field is not available for search.

### trust_model

**trust_model**
The OCSP trust model.

**Type**
String.

**Valid values are:**
- DELEGATED
- DIRECT

**Create**
The default value is *DIRECT*.

**Search**
The field is not available for search.
**user_match_type**

*user_match_type*

Specifies how to search for a user.

**Type**

String.

**Valid values are:**

- AUTO_MATCH
- DIRECT_MATCH

**Create**

The default value is AUTO_MATCH.

**Search**

The field is not available for search.

**Function Calls**

**test_ocsp_responder_settings**

Use this function to test OCSP responder configuration.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **certificate_auth_service** (String. ) The certificate authentication service name.
- **ocsp_responder** (A/An OCSP Responder struct. ). This parameter is mandatory. The OCSP responder to test.

**Output fields**

- **result** (String. Valid values are: “CANNOT_RESOLVE_FQDN”, “CANNOT_CONNECT”, “FAILED_TEST”, “TEST_OK” ) The result of the OCSP responder settings testing.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto_populate_login</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ca_certificates</td>
<td>[obj]</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>disabled</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>enable_password_request</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>enable_remote_lookup</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>max_retries</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>ocsp_check</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ocsp_responders</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>recovery_interval</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>remote_lookup_password</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>remote_lookup_service</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>remote_lookup_username</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>response_timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>trust_model</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>user_match_type</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.8 csvimporttask : CSV Import task object.

This object represents a CSV import task, if the task was created but not started by an import operation, it can be started by modifying it and assigning the value ‘START’ to the ‘action’ field.

### Object Reference

References to csvimporttask are object references. The name part of a csvimporttask object reference has the following components:

- The import id.

Example: csvimporttask/ZG5zLm5ldHdvcmtdmldyQxMTk:1

### Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Permissions
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.
These fields are actual members of the object; thus, they can be requested by using \_return_fields, if the fields are readable.

The basic version of the object contains the field(s): action, admin_name, end_time, file_name, file_size, import_id, lines_failed, lines_processed, lines_warning, on_error, operation, separator, start_time, status, update_method.

**Fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>action</strong></td>
<td>The action to execute.</td>
</tr>
<tr>
<td><strong>admin_name</strong></td>
<td>The login name of the administrator.</td>
</tr>
</tbody>
</table>

**action**

The action to execute.

Type

String.

Valid values are:

- SAVE
- START

Create

The default value is START.

Search

The field is not available for search.

Notes

- action is part of the base object.
- action is not readable.

**admin_name**

The login name of the administrator.

Type

String.

Search

The field is not available for search.

Notes

- admin_name is part of the base object.
- admin_name cannot be updated.
- admin_name cannot be written.
**end_time**

end_time

The end time of this import operation.

**Type**

Timestamp.

**Search**

The field is not available for search.

**Notes**

- end_time is part of the base object.
- end_time cannot be updated.
- end_time cannot be written.

**file_name**

file_name

The name of the file used for the import operation.

**Type**

String.

**Search**

The field is not available for search.

**Notes**

- file_name is part of the base object.
- file_name cannot be updated.
- file_name cannot be written.

**file_size**

file_size

The size of the file used for the import operation.

**Type**

Unsigned integer.

**Search**

The field is not available for search.

**Notes**

- file_size is part of the base object.
- file_size cannot be updated.
- file_size cannot be written.
### import_id

**import_id**
The ID of the current import task.

**Type**
Unsigned integer.

**Search**
The field is available for search via
- `=` (exact equality)

**Notes**
import_id is part of the base object.
import_id cannot be updated.
import_id cannot be written.

### lines_failed

**lines_failed**
The number of lines that encountered an error.

**Type**
Unsigned integer.

**Search**
The field is not available for search.

**Notes**
lines_failed is part of the base object.
lines_failed cannot be updated.
lines_failed cannot be written.

### lines_processed

**lines_processed**
The number of lines that have been processed.

**Type**
Unsigned integer.

**Search**
The field is not available for search.

**Notes**
lines_processed is part of the base object.
lines_processed cannot be updated.
lines_processed cannot be written.

**lines_warning**

The number of lines that encountered a warning.

**Type**

Unsigned integer.

**Search**

The field is not available for search.

**Notes**

lines_warning is part of the base object.

lines_warning cannot be updated.

lines_warning cannot be written.

**on_error**

The action to take when an error is encountered.

**Type**

String.

**Valid values are:**

- CONTINUE
- STOP

**Create**

The default value is STOP.

**Search**

The field is not available for search.

**Notes**

on_error is part of the base object.

**operation**

The operation to execute.

**Type**

String.

**Valid values are:**

- CUSTOM
- DELETE
- INSERT
- REPLACE
- UPDATE

Create
The default value is INSERT.

Search
The field is not available for search.

Notes
operation is part of the base object.

<table>
<thead>
<tr>
<th>separator</th>
</tr>
</thead>
</table>

separator
The separator to be used for the data in the CSV file.

Type
String.

Valid values are:
- COMMA
- SEMICOLON
- SPACE
- TAB

Search
The field is not available for search.

Notes
separator is part of the base object.
separator cannot be updated.
separator cannot be written.

<table>
<thead>
<tr>
<th>start_time</th>
</tr>
</thead>
</table>

start_time
The start time of the import operation.

Type
Timestamp.

Search
The field is not available for search.

Notes
start_time is part of the base object.
start_time cannot be updated.
start_time cannot be written.

<table>
<thead>
<tr>
<th><strong>status</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>status</strong></td>
</tr>
<tr>
<td>The status of the import operation</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Valid values are:</strong></td>
</tr>
<tr>
<td>• COMPLETED</td>
</tr>
<tr>
<td>• FAILED</td>
</tr>
<tr>
<td>• PENDING</td>
</tr>
<tr>
<td>• RUNNING</td>
</tr>
<tr>
<td>• STOPPED</td>
</tr>
<tr>
<td>• TEST_COMPLETED</td>
</tr>
<tr>
<td>• TEST_FAILED</td>
</tr>
<tr>
<td>• TEST_RUNNING</td>
</tr>
<tr>
<td>• TEST_STOPPED</td>
</tr>
<tr>
<td>• UPLOADED</td>
</tr>
<tr>
<td><strong>Search</strong></td>
</tr>
<tr>
<td>The field is not available for search.</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>status is part of the base object.</td>
</tr>
<tr>
<td>status cannot be updated.</td>
</tr>
<tr>
<td>status cannot be written.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>update_method</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>update_method</strong></td>
</tr>
<tr>
<td>The update method to be used for the operation.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Valid values are:</strong></td>
</tr>
<tr>
<td>• MERGE</td>
</tr>
<tr>
<td>• OVERRIDE</td>
</tr>
</tbody>
</table>
Create
The default value is OVERRIDE.

Search
The field is not available for search.

Notes
update_method is part of the base object.

Function Calls

stop
This function stops the current CSV import task.
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields
None

Output fields
None

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>admin_name</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>end_time</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>file_name</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>file_size</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>import_id</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>lines_failed</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>lines_processed</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>lines_warning</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>on_error</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>operation</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>separator</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>start_time</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>status</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>update_method</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3.9 extensibleattributedef : Extensible Attribute Definition object.

The Extensible Attribute Definition object is used to retrieve the definition of an extensible attribute.
Defined attributes can be associated with other Infoblox objects: DHCP Fixed Address, DHCP Fixed Address Template, DHCP Network, DHCP Network Template, DHCP Range, DHCP Range Template, DNS Host, DHCP Failover and DNS Zone objects that support extensible attributes.
Object Reference

References to extensibleattributedef are *object references*.

Restrictions

The object does not support the following operations:

- Global search (searches via *the search object*)
- Scheduling
- CSV export

Fields

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): *comment, default_value, name, type*.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>type</td>
<td></td>
</tr>
</tbody>
</table>

allowed_object_types

The object types this extensible attribute is allowed to associate with.

Type

String array.

Create

The default value is *undefined*.

Search

The field is not available for search.

comment

Comment for the Extensible Attribute Definition; maximum 256 characters.

Type

String.

Create

The default value is *undefined*.

Search
The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**

comment is part of the base object.

<table>
<thead>
<tr>
<th>default_value</th>
</tr>
</thead>
</table>

**default_value**

Default value used to pre-populate the attribute value in the GUI. For email, URL, and string types, the value is a string with a maximum of 256 characters. For an integer, the value is an integer from -2147483648 through 2147483647. For a date, the value is the number of seconds that have elapsed since January 1st, 1970 UTC.

**Type**

String.

**Create**

The default value is *undefined*.

**Search**

The field is not available for search.

**Notes**

default_value is part of the base object.

<table>
<thead>
<tr>
<th>descendants_action</th>
</tr>
</thead>
</table>

**descendants_action**

This option describes the action that must be taken on the extensible attribute by its descendant in case the 'Inheritable' flag is set.

**Type**

A/An *Descendants* struct.

**Create**

The default value is *undefined*.

**Search**

The field is not available for search.

**Notes**
descendants_action is not readable.
**flags**

This field contains extensible attribute flags. Possible values: (A)udited, (C)loud API, Cloud (G)master, (I)nheritable, (L)isted, (M)andatory value, MGM (P)rivate, (R)ead Only, (S)ort enum values, Multiple (V)alues If there are two or more flags in the field, you must list them according to the order they are listed above.

For example, ‘CR’ is a valid value for the ‘flags’ field because C = Cloud API is listed before R = Read only. However, the value ‘RC’ is invalid because the order for the ‘flags’ field is broken.

**Type**
String.

**Create**
The default value is *undefined*.

**Search**
The field is not available for search.

**list_values**

List of Values. Applicable if the extensible attribute type is ENUM.

**Type**
A/An *List of values* struct array.

**Create**
The default value is *undefined*.

**Search**
The field is not available for search.

**max**

Maximum allowed value of extensible attribute. Applicable if the extensible attribute type is INTEGER.

**Type**
Unsigned integer.

**Create**
The default value is *undefined*.

**Search**
The field is not available for search.
<table>
<thead>
<tr>
<th><strong>min</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>m.n</strong></td>
</tr>
<tr>
<td>Minimum allowed value of extensible attribute. Applicable if the extensible attribute type is INTEGER.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Unsigned integer.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is undefined.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
</tr>
<tr>
<td>The field is not available for search.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>name</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>name</strong></td>
</tr>
<tr>
<td>The name of the Extensible Attribute Definition.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
</tr>
<tr>
<td>The field is available for search via</td>
</tr>
<tr>
<td>- ‘:=’ (case insensitive search)</td>
</tr>
<tr>
<td>- ‘=’ (exact equality)</td>
</tr>
<tr>
<td>- ‘~:=’ (regular expression)</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>name is part of the base object.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>namespace</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>namespace</strong></td>
</tr>
<tr>
<td>Namespace for the Extensible Attribute Definition.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Valid values are:</strong></td>
</tr>
<tr>
<td>- CLOUD</td>
</tr>
<tr>
<td>- CLOUD_GM</td>
</tr>
<tr>
<td>- MSADSITES</td>
</tr>
<tr>
<td>- RIPE</td>
</tr>
</tbody>
</table>
• default

Search
The field is available for search via
• ‘=’ (exact equality)

Notes
namespace cannot be updated.
namespace cannot be written.

<table>
<thead>
<tr>
<th>type</th>
</tr>
</thead>
</table>

Type for the Extensible Attribute Definition.

Type
String.

Valid values are:
• DATE
• EMAIL
• ENUM
• INTEGER
• STRING
• URL

Create
The field is required on creation.

Search
The field is available for search via
• ‘=’ (exact equality)

Notes
type is part of the base object.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>allowed_object_types</td>
<td>[String]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>~</td>
</tr>
<tr>
<td>default_value</td>
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<td>=</td>
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</table>

### 3.10 fileop : File operations object.

This object controls uploading and downloading data from the appliance.

#### File uploading

If a call to ‘uploadinit’ is made, this will return a token and a URL, and the file will be uploaded to the URL. Depending on what the file is used for, the appropriate uploading function call will be executed. Example: `setfiledest`.

For an invocation example, see the sample code section in the manual [here](#).

#### File downloading

If a call to the function that provides the requested data (such as `getgriddata`) is made, the appliance will return a token and a URL, and the file will be downloaded from the URL. Afterwards, ‘downloadcomplete’ needs to be called.

For an invocation example, see the sample code section in the manual [here](#).

Note: the returned URL should be used as-is, without further processing. Some functions, for example `csv_snapshot_file`, will return URLs with embedded %-encoded characters.

#### Object Reference

This object cannot be retrieved from the appliance, hence it does not support references.

#### Scheduling

The ‘read’ and ‘csv_export’ functions support scheduling, other functions don’t; ‘csv_export’ supports scheduling only if exporting to a file.
**Restrictions**

The object does not support the following operations:
- Create (insert)
- Delete
- Read (retrieve)
- Modify (update)
- Permissions
- Global search (searches via the search object)
- CSV export

The object cannot be managed on the Cloud Platform members.

**Fields**

The object does not support any fields.

**Function Calls**

**download_atp_rule_update**

This function is used to download and apply ATP rules.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

None

**downloadcomplete**

This function is used to signal to the appliance that a file download operation was completed.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

`token` (String). This parameter is mandatory. The token returned by the function call used to request the data.

**Output fields**

None
**update_licenses**

This function is used to upload a license file.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token** (String). This parameter is mandatory. Upload information. Used to upload license file.

**Output fields**

None

**uploadinit**

This function is used to begin an upload operation.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **filename** (String) This is an optional parameter governing the name of the file that is being uploaded to the appliance. Unless specified in the description of the uploaded function that is used, this is going to be ignored. The default value is “import_file”.

**Output fields**

- **token** (String) The token used for calling the upload function.
- **url** (String) The URL to which the file is being uploaded.

**(upload) csv_import**

This function is used to import objects to the appliance in CSV format.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **action** (String. Valid values are: “START”, “TEST”) The action to execute. ‘TEST’ is valid only when operation is set to ‘REPLACE’. The default value is “START”.
- **doinimport** (Bool.) If this is set to True, the import will begin immediately. The default value is “True”.
- **on_error** (String. Valid values are: “CONTINUE”, “STOP”) The action to be taken if the import operation encounters an error. The default value is “STOP”.
- **operation** (String. Valid values are: “INSERT”, “UPDATE”, “REPLACE”, “DELETE”, “CUSTOM”) The operation to execute. The default value is “INSERT”.
- **separator** (String. Valid values are: “COMMA”, “SEMICOLON”, “SPACE”, “TAB”) The separator to be used for the data in the CSV file. The default value is “COMMA”.
- **token** (String.). This parameter is mandatory. The token returned by the uploadinit function call.
- **update_method** (String. Valid values are: “MERGE”, “OVERRIDE”) The update method to be used for the operation. The default value is “OVERRIDE”.

**Output fields**

- **csv_import_task** (String.) The `csvimporttask object` that can be used to control this import task.
(upload) restapi_template_import

This function is used to import REST API template parameters.
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

overwrite (Bool.) Determines if existing templates have to be overwritten.
token (String.). This parameter is mandatory. The token used for calling the restapi_template_import function.

Output fields

error_message (String.) The description of an error occurred if import operation fails.
overall_status (String. Valid values are: “FAILED”, “SUCCESS”) The overall status of import procedure.

(upload) restoredatabase

This function is used to restore an existing database backup. Supported file type is “tar.gz”.
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

discovery_data (Bool.) Determines whether to restore NetMRI data. The default value is “False”.
keep_grid_ip (Bool.) Determines whether to preserve the Grid IP for a forced restore. The default value is “False”.
mode (String. Valid values are: “NORMAL”, “FORCED”, “CLONE”). This parameter is mandatory. The restore mode.
nios_data (Bool.) Determines whether to restore the NIOS data. The default value is “True”.
splunk_app_data (Bool.) Determines whether to restore the Splunk data. The default value is “False”.
token (String.). This parameter is mandatory. The token returned by the uploadinit function call.

Output fields

None

(upload) restoredtccconfig

This function is used to upload data to the appliance (for example a backup).
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

forced (Bool.). This parameter is mandatory. A flag that indicates if we should force Restore DTC config process in case of any issues with associating DTC LBDNS in backup file to DNS zones.
token (String.). This parameter is mandatory. The token returned by the uploadinit function call.

Output fields

aborted (Bool.) A flag that indicates if Restore DTC config was aborted due to any warnings detected in the process.
warning_list (String.) List of warnings detected during DTC Restore attempt.
### (upload) set_captive_portal_file

This function is used to upload a Captive Portal file to the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **filename** (String): This parameter is mandatory. The name of the file shown to user.
- **member** (String): This parameter is mandatory. The member for which the Captive Portal file will be uploaded.
- **override** (Bool): Determines if the previous uploaded file will be overridden. The default value is “False”.
- **token** (String): This parameter is mandatory. The token returned by the uploadinit function call.
- **type** (String): Valid values are: “IMG_LOGO”, “IMG FOOTER”, “IMG HEADER”, “AUP”. This parameter is mandatory. The captive portal file type.

**Output fields**

None

### (upload) set_dhcp_leases

This function is used to import DHCP leases from the local system to the Infoblox appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **lease_format** (String): Valid values are: “ISC LEASE”. The lease format. The default value is “ISC LEASE”.
- **lease_precedence** (String): Valid values are: “KEEP NEWEST”, “KEEP PREVIOUS”, “REPLACE PREVIOUS”. This parameter is mandatory. The lease precedence.
- **network_view** (String): The lease network view.
- **protocol** (String): Valid values are: “IPv4”, “IPv6”. The lease protocol. The default value is “IPv4”.
- **token** (String): This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None

### (upload) set_downgrade_file

This function is used to upload a downgrade file to the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token** (String): This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None
### (upload) set_last_uploaded_atp_ruleset

This function is used to set last uploaded ATP ruleset.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token**: (String.) This parameter is mandatory. The token returned by the uploadinit function call if ruleset is uploaded. It can be also used for calling the downloadcomplete function to download ruleset.

**Output fields**

- **token**: (String.) The token returned by the uploadinit function call if ruleset is uploaded. It can be also used for calling the downloadcomplete function to download ruleset.

### (upload) set_upgrade_file

This function is used to upload an upgrade file to the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token**: (String.) This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None

### (upload) setdiscoverycsv

This function is used to set the discovery CSV file.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **merge_data**: (Bool.) Determines whether the GM sorter should replace the old data with the new data. The default value is “True”.
- **network_view**: (String.) The discovery network view.
- **token**: (String.) This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None

### (upload) setfiledest

This function is used to upload a file to the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **dest_path**: (String.) This parameter is mandatory. The location on the appliance to which the uploaded file should be moved. For TFTP_FILE files this is relative to the TFTP file distribution directory.
- **extract**: (Bool.) If set to True, the uploaded archive is extracted. The default value is “False”.
- **token**: (String.) This parameter is mandatory. The token returned by the uploadinit function call.
**type** (String. Valid values are: “TFTP_FILE”) The type of file that was uploaded. The default value is “TFTP_FILE”.

**Output fields**

None

### (upload) setleasehistoryfiles

This function is used to upload DHCP lease history files to the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token** (String.). This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None

### (upload) setmemberdata

This function is used to set member data.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **member** (String.). This parameter is mandatory. The member for which the particular data will be uploaded.
- **token** (String.). This parameter is mandatory. The token returned by the uploadinit function call.
- **type** (String. Valid values are: “DHCP_EXPERT_MODE_CFG”). This parameter is mandatory. Member data type.

**Output fields**

None

### (upload) update_atp_ruleset

This function is used to upload ATP ruleset.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **token** (String.). This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

- **error_message** (String.) The description of an error occurred if import operation fails.

### (upload) uploadcertificate

This function is used to upload certificates.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **certificate_usage** (String. Valid values are: “ADMIN”, “CAPTIVE_PORTAL”, “SFNT_CLIENT_CERT”, “IFMAP_DHCP”, “EAP_CA”, “TAE_CA”). This parameter is mandatory. Certificate usage.
**member** (String.) The member for which the certificate will be uploaded.

**token** (String.). This parameter is mandatory. The token returned by the uploadinit function call.

**Output fields**

None

### (download) csv_error_log

This function is used to export objects from the appliance in CSV format.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

import_id (Unsigned integer.) The import_id of the operation to download the error log for.

**Output fields**

**token** (String.) The token used for calling the downloadcomplete function.

**url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

### (download) csv_export

This function is used to export objects from the appliance in CSV format.

Any parameter passed to this function and not included in the list of input parameters below will be treated as a search parameter for the object type specified in _object. For example, if _object is set to ‘record:a’ and an additional search parameter of zone ‘zone.com’ is passed, all A record objects in zone.com will be exported.

**Local file export**

This function also supports exporting the CSV file to a named file in a subdirectory called wapi_output in the file distribution area.

If the _filename or _fileprefix argument is passed, the function exports the named file and does not return a token/url. The caller also does not need to call downloadcomplete afterwards.

Exports older than a week are removed automatically from the file area. Additional older exports are also removed automatically to keep the size of the WAPI export file directory under 50% of the TFTP file distribution area storage limit. The default value of the file distribution storage limit is 500MB and can be configured in the file distribution settings.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

_filename (String.) The filename to be used when exporting the data. Only _filename or _fileprefix can be specified.

_fileprefix (String.) The prefix to be used for the filename created when exporting the data. The object type used in the export and the date/time the export was executed are appended to the value. The extension ".txt" is automatically added as well.

_gzipfile (Bool.) Only used when exporting to a local file. If set to True, the exported file is gzipped. In that case, the extension ".gz" is automatically added. The default value is "False".

_object (String.). This parameter is mandatory. The WAPI object to be exported.
_separator (String. Valid values are: “COMMA”, “SEMICOLON”, “SPACE”, “TAB”) The separator to be used for the data in the CSV file. The default value is “COMMA”.

**Output fields**

**token** (String.) The token used for calling the downloadcomplete function. Only present if _filename and _fileprefix are not specified.

**url** (String.) The URL from which the requested file is downloaded. Only present if _filename and _fileprefix are not specified.

**(download) csv_snapshot_file**

This function is used to download the snapshot file for a zone which has been overwritten. If a zone is overwritten the server will take a snapshot before the overwriting operation starts, and after it completes it will be made available to download.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

**import_id** (Unsigned integer.) The import_id of the operation to download the snapshot file for.

**Output fields**

**token** (String.) The token used for calling the downloadcomplete function.

**url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

**(download) csv_uploaded_file**

This function is used to download the original file uploaded by the user for the CSV Import operation.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

**import_id** (Unsigned integer.) The import_id of the operation to download the CSV file for.

**Output fields**

**token** (String.) The token used for calling the downloadcomplete function.

**url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

**(download) download_pool_status**

This function is used to download a signed file with license pools/static licenses.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

**token** (String.) Download information. Used to download license file.

**url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.
(download) downloadcertificate

This function is used to download certificates.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **certificate_usage** (String. Valid values are: “ADMIN”, “CAPTIVE_PORTAL”, “SFNT_CLIENT_CERT”, “IFMAP_DHCP”, “EAP_CA”, “TAE_CA”). This parameter is mandatory. Certificate usage.
- **member** (String.) The member for which the certificate will be downloaded.

**Output fields**

- **token** (String.) The token used for calling the downloadcomplete function.
- **url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

(download) generatecsr

This function is used to generate a certificate signing request (CSR).
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **algorithm** (String. Valid values are: “SHA-1”, “SHA-256”, “SHA-384”, “SHA-512”) The digest algorithm. The default value is “SHA-256”.
- **certificate_usage** (String. Valid values are: “ADMIN”, “CAPTIVE_PORTAL”, “SFNT_CLIENT_CERT”, “IFMAP_DHCP”). This parameter is mandatory. The certificate usage.
- **cn** (String.) This parameter is mandatory. The common name for the certificate.
- **comment** (String.) The descriptive comment. The default value is “None”.
- **country** (String.) The 2-letter country code used to construct the distinguished name of the subject. The default value is “None”.
- **email** (String.) The contact email address used to construct the distinguished name of the subject. The default value is “None”.
- **key_size** (Unsigned integer.) The number of bits in the key. It must be 1024, 2048 or 4096. The default value is “2048”.
- **locality** (String.) The location (e.g., city, town) used to construct the distinguished name of the subject. The default value is “None”.
- **member** (String.). This parameter is mandatory. The member for which you want to generate the certificate.
- **org** (String.) The organization used to construct the distinguished name of the subject. The default value is “None”.
- **org_unit** (String.) The organizational unit used to construct the distinguished name of the subject. The default value is “None”.
- **state** (String.) The state or province used to construct the distinguished name of the subject. The default value is “None”.
- **subject_alternative_names** (A/An Subject alternative name structure struct array.) List of subject alternative names for certificate. The default value is “None”.

**Output fields**

- **token** (String.) The token used for calling the downloadcomplete function.
url (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

### (download) generatedxlendpointcerts

This function is used to generate DXL endpoint certificate and retrieve CA certificate.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**
None

**Output fields**

- **ca_certificate_token** (String.) The token used for calling the downloadcomplete function.
- **ca_certificate_url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.
- **client_certificate_token** (String.) The token used for calling the downloadcomplete function.
- **client_certificate_url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

### (download) generatesafenetclientcert

This function is used to generate a SafeNet client certificate.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **algorithm** (String. Valid values are: “RSASHA1”, “RSASHA256”). This parameter is mandatory. The SafeNet certificate digest algorithm.
- **member** (String.). This parameter is mandatory. The member the SafeNet client certificate belongs to.

**Output fields**

- **token** (String.) The token used for calling the downloadcomplete function.
- **url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

### (download) generateselfsignedcert

This function is used to generate self-signed certificate.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **algorithm** (String. Valid values are: “SHA-1”, “SHA-256”, “SHA-384”, “SHA-512” ) The digest algorithm. The default value is “SHA-256”.
- **certificate_usage** (String. Valid values are: “ADMIN”, “CAPTIVE_PORTAL”, “SFNT_CLIENT_CERT”, “IFMAP_DHCP”). This parameter is mandatory. The certificate usage.
- **cn** (String.). This parameter is mandatory. The common name for the certificate.
- **comment** (String.) The descriptive comment. The default value is “None”.
- **country** (String.) The 2-letter country code used to construct the distinguished name of the subject. The default value is “None”.
- **days_valid** (Unsigned integer.). This parameter is mandatory. The certificate validity period in days.
email (String.) The contact email address used to construct the distinguished name of the subject. The default value is “None”.

key_size (Unsigned integer.) The number of bits in the key. It must be 1024, 2048 or 4096. The default value is “2048”.

locality (String.) The location (e.g., city, town) used to construct the distinguished name of the subject. The default value is “None”.

member (String.). This parameter is mandatory. The member for which you want to generate the certificate.

org (String.) The organization used to construct the distinguished name of the subject. The default value is “None”.

org_unit (String.) The organizational unit used to construct the distinguished name of the subject. The default value is “None”.

state (String.) The state or province used to construct the distinguished name of the subject. The default value is “None”.

subject_alternative_names (A/An Subject alternative name structure struct array.) List of subject alternative names for certificate. The default value is “None”.

Output fields

token (String.) The token used for calling the downloadcomplete function.

url (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

(download) get_file_url

You can use this function to retrieve the URL of the file that was created using the fileop read request. This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

task_id (Unsigned integer.) The task_id of the operation for which the URL is downloaded.

Output fields

url (String.) The URL from which the requested file is downloaded.

(download) get_last_uploaded_atp_ruleset

This function is used to get last uploaded ATP ruleset. This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

None

Output fields

token (String.) The token to download the ruleset. It can be used for calling the downloadcomplete function.

(download) get_log_files

This function is used to download log files from the Grid members, Microsoft servers or endpoints. This function does not support multiple object matches when called as part of an atomic insertion operation.
Input fields

**endpoint** (String.) The endpoint is to be used to gather log files. You must specify the endpoint if log_type is ‘OUTBOUND’. You must specify only a member, a Microsoft(r) server, or an endpoint.

**include_rotated** (Bool.) Determines if rotated files are to be included. The default value is “False”.

**log_type** (String. Valid values are: “SYSLOG”, “AUDITLOG”, “MSMGMTLOG”, “DELTALOG”, “OUTBOUND”). This parameter is mandatory. The type of log files are to be downloaded.

**member** (String.) The member from which you are downloading the logs. You must specify only a member, a Microsoft(r) server, or an endpoint.

**msserver** (String.) The Microsoft server from which you are downloading the logs. You must specify only a member, a Microsoft(r) server, or an endpoint.

**node_type** (String. Valid values are: “ACTIVE”, “BACKUP”) The node type.

Output fields

**token** (String.) The token used for calling the downloadcomplete function.

**url** (String.) The URL to download files.

---

**get_support_bundle**

Export the support bundle from a member. Exported file is in “tar.gz” format.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

**cached_zone_data** (Bool.) Include cached zone data files. The default value is “False”.

**core_files** (Bool.) Include core files in support bundle. The default value is “False”.

**log_files** (Bool.) Include log files in support bundle. The default value is “False”.

**member** (String.). This parameter is mandatory. The member from which the support bundle is downloaded.

**nm_snmp_logs** (Bool.) Include NetMRI SNMP logs. The default value is “False”.

**recursive_cache_file** (Bool.) Include DNS recursive cache dump. The default value is “False”.

**remote_url** (String.) If set, the data will be uploaded to the specified location, the format is [ftp|tftp|scp]://user:password@hostip/path/filename

**rotate_log_files** (Bool.) Include rotate_log files in support bundle. The default value is “False”.

Output fields

**token** (String.) The token used for calling the downloadcomplete function.

**url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

---

**getgriddata**

This function is used to download data from the appliance (for example a backup).

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

**discovery_data** (Bool.) This flag controls whether Network Automation data should be exported. The field is valid only when type is set to BACKUP. The default value is “False”.

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nios_data (Bool.) This flag controls whether NIOS data should be exported. The field is valid only when type is set to BACKUP. The default value is “True”.

remote_url (String.) If set, the data will be uploaded to the specified location, the format is [ftp|tftp|scp]://user:password@hostip/path/filename

type (String. Valid values are: “NTP_KEY_FILE”, “SNMP_MIBS_FILE”, “BACKUP”, “BACKUP_DTC” ). This parameter is mandatory. The type of data to download.

Output fields

token (String.) The token used for calling the downloadcomplete function.

url (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

| (download) getleasehistoryfiles |

This function is used to download DHCP lease history files from the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

end_time (Timestamp. ) End of the requested lease history period.

member (String. ) This parameter is mandatory. The member from which the DHCP lease history files will be downloaded.

remote_url (String. ) If set, the data will be uploaded to the specified location, the format is [ftp|tftp|scp]://user:password@hostip/path/filename

start_time (Timestamp. ) Start of the requested lease history period.

Output fields

token (String. ) The token used for calling the downloadcomplete function.

url (String. ) For local (not remote) uploads, the URL from which the requested file is downloaded.

| (download) getmemberdata |

This function is used to download member data from the appliance.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

member (String. ). This parameter is mandatory. The member from which the data will be downloaded.

remote_url (String. ) If set, the data will be uploaded to the specified location, the format is [ftp|tftp|scp]://user:password@hostip/path/filename


Output fields

token (String. ) The token used for calling the downloadcomplete function.

url (String. ) For local (not remote) uploads, the URL from which the requested file is downloaded.
(download) getsafenetclientcert

This function is used to generate a certificate signing request (CSR).

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

algorithm (String. Valid values are: “RSASHA1”, “RSASHA256”). This parameter is mandatory. The SafeNet certificate digest algorithm.

member (String.). This parameter is mandatory. The member the SafeNet client certificate belongs to.

Output fields

token (String.) The token used for calling the downloadcomplete function.

url (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

(download) read

This function is used to read objects from the appliance and write them to a named file.

Any parameter passed to this function and is not included in the list of input parameters below is treated as a search parameter for the object type specified in _object. For example, if _object is set to ‘record:a’ and an additional search parameter of zone ‘zone.com’ is passed, all A record objects in zone.com are exported.

If _output_location is specified as LOCAL, _filename or _fileprefix argument should not be passed, the name of exported file will be generated automatically and function will return the URL to exported file and token for downloadcomplete function. In case of scheduling, the reference to scheduling task will be returned instead. When scheduling task is complete, the get_file_url function should be used to retrieve URL of the exported file, no need for calling the downloadcomplete function.

If _output_location is specified as FILE_DISTRIBUTION (default value), file with the results of the read is placed in a subdirectory called “wapi_output” in the file distribution area. In this case, _filename or _fileprefix argument must be passed. This function version does not return a token/url. The caller also does not need to call downloadcomplete afterwards.

Reads older than a week are removed automatically from the file area. Additional older reads are also removed automatically to keep the size of the WAPI export file directory under 50% of the TFTP file distribution area storage limit. The default value of the file distribution storage limit is 500MB and can be configured in the file distribution settings.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

_encoding (String. Valid values are: “JSON”, “XML”, “ROWJSON”, “ROWXML”) The format that will be used when writing the file. The default value is “JSON”.

_filename (String.) The name of the file.

_fileprefix (String.) The prefix to be used for the filename. The object type read and the date/time the read was executed are appended to the value. The extension ”.txt” is automatically added as well.

_gzipfile (Bool.) If set to True, the exported file is gzipped. In that case, the extension ”.gz” is automatically added. The default value is “False”.

_max_results (Integer.) The maximum number of objects to be returned in the read. The default value is “-1000”.

_object (String.). This parameter is mandatory. The WAPI object to be read.
_output_location ( String. Valid values are: “FILE_DISTRIBUTION”, “LOCAL” ) The output location for the file. The default value is “FILE_DISTRIBUTION”.

_return_fields ( String. ) The return fields to be used for the read.

Output fields

token ( String. ) The token used for calling the downloadcomplete function. Only present if _output_location is passed as LOCAL and _filename, _fileprefix and scheduling information are not specified.

url ( String. ) The URL from which the requested file is downloaded. Only present if _output_location is passed as LOCAL and _filename, _fileprefix and scheduling information are not specified.

*(download) restapi_template_export*

This function is used to export REST API template parameters.
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

restapi_template ( String. ). This parameter is mandatory. The name of REST API template to be exported.

Output fields

token ( String. ) The token used for calling the downloadcomplete function.

url ( String. ) For local (not remote) uploads, the URL from which the requested file is downloaded.

*(download) restapi_template_export_schema*

This function is used to export the schema for the RESTful API template.
This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

schema_type ( String. Valid values are: “REST_EVENT”, “REST_ENDPOINT” ). This parameter is mandatory. The type of RESTful API template schema to be exported.

version ( String. ) The version of RESTful API template schema to be exported.

Output fields

token ( String. ) The token used for calling the downloadcomplete function.

url ( String. ) For local (not remote) uploads, the URL from which the requested file is downloaded.

3.11 grid : Grid object.

This object represents the Infoblox Grid.

Object Reference

References to grid are object references. The name part of a Grid object reference has the following components:

- The name of the Infoblox Grid.

Example: grid/ZG5zLm5ldHdvcmtfdmlldyQxMTk:Infoblox
Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Permissions
- Global search (searches via the search object)
- Scheduling
- CSV export

In addition the object does not support the following operations when managed on Cloud Platform members:

- Modify (update)

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

**audit_log_format**

**audit_log_format**

Determines the audit log format.

*Type*

String.

*Valid values are:*

- BRIEF
- DETAILED

**Create**

The default value is DETAILED.

**Search**

The field is not available for search.

**audit_to_syslog_enable**

**audit_to_syslog_enable**

If set to True, audit log messages are also copied to the syslog.

*Type*

Bool.

**Create**

The default value is False.
**consent_banner_setting**

The Grid consent banner settings.

**Type**

A/An *Consent banner setting* struct.

**Create**

The default value is:

{ 'enable': False}

**Search**

The field is not available for search.

**dns_resolver_setting**

The DNS resolver setting.

**Type**

A/An *DNS resolver Setting* struct.

**Create**

The default value is:

{ 'resolvers': [], 'search_domains': []}

**Search**

The field is not available for search.

**dscp**

The DSCP value.

Valid values are integers between 0 and 63 inclusive.

**Type**

Unsigned integer.

**Create**

The default value is 0.

**Search**

The field is not available for search.
**email_setting**

The e-mail settings for the Grid.

**Type**

A/An *The email settings for the Grid member* struct.

**Create**

The default value is:

```python
{ 'enabled': False, 'relay_enabled': False}
```

**Search**

The field is not available for search.

**enable_gui_api_for_lan_vip**

If set to True, GUI and API access are enabled on the LAN/VIP port and MGMT port (if configured).

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

**enable_lom**

Determines if the LOM functionality is enabled or not.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

**enable_member_redirect**
Determines redirections is enabled or not for members.

**Type**

Bool.

**Create**

The default value is `True`.

**Search**

The field is not available for search.

---

**enable_recycle_bin**

Determines if the Recycle Bin is enabled or not.

**Type**

Bool.

**Create**

The default value is `True`.

**Search**

The field is not available for search.

---

**external_syslog_backup_servers**

The list of external backup syslog servers.

**Type**

A/An *External syslog backup server* struct array.

**Create**

The default value is:

```
empty
```

**Search**

The field is not available for search.

---

**external_syslog_server_enable**

If set to True, external syslog servers are enabled.

**Type**

Bool.

**Create**
The default value is `False`.

**http_proxy_server_setting**

The Grid HTTP proxy server settings.

**Type**

A/An `HTTP Proxy Server Setting` struct.

**Create**

The default value is `empty`.

**Search**

The field is not available for search.

```{json}
{
    'color': 'GREEN',
    'enable': False
}
```

**informational_banner_setting**

The Grid informational level banner settings.

**Type**

A/An `Informational level banner setting` struct.

**Create**

The default value is:

```{json}
{
    'color': 'GREEN',
    'enable': False
}
```

**Search**

The field is not available for search.

**is_grid_visualization_visible**

If set to True, graphical visualization of the Grid is enabled.

**Type**

Bool.

**Create**

The default value is `False`.

**Search**

The field is not available for search.
**name**

The grid name.

**Type**
String.

**Create**
The default value is *Infoblox*.

**Search**
The field is available for search via
- ‘=’ (exact equality)
- ‘~’ (regular expression)

**nat_groups**

The list of all Network Address Translation (NAT) groups configured on the Grid.

**Type**
String array.

**Create**
The default value is *All the NAT groups configured on the Grid*.

**Search**
The field is not available for search.

**ntp_setting**

The Grid Network Time Protocol (NTP) settings.

**Type**

**Create**
The default value is:

```json
{
    'enable_ntp': False,
    'ntp_keys': [],
    'ntp_kod': False,
    'ntp_servers': []
}
```

**Search**
The field is not available for search.
**password_setting**

The Grid password settings.

**Type**

A/An *Password settings* struct.

**Create**

The default value is:

```python
{
    'chars_to_change': 0,
    'expire_days': 30,
    'expire_enable': False,
    'force_reset_enable': False,
    'num_lower_char': 0,
    'num_numeric_char': 0,
    'num_symbol_char': 0,
    'num_upper_char': 0,
    'password_min_length': 4,
    'reminder_days': 15
}
```

**Search**

The field is not available for search.

**scheduled_backup**

The scheduled backup configuration.

**Type**

A/An *Scheduled backup settings* struct.

**Create**

The default value is:

```python
{
    'backup_frequency': 'WEEKLY',
    'backup_type': 'LOCAL',
    'discovery_data': True,
    'enable': True,
    'hour_of_day': 3,
    'keep_local_copy': False,
    'minutes_past_hour': 0,
    'nios_data': True,
    'operation': 'NONE',
    'restore_type': 'FTP',
    'splunk_app_data': True,
    'status': 'IDLE',
    'weekday': 'SATURDAY'
}
```

**Search**

The field is not available for search.
**secret**

The shared secret of the Grid. This is a write-only attribute.

**Type**
String.

**Create**
The default value is `undefined`.

**Search**
The field is not available for search.

**Notes**
secret is not readable.

---

**security_banner_setting**

The Grid security banner settings.

**Type**
A/An `Security banner settings` struct.

**Create**
The default value is:

```json
{ 'color': 'GREEN', 'enable': False, 'level': 'UNCLASSIFIED' }
```

**Search**
The field is not available for search.

---

**security_setting**

The Grid security settings.

**Type**
A/An `Security settings` struct.

**Create**
The default value is:

```json
{ 'admin_access_items': [],
  'audit_log_rolling_enable': True,
  'http_redirect_enable': False,
  'lcd_input_enable': True,
  'login_banner_enable': True,
  'login_banner_text': 'Disconnect NOW if you have not been expressly authorized to use this system.',
  'remote_console_access_enable': False,
  'security_access_enable': False,
```
The Grid SNMP settings.

Type
A/An SNMP setting struct.

Create
The default value is:

```
{
'queries_enable': False,
'snmpv3_queries_enable': False,
'snmpv3_traps_enable': False,
'syscontact': [],
'sysdescr': [],
'syslocation': [],
'sysname': [],
'trap_receivers': [],
'traps_enable': False
}
```

Search
The field is not available for search.

The field is not available for search.

If `audit_to_syslog_enable` is set to True, the facility that determines the processes and daemons from which the log messages are generated.

Type
String.

Valid values are:

- DAEMON
- LOCAL0
- LOCAL1
- LOCAL2
- LOCAL3
- LOCAL4
- LOCAL5
• LOCAL6
• LOCAL7

Create
The default value is DAEMON.

Search
The field is not available for search.

**syslog_servers**

**syslog_servers**
The list of external syslog servers.

**Type**
A/An **Syslog server** struct array.

**Create**
The default value is: empty

**Search**
The field is not available for search.

**syslog_size**

**syslog_size**
The maximum size for the syslog file expressed in megabytes.

**Type**
Unsigned integer.

**Create**
The default value is **300**.

**Search**
The field is not available for search.

**threshold_traps**

**threshold_traps**
Determines the list of threshold traps. The user can only change the values for each trap or remove traps.

**Type**
A/An **The Grid SNMP threshold trap structure** struct array.

**Create**
The default value is All **threshold traps**.
time_zone

The time zone of the Grid. The UTC string that represents the time zone, such as “(UTC - 5:00) Eastern Time (US and Canada)”.

Type
String.

Create
The default value is (UTC) Coordinated Universal Time.

Search
The field is not available for search.

token_usage_delay

The delayed usage (in minutes) of a permission token.

Type
Unsigned integer.

Create
The default value is 10.

Search
The field is not available for search.

trap_notifications

Determines configuration of the trap notifications.

Type
A/An The Grid SNMP trap notification structure struct array.

Create
The default value is All trap notifications.

Search
The field is not available for search.
vpn_port

The VPN port.

Type

Unsigned integer.

Create

The default value is 1194.

Search

The field is not available for search.

Function Calls

control_ip_address

Use this function to control selected IP addresses.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

addresses (String array. ) This parameter is mandatory. The IP addresses list.

exclude (Bool. ) This flag controls whether selected IP addresses should be excluded.

network_view (String. ) The name of the network view in which this IP addresses resides.

Output fields

None

empty_recycle_bin

Empty the recycle bin.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

None

Output fields

None

get_all_template_vendor_id

Get all unique Vendor identifiers for the outbound templates.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

outbound_type (String. Valid values are: “REST”, “DXL” ) The outbound type of the templates. The default value is “REST”.

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Output fields
vendor_identifiers ( String array. ) The vendor identifiers.

**member_upgrade**

Use this function to upgrade a single member that was reverted during the staged upgrade process or to revert a single member if it does not behave properly after an upgrade.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

action ( String. Valid values are: “UPGRADE”, “REVERT” ) The action to execute. The default value is “UPGRADE”.

member ( String. ). This parameter is mandatory. The FQDN of the member to be upgraded.

**Output fields**

None

**node_registration**

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

hardware_id ( String. ). This parameter is mandatory. Hardware ID.

hardware_model ( String. ). This parameter is mandatory. Hardware Model

hardware_type ( String. ). This parameter is mandatory. Hardware Type

licenses ( String array. ). This parameter is mandatory. List Of Licenses

token ( String. ). This parameter is mandatory. Identifier of the Physical Node that is used to Join to the Grid.

**Output fields**

gm_ip_join ( String. ) Grid Master IP address that must be used for joining

grid_name ( String. ) Grid Name

grid_secret ( String. ) Grid Secret

hardware_id ( String. ) Hardware ID.

licenses ( String array. ) List Of Licenses

use_mgmt_port_to_join ( Bool. ) Set to True if member must use its MGMT port while joining the Grid. The default value is “False”.

**query_fqdn_on_member**

Invokes dig command on a member for a specific FQDN.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

fqdn ( String. ). This parameter is mandatory. The FQDN to query.
**member** (String.) The host name of the member. Default is the host name of the Grid Master. The default value is “None”.

**name_server** (String.) The Name Server to query, either a name or IPv4/6 address. The default value is “”.

**record_type** (String. Valid values are: “ANY”, “A”, “AAAA”, “CNAME”, “DNAME”, “MX”, “NAPTR”, “NS”, “PTR”, “SRV”, “TXT”, “AXFR” ) The resource record type. The default value is “ANY”.

**recursive_query** (Bool.) Determines if this query is recursive or not. The default value is “True”.

**Output fields**

**dig_started** (Timestamp.) The timestamp when the dig started.

**result** (String. Valid values are: “NOERROR”, “FORMERR”, “SERVFAIL”, “NXDOMAIN”, “NOTIMP”, “REFUSED”, “INTERNAL_ERROR” ) The dig request return code.

**result_text** (String.) The dig result text, multi-lined text.

**source_address** (String.) The source IP address of the query.

---

**skip_member_upgrade**

This function allows the specified member to skip the upgrade process.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

**member** (String.). This parameter is mandatory. The FQDN of the member that will skip the upgrade process.

**Output fields**

None

---

**start_discovery**

Use this function to start the discovery on selected objects.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

**objects** (String array.). This parameter is mandatory. The list of refs to the relevant IPAM objects (Network, Network Container, IP Address, Fixed Address, Host Record, Range).

**Output fields**

None

---

**test_syslog_backup_server_connection**

This function can be used to test the connection to the external backup syslog server.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

**member** (String.) The member for testing the connection.

**syslog_backup_server** (A/An External syslog backup server struct.). This parameter is mandatory. The syslog backup server for testing the connection.
Output fields

result ( String. Valid values are: “CANNOT_CONNECT”, “TEST_OK” ) The result of connection testing to the syslog server.

---

test_syslog_connection

Use this function to test a connection to the syslog server.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

syslog_server ( A/An Syslog server struct. ). This parameter is mandatory. The syslog server for testing the connection.

Output fields

result ( String. Valid values are: “CANNOT_CONNECT”, “TEST_OK”, “CERTIFICATE_IS_NOT_VALID” ) The result of connection testing to the syslog server.

---

upgrade

This function provides control over the Grid upgrade. The upgrade process normally is as follows: 1) Upload the upgrade file using the set_upgrade_file function call in object fileop 2) call this function with ‘action’ set to ‘UPLOAD’, this will prepare the uploaded file for deployment 3) call this function with ‘action’ set to ‘DISTRIBUTION_START’ which will start the Grid distribution process. 4) call this function with ‘action’ set to ‘UPGRADE’ which will restart the appliances with the new NIOS version.

This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields


Output fields

None

---

Fields List

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<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
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<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.12 grid:x509certificate : X509Certificate object.

In the X.509 system, a certification authority issues a certificate binding a public key to a particular distinguished name in the X.500 tradition, or to an alternative name such as an e-mail address or a DNS entry.

#### Object Reference

References to grid:x509certificate are object references.

The name part of the Grid x509certificate object reference has the following components:

- Serial number of Grid x509certificate

Example: grid:x509certificate/ZGlkJdHvcmtdmllJdyQxMTk:serialnum1

#### Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Global search (searches via the search object)
• Scheduling
• CSV export

The object cannot be managed on the Cloud Platform members.

## Fields

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): **issuer, serial, subject.**

### issuer

**issuer**

Certificate issuer.

**Type**

String.

**Search**

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**

issuer is part of the base object.

issuer cannot be updated.

issuer cannot be written.

### serial

**serial**

X509Certificate serial number.

**Type**

String.

**Search**

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)
Notes
serial is part of the base object.
serial cannot be updated.
serial cannot be written.

subject

A Distinguished Name that is made of multiple relative distinguished names (RDNs).

Type
String.

Search
The field is available for search via
- ‘:~’ (case insensitive search)
- ‘~’ (exact equality)
- ‘~’ (regular expression)

Notes
subject is part of the base object.
subject cannot be updated.
subject cannot be written.

valid_not_after

valid_not_after
Certificate expiry date.

Type
Timestamp.

Search
The field is available for search via
- ‘!=’ (negative search)
- ‘=’ (exact equality)
- ‘<=’ (less than search)
- ‘>=’ (greater than search)

Notes
valid_not_after cannot be updated.
valid_not_after cannot be written.
valid_not_before

Certificate validity start date.

Type
Timestamp.

Search
The field is available for search via
- ‘!=’ (negative search)
- ‘==’ (exact equality)
- ‘<=’ (less than search)
- ‘>=’ (greater than search)

Notes
valid_not_before cannot be updated.
valid_not_before cannot be written.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>issuer</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>serial</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>subject</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>valid_not_after</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>! &lt;= &gt;</td>
</tr>
<tr>
<td>valid_not_before</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>! &lt;= &gt;</td>
</tr>
</tbody>
</table>

3.13 ldap_auth_service : The LDAP authentication service object.

LDAP (Lightweight Directory Access Protocol) is an internet protocol for accessing distributed directory services. The appliance can authenticate admin accounts by verifying user names and passwords against LDAP. This object is used to configure the LDAP authentication service.

Object Reference

References to ldap_auth_service are object references.

The name part of the LDAP authentication service object has following components:
- The name of the LDAP authentication service

Example: ldap_auth_service/ZG5zLm5ldHdvcmtfdmlldyQxMTk:LDAPAuth
Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, disable, ldap_user_attribute, mode, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ldap_user_attribute</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>recovery_interval</td>
<td></td>
</tr>
<tr>
<td>retries</td>
<td></td>
</tr>
<tr>
<td>servers</td>
<td></td>
</tr>
<tr>
<td>timeout</td>
<td></td>
</tr>
</tbody>
</table>

comment

Comment

The LDAP descriptive comment.

Type

String.

Create

The default value is empty.

Search

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

Notes

comment is part of the base object.

disable

disable
Determines if the LDAP authentication service is disabled.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

**Notes**

disable is part of the base object.

---

**ea_mapping**

The mapping LDAP fields to extensible attributes.

**Type**

A/An *The LDAP extensible attribute mapping* struct array.

**Create**

The default value is:

- empty

**Search**

The field is not available for search.

---

**ldap_group_attribute**

The name of the LDAP attribute that defines group membership.

**Type**

String.

**Create**

The default value is *memberOf*.

**Search**

The field is not available for search.

---

**ldap_group_authentication_type**


The LDAP group authentication type.

**Type**
String.

**Valid values are:**
- GROUP_ATTRIBUTE
- POSIX_GROUP

**Create**
The default value is GROUP_ATTRIBUTE.

**Search**
The field is not available for search.

---

**ldap_user_attribute**

The LDAP userid attribute that is used for search.

**Type**
String.

**Create**
The field is required on creation.

**Search**
The field is not available for search.

**Notes**
ldap_user_attribute is part of the base object.

---

**mode**

The LDAP authentication mode.

**Type**
String.

**Valid values are:**
- ORDERED_LIST
- ROUND_ROBIN

**Create**
The default value is ORDERED_LIST.

**Search**
The field is available for search via
- ‘=’ (exact equality)
Notes
mode is part of the base object.

**name**

name
The LDAP authentication service name.
Type
String.
Create
The field is required on creation.
Search
The field is available for search via
  - `:=` (case insensitive search)
  - `=` (exact equality)
  - `~=` (regular expression)
Notes
name is part of the base object.

**recovery_interval**

recovery_interval
The period of time in seconds to wait before trying to contact a LDAP server that has been marked as ‘DOWN’.
Type
Unsigned integer.
Create
The field is required on creation.
Search
The field is not available for search.

**retries**

retries
The maximum number of LDAP authentication attempts.
Type
Unsigned integer.
Create
The field is required on creation.
Search
The field is not available for search.

**search_scope**

**search_scope**
The starting point of the LDAP search.

**Type**
String.

**Valid values are:**
- BASE
- ONELEVEL
- SUBTREE

Create
The default value is **ONELEVEL**.

Search
The field is available for search via
- ‘=’ (exact equality)

**servers**

**servers**
The list of LDAP servers used for authentication.

**Type**
A/An *The LDAP server structure* struct array.

Create
The field is required on creation.

Search
The field is not available for search.

**timeout**

**timeout**
The LDAP authentication timeout in seconds.

**Type**
Unsigned integer.

Create
The field is required on creation.

Search
The field is not available for search.
**Function Calls**

### check_ldap_server_settings

Test connectivity to LDAP server.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **ldap_authservice** (String.) The name of the parent LDAP authentication service.
- **ldap_server** (A/An **The LDAP server structure** struct.). This parameter is mandatory. The LDAP server which will be tested. The 'disable' flag is ignored.
- **timeout** (Unsigned integer.) The timeout in seconds. The default value is “5”.

**Output fields**

- **error_message** (String.) The detailed description of failure.
- **overall_status** (String. Valid values are: “SUCCESS”, “FAILED”) The overall status of the test.

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>ea_mapping</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ldap_group_attribute</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ldap_group.authentication_type</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ldap_user_attribute</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>mode</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>recovery_interval</td>
<td>Unsigned int</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>retries</td>
<td>Unsigned int</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>search_scope</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>servers</td>
<td>[struct]</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>timeout</td>
<td>Unsigned int</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.14 localuser:authservice : Local user authentication service object.

The object represents a local authentication service for authenticating users against the local database.

Note that read by reference is not supported.

### Object Reference

References to localuser:authservice are **object references**.

The **name** part of a local user authentication service reference has the following components:

- The local user authentication service name.
Example: localuser:authservice/ZG5zLm5ldHdvcmtdmlldyQxMTk:local1

**Restrictions**

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Read by object reference
- Global search (searches via *the search object*)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

**Fields**

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): **comment**, **disabled**, **name**.

**comment**

The local user authentication service comment.

*Type*

String.

*Search*

The field is not available for search.

*Notes*

- comment is part of the base object.
- comment cannot be updated.
- comment cannot be written.

**disabled**

The local user authentication service comment.
Flag that indicates whether the local user authentication service is enabled or not.

**Type**
Bool.

**Search**
The field is not available for search.

**Notes**
disabled is part of the base object.
disabled cannot be updated.
disabled cannot be written.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>disabled</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.15 member : Member object.

This object represents the Infoblox Grid Member.

**Object Reference**

References to member are object references. The name part of a member object reference has the following components:

- The member host name.

Example: member/ZG5zLm5ldHdvcmtdmldyQxMTk:member.com
**Restrictions**

The object does not support the following operations:

- Scheduling
- CSV export

**Fields**

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): `config_addr_type`, `host_name`, `platform`, `service_type_configuration`.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>host_name</td>
<td></td>
</tr>
<tr>
<td>ipv6_setting</td>
<td>See the field description for more information</td>
</tr>
<tr>
<td>vip_setting</td>
<td>See the field description for more information</td>
</tr>
</tbody>
</table>

**active_position**

*active_position*

The active server of a Grid member.

**Type**

String.

**Search**

The field is not available for search.

**Notes**

- `active_position` cannot be updated.
- `active_position` cannot be written.

**additional_ip_list**

*additional_ip_list*

The additional IP list of a Grid member. This list contains additional interface information that can be used at the member level.

Note that interface structure(s) with interface type set to ‘MGMT’ are not supported.

**Type**

A/An `IPv6/IPv4 interfaces settings` struct array.

**Create**

The default value is:
**comment**

A descriptive comment of the Grid member.

**Type**
String.

**Create**
The default value is `empty`.

**Search**
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**config_addr_type**

Address configuration type.

**Type**
String.

**Valid values are:**
- BOTH
- IPV4
- IPV6

**Create**
The default value is `IPV4`.

**Search**
The field is available for search via
- `=` (exact equality)

**Notes**
`config_addr_type` is part of the base object.
### dns_resolver_setting

DNS resolver setting for member.

**Type**
A/An *DNS resolver Setting* struct.

**Create**
The default value is *See the dns resolver setting struct for default values.*

**Search**
The field is not available for search.

**Notes**
dns_resolver_setting is associated with the field *use_dns_resolver_setting* (see *use flag*).

### dscp

The DSCP (Differentiated Services Code Point) value.

**Type**
Unsigned integer.

**Create**
The default value is *0*.

**Search**
The field is not available for search.

**Notes**
dscp is associated with the field *use_dscp* (see *use flag*).

### email_setting

The email setting for member.

**Type**
A/An *The email settings for the Grid member* struct.

**Create**
The default value is:

```json
{ 'enabled': False, 'relay_enabled': False }
```

**Search**
The field is not available for search.

**Notes**
email_setting is associated with the field use_email_setting (see use flag).

**enable_ha**

**enable_ha**
If set to True, the member has two physical nodes (HA pair).

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is available for search via
- ‘=’ (exact equality)

**enable_member_redirect**

**enable_member_redirect**
Determines if the member will redirect GUI connections to the Grid Master or not.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**Notes**
enable_member_redirect is associated with the field use_enable_member_redirect (see use flag).

**enable_ro_api_access**

**enable_ro_api_access**
If set to True and the member object is a Grid Master Candidate, then read-only API access is enabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is available for search via
- ‘=’ (exact equality)
**extattrs**

*extattrs*
Extensible attributes associated with the object.
For valid values for extensible attributes, see *the following information*.

**Type**
Extensible attributes.
This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Create**
The default value is *empty*.

**Search**
For how to search extensible attributes, see *the following information*.

**external_syslog_backup_servers**

*external_syslog_backup_servers*
The list of external syslog backup servers.

**Type**
A/An *External syslog backup server* struct array.

**Create**
The default value is:
*empty*

**Search**
The field is not available for search.

**Notes**
*external_syslog_backup_servers* is associated with the field *use_external_syslog_backup_servers* (see *use flag*).

**external_syslog_server_enable**

*external_syslog_server_enable*
Determines if external syslog servers should be enabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**Notes**
host_name

host_name
The host name of the Grid member.

Type
String.

Values with leading or trailing white space are not valid for this field.

Create
The field is required on creation.

Search
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

Notes
host_name is part of the base object.

ipv6_setting

ipv6_setting
IPV6 setting for member.

Type
A/An IPv6 Settings struct.

Create
At least one of vip_setting and ipv6_setting is required.

Search
The field is not available for search.

ipv6_static_routes

ipv6_static_routes
List of IPv6 static routes.

Type
A/An IPv6 Settings struct array.

Create
The default value is:
**is_dscp_capable**

Determines if a Grid member supports DSCP (Differentiated Services Code Point).

**Type**

`Bool`.

**Search**

The field is not available for search.

**Notes**

`is_dscp_capable` cannot be updated.

`is_dscp_capable` cannot be written.

**lan2_enabled**

`lan2_enabled`

If this is set to “true”, the LAN2 port is enabled as an independent port or as a port for failover purposes.

**Type**

`Bool`.

**Create**

The default value is `False`.

**Search**

The field is not available for search.

**lan2_port_setting**

`lan2_port_setting`

Settings for the Grid member LAN2 port if ‘lan2_enabled’ is set to “true”.

**Type**

A/An `LAN2 Port Setting` struct.

**Create**

The default value is `undefined`.

**Search**

The field is not available for search.
**lcd_input**

**lcd_input**
Determines if the Liquid Crystal Display (LCD) input buttons on the front panel of the appliance are enabled or not.

**Type**
Bool.

**Create**
The default value is *True*.

**Search**
The field is not available for search.

**Notes**
lcd_input is associated with the field *use_lcd_input* (see *use flag*).

**master_candidate**

**master_candidate**
Determines if a Grid member is a Grid Master Candidate or not. This flag enables the Grid member to assume the role of the Grid Master as a disaster recovery measure.

**Type**
Bool.

**Create**
The default value is *True*.

**Search**
The field is available for search via

- ‘=’ (exact equality)

**member_service_communication**

**member_service_communication**
Configure communication type for various services.

**Type**
A/An *Member Service Communication* struct array.

**Create**
The default value is *undefined*.

**Search**
The field is not available for search.
**mgmt_port_setting**

*mgmt_port_setting*

Settings for the member MGMT port.

Type

A/An *MGMT Port Setting* struct.

Create

The default value is *undefined*.

Search

The field is not available for search.

**node_info**

*node_info*

The node information list with detailed status report on the operations of the Grid Member.

Type

A/An *Node Info* struct array.

Create

The default value is:

```
[[]]
```

Search

The field is not available for search.

**ntp_setting**

*ntp_setting*

The member Network Time Protocol (NTP) settings.

Type

A/An *The member Network Time Protocol (NTP) settings structure* struct.

Create

The default value is:

```
{ 'enable_external_ntp_servers': False,
  'enable_ntp': False,
  'ntp_keys': [],
  'ntp_kod': False,
  'ntp_servers': [],
  'use_ntp_keys': False,
  'use_ntp_kod': False,
  'use_ntp_servers': False}
```

Search

The field is not available for search.
**passive_ha_arp_enabled**

The ARP protocol setting on the passive node of an HA pair. If you do not specify a value, the default value is “false”. You can only set this value to “true” if the member is an HA pair.

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.

---

**platform**

Hardware Platform.

**Type**

String.

**Valid values are:**

- CISCO
- IBVM
- INFOBLOX
- RIVERBED
- VNIOS

**Create**

The default value is *INFOBLOX*.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

platform is part of the base object.

---

**pre_provisioning**

Pre-provisioning information.

**Type**

A/An *Pre-provisioning Settings* struct.

**Create**
The default value is *empty.*

**Search**
The field is not available for search.

---

### preserve_if_owns_delegation

**preserve_if_owns_delegation**
Set this flag to “true” to prevent the deletion of the member if any delegated object remains attached to it.

**Type**
Bool.

**Create**
The default value is *False.*

**Search**
The field is available for search via

- `'=' (exact equality)

---

### remote_console_access_enable

**remote_console_access_enable**
If set to True, superuser admins can access the Infoblox CLI from a remote location using an SSH (Secure Shell) v2 client.

**Type**
Bool.

**Create**
The default value is *False.*

**Search**
The field is not available for search.

**Notes**
remote_console_access_enable is associated with the field *use_remote_console_access_enable* (see use flag).

---

### router_id

**router_id**
Virutal router identifier. Provide this ID if “ha_enabled” is set to “true”. This is a unique VRID number (from 1 to 255) for the local subnet.

**Type**
Unsigned integer.

**Create**
The default value is *undefined.*
Search
The field is available for search via
• ‘=’ (exact equality)

**service_status**

**service_status**
The service status list of a grid member.

**Type**
A/An *Member Service Status* struct array.

**Search**
The field is not available for search.

**Notes**
service_status cannot be updated.
service_status cannot be written.

**service_type_configuration**

**service_type_configuration**
Configure all services to the given type.

**Type**
String.

**Valid values are:**
• ALL_V4
• ALL_V6
• CUSTOM

**Create**
The default value is *ALL_V4*.

**Search**
The field is available for search via
• ‘=’ (exact equality)

**Notes**
service_type_configuration is part of the base object.

**snmp_setting**

**snmp_setting**
The Grid Member SNMP settings.

Type

A/An **SNMP setting** struct.

Create

The default value is *See the SNMP settings struct for default values.*

Search

The field is not available for search.

Notes

snmp_setting is associated with the field *use_snmp_setting* (see *use flag*).

---

**static_routes**

*static_routes*

List of static routes.

Type

A/An **Network settings** struct array.

Create

The default value is:

```text
empty
```

Search

The field is not available for search.

---

**support_access_enable**

*support_access_enable*

Determines if support access for the Grid member should be enabled.

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

Notes

support_access_enable is associated with the field *use_support_access_enable* (see *use flag*).
**support_access_info**

The information string for support access.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
support_access_info cannot be updated.
support_access_info cannot be written.

**syslog_proxy_setting**

The Grid Member syslog proxy settings.

**Type**
A/An *Syslog proxy settings* struct.

**Create**
The default value is *See the syslog proxy settings struct for default values*.

**Search**
The field is not available for search.

**Notes**
syslog_proxy_setting is associated with the field *use_syslog_proxy_setting* (see *use flag*).

**syslog_servers**

The list of external syslog servers.

**Type**
A/An *Syslog server* struct array.

**Create**
The default value is:
empty

**Search**
The field is not available for search.

**Notes**
syslog_servers is associated with the field *use_syslog_proxy_setting* (see *use flag*).
### syslog_size

**syslog_size**

The maximum size for the syslog file expressed in megabytes.

#### Type

Unsigned integer.

#### Create

The default value is 300.

#### Search

The field is not available for search.

#### Notes

syslog_size is associated with the field *use_syslog_proxy_setting* (see *use flag*).

### threshold_traps

**threshold_traps**

Determines the list of threshold traps. The user can only change the values for each trap or remove traps.

#### Type

A/An *The Grid SNMP threshold trap structure* struct array.

#### Create

The default value is *All threshold traps*.

#### Search

The field is not available for search.

#### Notes

threshold_traps is associated with the field *use_threshold_traps* (see *use flag*).

### time_zone

**time_zone**

The time zone of the Grid member. The UTC string that represents the time zone, such as “(UTC - 5:00) Eastern Time (US and Canada)”.

#### Type

String.

#### Create

The default value is *UTC Coordinated Universal Time*.

#### Search

The field is not available for search.

#### Notes

time_zone is associated with the field *use_time_zone* (see *use flag*).
### trap_notifications

**Determines configuration of the trap notifications.**

**Type**

A/An *The Grid SNMP trap notification structure* struct array.

**Create**

The default value is *All trap notifications*.

**Search**

The field is not available for search.

**Notes**

trap_notifications is associated with the field `use_trap_notifications` (see *use flag*).

### upgrade_group

**The name of the upgrade group to which this Grid member belongs.**

**Type**

String.

**Create**

The default value is *Default*.

**Search**

The field is not available for search.

### use_dns_resolver_setting

**Use flag for: dns_resolver_setting**

**Type**

Bool.

**Create**

The default value is *False*.

**Search**

The field is not available for search.
**use_dscp**

Use flag for: dscp

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**use_email_setting**

Use flag for: email_setting

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**use_enable_member_redirect**

Use flag for: enable_member_redirect

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**use_external_syslog_backup_servers**

Use flag for: external_syslog_backup_servers

**Type**
Bool.
Create
The default value is \textit{False}.

Search
The field is not available for search.

<table>
<thead>
<tr>
<th><strong>use_lcd_input</strong></th>
</tr>
</thead>
</table>

**use_lcd_input**
Use flag for: lcd_input

**Type**
Bool.

Create
The default value is \textit{False}.

Search
The field is not available for search.

<table>
<thead>
<tr>
<th><strong>use_remote_console_access_enable</strong></th>
</tr>
</thead>
</table>

**use_remote_console_access_enable**
Use flag for: remote_console_access_enable

**Type**
Bool.

Create
The default value is \textit{False}.

Search
The field is not available for search.

<table>
<thead>
<tr>
<th><strong>use_snmp_setting</strong></th>
</tr>
</thead>
</table>

**use_snmp_setting**
Use flag for: snmp_setting

**Type**
Bool.

Create
The default value is \textit{False}.

Search
The field is not available for search.
use_support_access_enable

Use flag for: support_access_enable

Type

Bool.

Create

The default value is False.

Search

The field is not available for search.

use_syslog_proxy_setting

Use flag for: external_syslog_server_enable, syslog_servers, syslog_proxy_setting, syslog_size

Type

Bool.

Create

The default value is False.

Search

The field is not available for search.

use_threshold_traps

Use flag for: threshold_traps

Type

Bool.

Create

The default value is False.

Search

The field is not available for search.

use_time_zone

Use flag for: time_zone

Type

Bool.
Create
The default value is False.

Search
The field is not available for search.

**use_trap_notifications**

**use_trap_notifications**
Use flag for: trap_notifications

**Type**

Bool.

Create
The default value is False.

Search
The field is not available for search.

**use_v4_vrrp**

**use_v4_vrrp**
Specify “true” to use VRRPv4 or “false” to use VRRPv6.

**Type**

Bool.

Create
The default value is True.

Search
The field is not available for search.

**vip_setting**

**vip_setting**
The network settings for the Grid member.

**Type**

A/An Network settings struct.

Create
At least one of vip_setting and ipv6_setting is required.

Search
The field is not available for search.
**vpn_mtu**

vpn_mtu
The VPN maximum transmission unit (MTU).

Type
Unsigned integer.

Create
The default value is 1450.

Search
The field is not available for search.

**Function Calls**

**capture_traffic_control**

Starts/Stops a traffic capture session on the specified member node.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

action (String. Valid values are: “START”, “STOP”). This parameter is mandatory. The traffic capture action.

interface (String. Valid values are: “ALL”, “HA”, “LAN1”, “LAN2”, “MGMT”). This parameter is mandatory. The interface on which the traffic is captured.

seconds_to_run (Unsigned integer. ) The number of seconds for which the traffic capture is going to run. The default value is “30”.

**Output fields**

None

**capture_traffic_status**

Gets traffic capture status on the specified member node.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

file_exists (Bool. ) Determines if the capture file for the member exist or not.

file_size (Unsigned integer. ) The size of the traffic capture file for the member.

status (String. Valid values are: “STOPPED”, “RUNNING”, “UNKNOWN” ) The status of the capture operation for the member.
**create_token**

Creates tokens for all available physical nodes on the member (virtual_node) and returns an array of records for pnode_token (physical_oid, token, and token_exp_date).

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

pnode_tokens ( A/An Physical Node Token struct array. ) An array of tokens. One token for each physical node of the Grid member.

---

**read_token**

Returns tokens for all available physical nodes on the member (virtual_node).

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

pnode_tokens ( A/An Physical Node Token struct array. ) An array of tokens. One token for each physical node of the Grid member.

---

**Search-only Fields**

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.

---

**ipv4_address**

**ipv4_address**

The member's IPv4 Address.

**Type**

String.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

ipv4_address is a search-only field.
ipv6_address

ipv6_address

The member’s IPv6 Address.

Type
String.

Search
The field is available for search via

- ‘=’ (exact equality)

Notes
ipv6_address is a search-only field.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
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<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
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Continued on next page
Table 3.2 – continued from previous page

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<tr>
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<th>Base</th>
<th>Search</th>
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<td>N</td>
<td>N</td>
<td>N/A</td>
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</tbody>
</table>

* Required in some cases, see detailed field description above.

### Search-only Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>ipv4_address</td>
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<td>=</td>
</tr>
<tr>
<td>ipv6_address</td>
<td>String</td>
<td>=</td>
</tr>
</tbody>
</table>

### 3.16 member:license : Member License object.

This object represents the member license.

### Object Reference

References to member:license are object references. The name part of a Member License object reference has the following components:
• Type of license e.g. DNS, DHCP.
• Kind of license - Static/Dynamic.

Example: member:license/b25ILnByb2R1Y3RfbGljZW5zZSQwLGRoY3AsMA:DHCP/Static

**Restrictions**

The object does not support the following operations:

• Create (insert)
• Modify (update)
• Global search (searches via the search object)
• Scheduling
• CSV export

The object cannot be managed on the Cloud Platform members.

**Fields**

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): **type**.

**expiration_status**

The license expiration status.

**Type**

String.

**Valid values are:**

• DELETED
• EXPIRED
• EXPIRING_SOON
• EXPIRING_VERY_SOON
• NOT_EXPIRED
• PERMANENT

**Search**

The field is not available for search.

**Notes**

expiration_status cannot be updated.
expiration_status cannot be written.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Type</th>
<th>Search</th>
<th>Notes</th>
</tr>
</thead>
</table>
| expiry_date | The expiration timestamp of the license.               | Timestamp | The field is not available for search. | expiry_date cannot be updated.  
|          |                                                   |           |                 | expiry_date cannot be written.            |
| hwid     | The hardware ID of the physical node on which the license is installed. | String   | The field is available for search via  
|          |                                                   |           | • ‘=’ (exact equality)             | hwid cannot be updated.  
|          |                                                   |           |                 | hwid cannot be written.                   |
| key      | License string.                                    | String    | The field is available for search via  
|          |                                                   |           | • ‘=’ (exact equality)             | key cannot be updated.  
|          |                                                   |           |                 | key cannot be written.                   |
kind

The overall type of license: static or dynamic.

Type
String.

Valid values are:
- Dynamic
- Gridwide
- Payg
- Static

Search
The field is available for search via
- ‘=’ (exact equality)

Notes
kind cannot be updated.
kind cannot be written.

limit

The license limit value.

Type
String.

Search
The field is available for search via
- ‘=’ (exact equality)

Notes
limit cannot be updated.
limit cannot be written.

limit_context

The license limit context.

Type
String.

Valid values are:
• LEASES
• MODEL
• NONE
• TIER

Search
The field is not available for search.

Notes
limit_context cannot be updated.
limit_context cannot be written.

### type

**type**
The license type.

**Type**
String.

**Valid values are:**

- ANYCAST
- CLOUD
- CLOUD_API
- DCA
- DDI_TRIAL
- DHCP
- DISCOVERY
- DNS
- DNSQRW
- DNS_CACHE_ACCEL
- DTC
- FIREEYE
- FLEX_GRID_ACTIVATION
- FLEX_GRID_ACTIVATION_MS
- FREQ_CONTROL
- GRID
- GRID_MAINTENANCE
- IPAM
- IPAM_FREEWARE
- LDAP
• LOAD_BALANCER
• MGM
• MSMGMT
• NIOS
• NIOS_MAINTENANCE
• NTP
• OEM
• QRD
• REPORTING
• REPORTING_SUB
• RPZ
• SECURITY_ECOSYSTEM
• SW_TP
• TAE
• TFTP
• THREAT_ANALYTICS
• TP
• TP_SUB
• UNBOUND
• VNIOS

Search
The field is available for search via

• ‘=’ (exact equality)

Notes

type is part of the base object.
type cannot be updated.
type cannot be written.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
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<th>Base</th>
<th>Search</th>
</tr>
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<td>N</td>
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<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
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<td>N</td>
<td>Y</td>
<td>N</td>
<td>=</td>
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<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>=</td>
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<td>N</td>
<td>=</td>
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<td>Y</td>
<td>N</td>
<td>N/A</td>
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<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
</tbody>
</table>
3.17 mgm:grid : The MGM Grid object.

The MGM Grid object represents a Grid that is managed by the Master Grid.

**Object Reference**

References to mgm:grid are *object references*.

The *name* part of the MGM Grid object reference has the following components:

- The name of a MGM Grid object.

**Example:** mgm:grid/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRcCbG94:bloxgrid

**Restrictions**

The object does not support the following operations:

- CSV export

The object cannot be managed on the Cloud Platform members.

**Fields**

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): *id, name*.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

**alternate_version**

**alternate_version**

The alternative version.

**Type**

String.

**Search**

The field is not available for search.

**Notes**

alternate_version cannot be updated.
alternate_version cannot be written.
comment
Comment for the sub grid, maximum 256 characters.

Type
String.

Create
The default value is empty.

Search
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

completed_members
The number of members that have finished the current operation.

Type
Unsigned integer.

Search
The field is not available for search.

Notes
completed_members cannot be updated.
completed_members cannot be written.

connection_status
The sub grid connection status.

Type
String.

Valid values are:
- ATTACHED
- ATTACHED_FAILED
- ATTACHING
- DETACHED
- DETACHED_FAILED
• DETACHING
• SNAPSHOT_FAILED

Search
The field is not available for search.

Notes
connection_status cannot be updated.
connection_status cannot be written.

**disable**

**disable**
Determines whether the sub Grid is disabled or not. When this is set to False, the sub Grid is enabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**extattrs**

**extattrs**
Extensible attributes associated with the object.
For valid values for extensible attributes, see *the following information*.

**Type**
Extensible attributes.
This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Create**
The default value is *empty*.

**Search**
For how to search extensible attributes, see *the following information*.

**gm_host_name**

**gm_host_name**
The host name of the sub Grid Master.

**Type**
String.

**Search**
The field is available for search via
  • `:=` (case insensitive search)
  • `=` (exact equality)
  • `~=` (regular expression)

**Notes**
gm_host_name cannot be updated.
gm_host_name cannot be written.

### gm_virtual_ip

**gm_virtual_ip**
The IP address of the sub Grid Master.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
gm_virtual_ip cannot be updated.
gm_virtual_ip cannot be written.

### id

**id**
The Unique ID of the sub Grid.

**Type**
Unsigned integer.

**Search**
The field is not available for search.

**Notes**
id is part of the base object.
id cannot be updated.
id cannot be written.

### is_strict_delegate_mode

**is_strict_delegate_mode**
Determines whether the sub Grid is in strict delegation mode or not. When this is set to True, the sub Grid is in strict delegation mode.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**join_error_string**

**join_error_string**
The description of the failure of join super grid operation.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
join_error_string cannot be updated.
join_error_string cannot be written.

**join_status**

**join_status**
The sub Grid status of the join operation.

**Type**
String.

**Valid values are:**
- INITIAL
- JOINED
- JOIN_FAILED

**Search**
The field is not available for search.

**Notes**
join_status cannot be updated.
join_status cannot be written.
**join_token**

**join_token**
The join token.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
join_token cannot be updated.
join_token cannot be written.

**join_token_expiration**

**join_token_expiration**
The timestamp when the sub grid join token expires.

**Type**
Timestamp.

**Search**
The field is not available for search.

**Notes**
join_token_expiration cannot be updated.
join_token_expiration cannot be written.

**last_sync_time**

**last_sync_time**
The timestamp when the last sync was performed.

**Type**
Timestamp.

**Search**
The field is not available for search.

**Notes**
last_sync_time cannot be updated.
last_sync_time cannot be written.
### last_upgrade_date

**last_upgrade_date**
The date when the sub Grid was last upgraded.

**Type**
Timestamp.

**Search**
The field is not available for search.

**Notes**
last_upgrade_date cannot be updated.
last_upgrade_date cannot be written.

### name

**name**
The name of a sub Grid object.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

**Search**
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**
name is part of the base object.

### overall_service_status

**overall_service_status**
The overall status of the sub Grid.

**Type**
String.

**Valid values are:**
- FAILED
- INACTIVE
• OFFLINE
• UNKNOWN
• WARNING
• WORKING

Search
The field is not available for search.

Notes
overall_service_status cannot be updated.
overall_service_status cannot be written.

sync_status
Field: sync_status
Type: String
Valid values are:
• FAILED
• UNKNOWN
• WARNING
• WORKING

Search
The field is not available for search.

Notes
sync_status cannot be updated.
sync_status cannot be written.

total_members
Field: total_members
Type: Unsigned integer

Search
The field is not available for search.

Notes
total_members cannot be updated.
total_members cannot be written.
**total_network_containers**

The total number of network containers in this sub grid.

**Type**
Unsigned integer.

**Search**
The field is not available for search.

**Notes**
total_network_containers cannot be updated.
total_network_containers cannot be written.

**total_networks**

The total number of networks in this sub grid.

**Type**
Unsigned integer.

**Search**
The field is not available for search.

**Notes**
total_networks cannot be updated.
total_networks cannot be written.

**upgrade_status**

The upgrade status of the sub Grid.

**Type**
String.

**Valid values are:**

- DEFAULT
- DISTRIBUTING
- DISTRIBUTING_COMPLETE
- DISTRIBUTING_ENDED
- DISTRIBUTING_FAILED
- DISTRIBUTING_PAUSED
- DISTRIBUTION_SCHEDULED
• DOWNGRADING_COMPLETE
• DOWNGRADING_FAILED
• NONE
• REVERTING
• REVERTING_COMPLETE
• REVERTING_FAILED
• TEST_UPGRADING
• UPGRADE_SCHEDULED
• UPGRADEING
• UPGRADEING_COMPLETE
• UPGRADEING_FAILED
• UPGRADEING_PAUSED
• UPLOADED

Search
The field is not available for search.

Notes
upgrade_status cannot be updated.
upgrade_status cannot be written.

upgrade_status_time

upgrade_status_time
The timestamp when the upgrade status is returned.

Type
Timestamp.

Search
The field is not available for search.

Notes
upgrade_status_time cannot be updated.
upgrade_status_time cannot be written.

version

version
The version of NIOS installed in the sub grid master.

Type
String.

Search
The field is not available for search.

Notes

version cannot be updated.
version cannot be written.

## Function Calls

### download_join_file

This function retrieves join file for the grid. See the file downloading sample code in the manual [here](#) and the `fileop object` for more information.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

- **token** (String.) The token is used for calling the downloadcomplete function.
- **url** (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

### generate_join_info

This function retrieves join information for the grid.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

None

**Output fields**

- **expiration** (Timestamp.) The timestamp when the sub grid join token expires.
- **join_token** (String.) The join token.

### user_mapping_control

This function is used to manage the mapping of users to grids.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **auth_user_name** (String.) Username to authenticate to sub-grids. Valid if ignore is False.
- **ignore** (Bool.). This parameter is mandatory. Whether to ignore above sub grids for the user mapping.
- **password** (String.) Password to authenticate to sub-grids. Valid if ignore is False.
- **sub_grids** (String array.). This parameter is mandatory. List of sub grids for user mapping setting.

**Output fields**

- **failure** (String array.) List of sub grids that failed validation.
ignored (String array.) List of sub grids that ignored validation.
success (String array.) List of sub grids that succeeded validation.

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
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</tbody>
</table>

### 3.18 `mgm:member` : The MGM Member object.

The MGM Member object represents an member attached to the Grid. The MGM Member object is generated automatically when the grid synchronizes with the Multi-Grid master. It is a read-only object.

#### Object Reference

References to `mgm:member` are `object references`.

The `name` part of the MGM Member object reference has the following components:

- The name of a Grid object this MGM Member belongs to.
- Host name of the MGM Member object.

**Example:** `mgm:member/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlc3RcG94:grid/member.com`
Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): `grid, host_name`.

comment

Comment for the member, maximum 256 characters.

Type
String.

Search

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

Notes

Comment cannot be updated.
Comment cannot be written.

enable_ha

If set to True, the member has two physical nodes (HA pair).

Type
Bool.

Search
The field is not available for search.

Notes
enable_ha cannot be updated.
enable_ha cannot be written.

**extattrs**

Extensible attributes associated with the object.

For valid values for extensible attributes, see *the following information*.

**Type**

Extensible attributes.

This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Search**

For how to search extensible attributes, see *the following information*.

**Notes**

extattrs cannot be updated.
extattrs cannot be written.

**grid**

The reference to the sub grid this member belongs to.

**Type**

String.

This field supports nested return fields as described *here*.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

grid is part of the base object.
grid cannot be updated.
grid cannot be written.

**ha_status**


The HA pair replication status of the member.

**Type**

String.

**Valid values are:**

- NA
- OFFLINE
- ONLINE
- SYNCHRONIZING

**Search**

The field is not available for search.

**Notes**

ha_status cannot be updated.
ha_status cannot be written.

---

### host_name

**host_name**

The host name of the member.

**Type**

String.

**Search**

The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

**Notes**

host_name is part of the base object.
host_name cannot be updated.
host_name cannot be written.

---

### is_master

**is_master**

The flag that defines if the member is an HA Master in a Grid.

**Type**

Bool.

**Search**

The field is not available for search.
Notes
is_master cannot be updated.

is_master cannot be written.

**master_candidate_enabled**

master_candidate_enabled
The flag that defines if the member is an HA Master Candidate in a Grid.

Type
Bool.

Search
The field is not available for search.

Notes
master_candidate_enabled cannot be updated.

master_candidate_enabled cannot be written.

**member_status**

member_status
The overall status of the grid member.

Type
String.

Valid values are:

- FAILED
- INACTIVE
- OFFLINE
- WARNING
- WORKING

Search
The field is not available for search.

Notes
member_status cannot be updated.

member_status cannot be written.

**member_type**

member_type
The HA pair replication status of the member.

**Type**
String.

**Valid values are:**
- CISCO
- IBVM
- INFOBLOX
- RIVERBED
- VNIOS

**Search**
The field is not available for search.

**Notes**
member_type cannot be updated.
member_type cannot be written.

---

### service_status

**service_status**
The service status list of a grid member.

**Type**
A/An *Member Service Status* struct array.

**Search**
The field is not available for search.

**Notes**
service_status cannot be updated.
service_status cannot be written.

---

### uptime

**uptime**
The uptime for this member.

**Type**
Timestamp.

**Search**
The field is not available for search.

**Notes**
uptime cannot be updated.
uptime cannot be written.
**virtual_ip**

**virtual_ip**
The virtual IP address for this member.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
virtual_ip cannot be updated.

virtual_ip cannot be written.

**virtual_oid**

**virtual_oid**
The OID of the virtual node.

**Type**
String.

**Search**
The field is not available for search.

**Notes**
virtual_oid cannot be updated.

virtual_oid cannot be written.

**Fields List**

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
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<td>is_master</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>master_candidate_enabled</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>member_status</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>member_type</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>service_status</td>
<td>[struct]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>uptime</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>virtual_ip</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>virtual_oid</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>
3.19 mgm:monitordata : The MGM Member Monitor Data object.

The MGM Member Monitor Data object provides information about the status of each monitor that is running on a particular MGM Member.

Object Reference

References to mgm:monitordata are object references.

The name part of the MGM Member Monitor Data object reference has the following components:

- The name of a MGM Grid object this MGM Member Monitor Data belongs to.
- The host name of a MGM Member associated with the MGM Member Monitor Data object.

Example: mgm:monitordata/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRCbG94:grid/node1.com

Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): grid, virtual_node.

grid

grid

The reference to the sub grid this monitor data belongs to.

Type

String.

This field supports nested return fields as described here.

Search

The field is available for search via
• ‘=’ (exact equality)

Notes
grid is part of the base object.
grid cannot be updated.
grid cannot be written.

monitors

monitors
The list of monitor entries for this monitor data.

Type
A/An Monitor Entry struct array.

Search
The field is not available for search.

Notes
monitors cannot be updated.
monitors cannot be written.

virtual_node

virtual_node
The host name of a member associated with the monitor data.

Type
String.

Search
The field is available for search via
• ‘=’ (exact equality)

Notes
virtual_node is part of the base object.
virtual_node cannot be updated.
virtual_node cannot be written.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>grid</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>monitors</td>
<td>[struct]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>virtual_node</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
</tbody>
</table>
3.20 mgm:network : The MGM Network object.

The MGM Network object represents a network located on one of the Grids. A MGM Network object can be created by an admin or automatically generated when a Grid synchronizes with the Multi-Grid Master.

Object Reference

References to mgm:network are object references.
The name part of the MGM Network object reference has the following components:

• Address of the network
• CIDR of the network
• The name of a Grid object this MGM Network belongs to
• Name of the Network View object this MGM Network belongs to

Example: mgm:network/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRcBiRG94: 10.0.0.0/16/grid/netview

Restrictions

The object does not support the following operations:

• Delete
• CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): address, grid, netmask, network_view.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td></td>
</tr>
<tr>
<td>grid</td>
<td>0</td>
</tr>
<tr>
<td>netmask</td>
<td>127.0.0.0/255</td>
</tr>
<tr>
<td>network_view</td>
<td></td>
</tr>
</tbody>
</table>

address

address

The address of the network.

Type

String.

Values with leading or trailing white space are not valid for this field.
Create
The field is required on creation.

Search
The field is available for search via
- ‘=' (exact equality)
- ‘~=' (regular expression)

Notes
address is part of the base object.

**comment**

*comment*
The comment for the network, maximum 256 characters.

**Type**
String.

**Create**
The default value is *undefined*.

**Search**
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

**disable**

*disable*
Determines whether a network is disabled or not. When this is set to False, the network is enabled.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**extattrs**

*extattrs*
Extensible attributes associated with the object.
For valid values for extensible attributes, see the following information.

Type
Extensible attributes.
This field allows +/- to be specified as part of the field name when updating the object, see the following information.

Create
The default value is empty.

Search
For how to search extensible attributes, see the following information.

grid

The reference to the sub grid this network belongs to.

Type
String.
This field supports nested return fields as described here.

Create
The field is required on creation.

Search
The field is available for search via
- '=' (exact equality)

Notes
grid is part of the base object.

is_container

The flag that indicates if this network is a network container.

Type
Bool.

Search
The field is not available for search.

Notes
is_container cannot be updated.
is_container cannot be written.
**is_ipv4**

The flag that indicates if this is an IPv4 or IPv6 network.

**Type**

Bool.

**Search**

The field is not available for search.

**Notes**

is_ipv4 cannot be updated.

is_ipv4 cannot be written.

---

**netmask**

The netmask of the network in **CIDR** format.

**Type**

Unsigned integer.

**Create**

The field is required on creation.

**Search**

The field is available for search via

- `=` (exact equality)
- `<=` (less than search)
- `>=` (greater than search)

**Notes**

netmask is part of the base object.

---

**network_view**

The name of a network view this network belongs to.

**Type**

String.

**Create**

The field is required on creation.

**Search**

The field is available for search via
Notes
network_view is part of the base object.

**Function Calls**

**resize**

This function performs a resize operation for this network container. Only network containers can be resized, but not networks.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

prefix (Unsigned integer.). This parameter is mandatory. The netbits of network after resizing.

**Output fields**

None

**Search-only Fields**

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.

**contains_address**

When specified in searches, the returned network is the smallest network that contains this address.
If specified, all other search attributes are ignored, except for network_view.

**Type**

String.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

contains_address is a search-only field.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>=~</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>~:</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>grid</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>is_container</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>is_ipv4</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>netmask</td>
<td>Unsigned int</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>&lt;= &gt;</td>
</tr>
<tr>
<td>network_view</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
</tbody>
</table>

### Search-only Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>contains_address</td>
<td>String</td>
<td>=</td>
</tr>
</tbody>
</table>

### 3.21 mgm:networkview : The MGM Network View object.

The MGM Network View object provides the ability to manage multiple views of IP address spaces managed by the grids. These address spaces can overlap. When the network view is not specified during a write operation, the objects are automatically associated with the system-defined default network view. The MGM Network View object is generated automatically when the grid synchronizes with the Multi-Grid master. It is a read-only object.

#### Object Reference

References to mgm:networkview are *object references*.

The *name* part of the MGM Network View object reference has the following components:

- The name of a MGM Grid object this MGM Network View belongs to.
- The name of a MGM Network View object.

**Example:** `mgm:networkview/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRcbG94:grid/netview`

#### Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.
**Fields**

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): grid, id, name.

**comment**

Comment for the sub grid network view, maximum 256 characters.

**Type**

String.

**Search**

The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~:=’ (regular expression)

**Notes**

comment cannot be updated.

comment cannot be written.

**extattrs**

Extensible attributes associated with the object.

For valid values for extensible attributes, see the following information.

**Type**

Extensible attributes.

This field allows +/- to be specified as part of the field name when updating the object, see the following information.

**Search**

For how to search extensible attributes, see the following information.

**Notes**

extattrs cannot be updated.

extattrs cannot be written.

**grid**

grid
The reference to the sub grid this network view belongs to.

**Type**
String.

This field supports nested return fields as described [here](#).

**Search**
The field is available for search via

- `=` (exact equality)

**Notes**
grid is part of the base object.
grid cannot be updated.
grid cannot be written.

<table>
<thead>
<tr>
<th>id</th>
</tr>
</thead>
</table>

**id**
The Unique ID of the sub grid network view.

**Type**
String.

**Search**
The field is available for search via

- `=` (exact equality)

**Notes**
id is part of the base object.
id cannot be updated.
id cannot be written.

<table>
<thead>
<tr>
<th>name</th>
</tr>
</thead>
</table>

**name**
The name of a sub grid network view object.

**Type**
String.

**Search**
The field is available for search via

- `:=` (case insensitive search)
  - `:=` (exact equality)
  - `~=` (regular expression)
Notes

name is part of the base object.
name cannot be updated.
name cannot be written.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>grid</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>id</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>: = ~</td>
</tr>
</tbody>
</table>


The MGM User Mapping object provides information about the users mapped to a Grid. The MGM User Mapping object is generated automatically when a user is mapped to a Grid via user_mapping_control function call for MGM Grid object. It is a read-only object.

Object Reference

References to mgm:usermapping are object references.

The name part of the MGM User Mapping object reference has the following components:

- The name of a Grid object this MGM User Mapping belongs to.
- The user name used for authentication to a Grid.
- The user name that was used to log in to the Multi-Grid Master.

Example: mgm:usermapping/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRCbG94: grid/admin/ibadmin

Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.
## Fields

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable. The basic version of the object contains the field(s): `auth_user_name`, `grid`, `user_name`.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>auth_admin_group</strong></td>
<td>The user group used for authentication to a grid.</td>
</tr>
<tr>
<td><strong>auth_user_name</strong></td>
<td>The user name used for authentication to a grid.</td>
</tr>
<tr>
<td><strong>grid</strong></td>
<td>The reference to the sub grid this user mapping belongs to.</td>
</tr>
</tbody>
</table>

### auth_admin_group

The user group used for authentication to a grid.

**Type**

String.

**Search**

The field is not available for search.

**Notes**

auth_admin_group cannot be updated.

auth_admin_group cannot be written.

### auth_user_name

The user name used for authentication to a grid.

**Type**

String.

**Search**

The field is available for search via

- `=` (exact equality)

**Notes**

auth_user_name is part of the base object.

auth_user_name cannot be updated.

auth_user_name cannot be written.

### grid

The reference to the sub grid this user mapping belongs to.

**Type**

String.

This field supports nested return fields as described [here](#).
Search
The field is available for search via
  • ‘=’ (exact equality)

Notes
grid is part of the base object.
grid cannot be updated.
grid cannot be written.

ignore

ignore
This indicates whether this grid is ignored when users are mapped to grids.

Type
Bool.

Search
The field is not available for search.

Notes
ignore cannot be updated.
ignore cannot be written.

user_name

user_name
The user name that was used to log in to the Multi-Grid Master.

Type
String.

Search
The field is available for search via
  • ‘=’ (exact equality)

Notes
user_name is part of the base object.
user_name cannot be updated.
user_name cannot be written.
3.23 namedacl: Named ACL object.

A named ACL (Access Control List) is a list of IPv4/IPv6 addresses, networks, TSIG-based anonymous access controls, and other named ACLs, to which you can grant or deny permission for operations such as dynamic DNS updates or zone transfers.

Object Reference

References to namedacl are object references.

The name part of the named ACL object reference has the following components:

- The name of the named ACL object

Example: namedacl/ZG5zLm5ldHvcmtfdmlldyQxMTk:ACL1

Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

access_list
The access control list of IPv4/IPv6 addresses, networks, TSIG-based anonymous access controls, and other named ACLs.

**Type**
One of the following: *Address ac struct*, *TSIG ac struct array*.

**Create**
The default value is:
empty

**Search**
The field is not available for search.

---

### comment

**comment**
Comment for the named ACL; maximum 256 characters.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is available for search via
- 
  - ‘:=’ (case insensitive search)
  - ‘=’ (exact equality)
  - ‘~=’ (regular expression)

**Notes**
comment is part of the base object.

---

### exploded_access_list

**exploded_access_list**
The exploded access list for the named ACL. This list displays all the access control entries in a named ACL and its nested named ACLs, if applicable.

**Type**
One of the following: *Address ac struct*, *TSIG ac struct array*.

**Search**
The field is not available for search.

**Notes**
exploded_access_list cannot be updated.
exploded_access_list cannot be written.

**extattrs**

**extattrs**
Extensible attributes associated with the object.
For valid values for extensible attributes, see *the following information*.

**Type**
Extensible attributes.
This field allows +/- to be specified as part of the field name when updating the object, see *the following information*.

**Create**
The default value is *empty*.

**Search**
For how to search extensible attributes, see *the following information*.

**name**

**name**
The name of the named ACL.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

**Search**
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**
name is part of the base object.

**Function Calls**

**validate_acl_items**

This function is used to validate ACL items and return the validation result in a CSV file format if validation fails and returns nothing if validation succeeds.
This function does not support multiple object matches when called as part of an atomic insertion operation.
Input fields
None

Output fields

token (String.) The token used for calling the downloadcomplete function.

url (String.) For local (not remote) uploads, the URL from which the requested file is downloaded.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>access_list</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>exploded_access_list</td>
<td>[struct]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
</tbody>
</table>

3.24 natgroup : Network Address Translation group object.

NAT Groups are necessary if the Grid master is behind a NAT device and there members behind both side of the NAT device. Any member on the same side as the master go into the same NAT group as the master and use their interface address for Grid communication with each other. Grid members on the other side of that NAT device do not go into the same NAT group as the master and use master’s NAT address for Grid communication.

Object Reference

References to natgroup are object references.

The name part of the natgroup object reference has the following components:

- The name of the NAT group object.

Example: natgroup/ZG5zLm9wdGlvbI9kZWZpbml0aW9uJGluZm8uLmZhbHNlJl1Mg:nat1

Restrictions

The object does not support the following operations:

- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>
**comment**

The NAT group descriptive comment.

**Type**
String.

**Create**
The default value is *undefined*.

**Search**
The field is available for search via
- `':='` (case insensitive search)
- ` '='` (exact equality)
- ` '~='` (regular expression)

**Notes**

comment is part of the base object.

**name**

The name of a NAT group object.

**Type**
String.

**Create**
The field is required on creation.

**Search**
The field is available for search via
- `':='` (case insensitive search)
- ` '='` (exact equality)
- ` '~='` (regular expression)

**Notes**

name is part of the base object.

**Fields List**

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
</tbody>
</table>
3.25 permission: Permissions object.

Limited-access admin groups can access certain DHCP resources only if their administrative permissions are defined. By default, the appliance denies access when a limited-access admin group does not have defined permissions. You can grant admin groups read-only or read/write permission, or deny access by using this object.

**Note**

Only supported resource_type and object combinations are allowed. Refer to the Infoblox NIOS Administrator Guide for more information.

For example, the following resource types are not supported when creating a global permission:

- FILE_DIST_DIRECTORY
- FIXED_ADDRESS_TEMPLATE
- IPV6_NETWORK_CONTAINER
- IPV6_FIXED_ADDRESS_TEMPLATE
- IPV6_NETWORK_TEMPLATE
- IPV6_RANGE_TEMPLATE
- MEMBER_AAA_PROPERTIES
- MEMBER_DHCP_PROPERTIES
- MEMBER_DNS_PROPERTIES
- MEMBER_FILE_DIST_PROPERTIES
- MEMBER_SECURITY_PROPERTIES
- NETWORK_CONTAINER
- NETWORK_TEMPLATE
- RANGE_TEMPLATE
- RESTART_SERVICE
- SUB_GRID_NETWORK_VIEW_PARENT

**Examples**

To create object permission for a specific zone, send the reference in the object field: {
  "group": "1",
  "permission": "READ",
  "object": "zone_auth/ZG5zLnpvbmUkLl9kZWZhdWx0LmF6:az/default"
}

To create global permission for all IPv6 Network objects, send IPV6_NETWORK in the resource_type field: {
  "group": "1",
  "permission": "READ",
  "resource_type": "IPV6_NETWORK"
}

To create permission for all IPv4 DHCP ranges inside a specific network container, send the reference in the object field and RANGE in the resource_type field: {
  "group": "1",
  "permission": "READ",
  "object": "network-container/ZG5zLm5ldHdvcmtfY291a4yMC4wLzI0LzA:2.2.20.0/24/default",
  "resource_type": "RANGE"
}
Object Reference

References to permission are object references. The name part of a permission object reference has the following components:

- Group name
- Permission

Example: permission: cname/ZG5zLmJpbmRfY25h:group1/WRITE

Restrictions

The object does not support the following operations:

- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): group, permission, resource_type, role.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>group</td>
<td>One of group or role is required.</td>
</tr>
<tr>
<td>object</td>
<td>At least one of object or resource_type is required.</td>
</tr>
<tr>
<td>permission</td>
<td></td>
</tr>
<tr>
<td>resource_type</td>
<td>At least one of object or resource_type is required.</td>
</tr>
<tr>
<td>role</td>
<td>One of group or role is required.</td>
</tr>
</tbody>
</table>

**group**

The name of the admin group this permission applies to.

Type

String.

Create

One of group or role is required.

Search

The field is available for search via

- ‘=’ (exact equality)
Notes

group is part of the base object.

**object**

**object**
A reference to a WAPI object, which will be the object this permission applies to.

**Type**
String.

This field supports nested return fields as described here.

**Create**

At least one of object or resource_type is required.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**permission**

**permission**

The type of permission.

**Type**

String.

**Valid values are:**

- DENY
- READ
- WRITE

**Create**

The field is required on creation.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

permission is part of the base object.

**resource_type**

**resource_type**
The type of resource this permission applies to. If ‘object’ is set, the permission is going to apply to child objects of the specified type, for example if ‘object’ was set to an authoritative zone reference and ‘resource_type’ was set to ‘A’, the permission would apply to A Resource Records within the specified zone.

**Type**

String.

**Valid values are:**

- A
- AAAA
- AAA_EXTERNAL_SERVICE
- ADD_A_RR_WITH_EMPTY_HOSTNAME
- ALIAS
- BFD_TEMPLATE
- BULKHOST
- CAA
- CA_CERTIFICATE
- CLUSTER
- CNAME
- CSV_IMPORT_TASK
- DASHBOARD_TASK
- DATACOLLECTOR_CLUSTER
- DEFINED_ACL
- DELETED_OBJS_INFO_TRACKING
- DEVICE
- DHCP_FINGERPRINT
- DHCP_LEASE_HISTORY
- DHCP_MAC_FILTER
- DNAME
- DNS64_SYNTHESIS_GROUP
- FILE_DIST_DIRECTORY
- FIREEYE_PUBLISH_ALERT
- FIXED_ADDRESS
- FIXED_ADDRESS_TEMPLATE
- GRID_AAA_PROPERTIES
- GRID_ANALYTICS_PROPERTIES
- GRID_DHCP_PROPERTIES
- GRID_DNS_PROPERTIES
- GRID_FILE_DIST_PROPERTIES
• MS_ADSITES_DOMAIN
• MS_SUPERSCOPE
• MX
• NAPTR
• NETWORK
• NETWORK_CONTAINER
• NETWORK_DISCOVERY
• NETWORK_TEMPLATE
• NETWORK_VIEW
• OCSP_SERVICE
• OPTION_SPACE
• PORT_CONTROL
• PTR
• RANGE
• RANGE_TEMPLATE
• RECLAMATION
• REPORTING_DASHBOARD
• REPORTING_SEARCH
• RESPONSE_POLICY_RULE
• RESPONSE_POLICY_ZONE
• RESTART_SERVICE
• RESTORABLE_OPERATION
• ROAMING_HOST
• RULESET
• SCHEDULE_TASK
• SG_IPV4_NETWORK
• SG_IPV6_NETWORK
• SG_NETWORK_VIEW
• SHARED_A
• SHARED_AAAA
• SHARED_CNAME
• SHARED_MX
• SHARED_NETWORK
• SHARED_RECORD_GROUP
• SHARED_SRV
• SHARED_TXT
- SRV
- SUB_GRID
- SUB_GRID_NETWORK_VIEW_PARENT
- SUPER_HOST
- TEMPLATE
- TENANT
- TLSA
- TXT
- VIEW
- ZONE

Create

At least one of object or resource_type is required.

Search

The field is available for search via
  - ‘=’ (exact equality)

Notes

resource_type is part of the base object.

role

role

The name of the role this permission applies to.

Type

String.

Create

One of group or role is required.

Search

The field is available for search via
  - ‘=’ (exact equality)

Notes

role is part of the base object.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>group</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>object</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>permission</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>resource_type</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>role</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
</tbody>
</table>

* Required in some cases, see detailed field description above.

### 3.26 radius:authservice : The RADIUS authentication service object.

RADIUS provides authentication, accounting, and authorization functions.

The NIOS appliance supports authentication using the following RADIUS servers: FreeRADIUS, Microsoft, Cisco, and Funk.

When NIOS authenticates administrators against RADIUS servers, NIOS acts similarly to a network access server (NAS), which is a RADIUS client that sends authentication and accounting requests to a RADIUS server.

To configure NIOS to use one or more RADIUS server groups to authenticate administrators you must do the following: configure at least one RADIUS authentication server group (authentication service), define admin groups for the admins that are authenticated by the RADIUS servers and specify their privileges and settings, add the RADIUS server groups and the admin groups that match those on RADIUS server to authentication policy.

### Object Reference

References to radius:authservice are object references.

The name part of a RADIUS authentication service has following components:

- The name of the RADIUS authentication service.

Example: radius:authservice/ZG5zLm5ldHdvcmtdmldyQxMTk:RADIUSAuth

### Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

### Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, disable, name.

The following fields are required to create this object:
<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>servers</td>
<td></td>
</tr>
</tbody>
</table>

**acct_retries**

The number of times to attempt to contact an accounting RADIUS server.

**Type**

Unsigned integer.

**Create**

The default value is 1000.

**Search**

The field is not available for search.

**acct_timeout**

The number of seconds to wait for a response from the RADIUS server.

**Type**

Unsigned integer.

**Create**

The default value is 5000.

**Search**

The field is not available for search.

**auth_retries**

The number of times to attempt to contact an authentication RADIUS server.

**Type**

Unsigned integer.

**Create**

The default value is 6.

**Search**

The field is not available for search.
### auth_timeout

**auth_timeout**
The number of seconds to wait for a response from the RADIUS server.

**Type**
Unsigned integer.

**Create**
The default value is `5000`.

**Search**
The field is not available for search.

### cache_ttl

**cache_ttl**
The TTL of cached authentication data in seconds.

**Type**
Unsigned integer.

**Create**
The default value is `3600`.

**Search**
The field is not available for search.

### comment

**comment**
The RADIUS descriptive comment.

**Type**
String.

**Create**
The default value is `empty`.

**Search**
The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**
comment is part of the base object.
**disable**

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**Notes**
disable is part of the base object.

**enable_cache**

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

**mode**

**Type**
String.

**Valid values are:**
- HUNT_GROUP
- ROUND_ROBIN

**Create**
The default value is *HUNT_GROUP*.

**Search**
The field is available for search via
- ‘=’ (exact equality)
**name**

The RADIUS authentication service name.

**Type**

String.

**Create**

The field is required on creation.

**Search**

The field is available for search via
- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**

name is part of the base object.

**recovery_interval**

The period of time have to wait before retrying a server that has been marked as down.

**Type**

Unsigned integer.

**Create**

The default value is 30.

**Search**

The field is not available for search.

**servers**

The ordered list of RADIUS authentication servers.

**Type**

A/An *The RADIUS authentication server structure* struct array.

**Create**

The field is required on creation.

**Search**

The field is not available for search.
## Function Calls

### check_radius_server_settings

Test connectivity to the server, authentication and accounting settings.

This function does not support multiple object matches when called as part of an atomic insertion operation.

#### Input fields

- **acct_timeout** (Unsigned integer.) The accounting timeout in milliseconds. The default value is “5000”.
- **auth_timeout** (Unsigned integer.) The authentication timeout in milliseconds. The default value is “5000”.
- **radius_authservice** (String.) The name of the parent RADIUS authentication service.
- **radius_server** (A/An The RADIUS authentication server structure struct.) This parameter is mandatory. The RADIUS server which will be tested. The ‘disable’ flag is ignored.

#### Output fields

- **error_message** (String.) The detailed description of failure.
- **overall_status** (String. Valid values are: “SUCCESS”, “FAILED”) The overall status of the test.

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>acct_retries</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>acct_timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>auth_retries</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>auth_timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>cache_ttl</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>? = ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>enable_cache</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>mode</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>? = ~</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>? = ~</td>
</tr>
<tr>
<td>recovery_interval</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>servers</td>
<td>[struct]</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 3.27 request : WAPI handler object.

This object allows the control of WAPI through a single entry point. The object supports only the POST method and does not support URI arguments.

**Single object body requests**

The following fields are supported for single object body requests:
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>data</td>
<td>Dictionary. Data that is dependent on the method and is sent in the body of a normal WAPI request.</td>
</tr>
<tr>
<td>args</td>
<td>Dictionary. Arguments for object body requests. These arguments are appended to the URI in a normal WAPI request, such as _max_results, _return_fields, etc.</td>
</tr>
<tr>
<td>method</td>
<td>String. Method of the operation (see below for more information).</td>
</tr>
<tr>
<td>object</td>
<td>String. The object used for the operation. For a normal WAPI, this can either be an object type such as ‘network’ for a GET operation, or a WAPI object such as ‘network/dAs4...’ for a PUT operation.</td>
</tr>
</tbody>
</table>

Single object body requests can be used for any supported WAPI operations, including scheduling and approval. Scheduling and approval specific options should be added to the arguments field of the request.

Only HTTP methods (GET, PUT, DELETE and POST) are valid methods for the single object body requests.

For a single object body request example, see [the sample code section in the manual](#).

### Multiple object body requests

Multiple object body requests are composed of a list of single requests. Each single request supports the same fields as the single object body request (with some limitations) and the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable_substitution</td>
<td>Boolean. Determines if the variables created in the stated request can be used for the current operation.</td>
</tr>
<tr>
<td>assign_state</td>
<td>Dictionary. Fields of the result object in the current operation, which should be saved in the request state object for the next operation in the multiple object body request. This also supports saving the extensible attribute value and a specific array member. See below for more information.</td>
</tr>
<tr>
<td>discard</td>
<td>Boolean. Result of the current operation will be skipped and will not be added to the returned result list.</td>
</tr>
</tbody>
</table>

Only the following arguments are supported for each individual request: ‘_function’, ‘_schema’, ‘_return_fields’, ‘_return_fields+’, ‘_return_as_object’, ‘_max_results’.

If the ‘assign_state’ field is set, ‘_return_as_object’ will be automatically added to the request arguments.

In addition to the standard HTTP methods, single request inside a multiple object body request can be set to these values:

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE:ASSIGN</td>
<td>Copy fields in the data object to the state object.</td>
</tr>
<tr>
<td>STATE:DISPLAY</td>
<td>Added the state object to the returned result list.</td>
</tr>
</tbody>
</table>

For a multiple object body request example, see [the sample code section in the manual](#).

To save the extensible attribute value to the request state object, the ‘extattrs’ field must be specified in the ‘_return_fields’ argument. To select and save a specific extensible attribute, prefix the extensible attribute name with an asterisk (*). See [an example in the manual](#).

### Object Reference

This object does not support references.

### Restrictions

The object does not support the following operations:

- Delete
- Read (retrieve)
• Modify (update)
• Function calls
• Permissions
• Global search (searches via the search object)
• Scheduling
• CSV export

The object cannot be managed on the Cloud Platform members.

3.28 scheduledtask : Scheduled Task object.

This object represents a scheduled task.

Object Reference

References to scheduledtask are object references. The name part of a scheduled task object reference has the following components:

• The Task ID of the task
• Execution status of the task

Example: scheduledtask/ZG5zLm5ldHdvcmtdmlldyQxMTk:12/PENDING

Restrictions

The object does not support the following operations:

• Create (insert)
• Permissions
• Global search (searches via the search object)
• Scheduling
• CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): approval_status, execution_status, task_id.
**approval_status**

The approval status of the task.

**Type**
String.

**Valid values are:**
- APPROVED
- NONE
- PENDING
- REJECTED

**Create**
The default value is *empty*.

**Search**
The field is available for search via
- ‘=’ (exact equality)

**Notes**
approval_status is part of the base object.

**approver**

The approver of the task.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Search**
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~’ (regular expression)

**Notes**
approver cannot be updated.
approver cannot be written.
### approver_comment

**approver_comment**
The comment specified by the approver of the task.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is not available for search.

### automatic_restart

**automatic_restart**
Indicates whether there will be an automatic restart when the appliance executes the task.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.

### changed_objects

**changed_objects**
A list of objects that are affected by the task.

**Type**
A/An *Changed object information* struct array.

**Search**
The field is not available for search.

**Notes**
changed_objects cannot be updated.
changed_objects cannot be written.
**dependent_tasks**

If this scheduled task has dependent tasks, their references will be returned in this field.

- **Type**
  A/An `scheduledtask` object array.

- **Search**
  The field is not available for search.

- **Notes**
  dependent_tasks cannot be updated.
  dependent_tasks cannot be written.

**execute_now**

If this field is set to True the specified task will be executed immediately.

- **Type**
  Bool.

- **Create**
  The default value is `False`.

- **Search**
  The field is not available for search.

- **Notes**
  execute_now is not readable.

**execution_details**

Messages generated by the execution of the scheduled task after its completion.

- **Type**
  String array.

  Values with leading or trailing white space are not valid for this field.

- **Search**
  The field is not available for search.

- **Notes**
  execution_details cannot be updated.
  execution_details cannot be written.
**execution_details_type**

The type of details generated by the execution of the scheduled task after its completion.

**Type**
String.

**Valid values are:**
- NONE
- WARNING

**Search**
The field is not available for search.

**Notes**
execution_details_type cannot be updated.
execution_details_type cannot be written.

**execution_status**

The execution status of the task.

**Type**
String.

**Valid values are:**
- COMPLETED
- FAILED
- PENDING
- WAITING_EXECUTION

**Search**
The field is available for search via
- ‘=’ (exact equality)

**Notes**
execution_status is part of the base object.
execution_status cannot be updated.
execution_status cannot be written.

**execution_time**


The time when the appliance executed the task.

**Type**

Timestamp.

**Search**

The field is available for search via

- ‘=’ (exact equality)
- ‘<=’ (less than search)
- ‘>=' (greater than search)

**Notes**

execution_time cannot be updated.

execution_time cannot be written.

---

**is_network_insight_task**

Indicates whether this is a Network Insight scheduled task.

**Type**

Bool.

**Search**

The field is not available for search.

**Notes**

is_network_insight_task cannot be updated.

is_network_insight_task cannot be written.

---

**member**

The member where this task was created.

**Type**

String.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

member cannot be updated.

member cannot be written.
**predecessor_task**

If this scheduled task has a predecessor task set, its reference will be returned in this field.

**Type**
String.

This field supports nested return fields as described here.

**Search**
The field is not available for search.

**Notes**
predecessor_task cannot be updated.
predecessor_task cannot be written.

**re_execute_task**

If set to True, if the scheduled task is a Network Insight task and it failed, a new task will be cloned from this task and re-executed.

**Type**
Bool.

**Create**
The default value is empty.

**Search**
The field is not available for search.

**scheduled_time**

The time when the task is scheduled to occur.

**Type**
Timestamp.

**Create**
The default value is The scheduled time.

**Search**
The field is available for search via

- ‘=’ (exact equality)
- ‘<=’ (less than search)
- ‘>=’ (greater than search)
### submit_time

**submit_time**
The time when the task was submitted.

**Type**
Timestamp.

**Search**
The field is available for search via
- ‘=’ (exact equality)
- ‘<’ (less than search)
- ‘>’ (greater than search)

**Notes**
submit_time cannot be updated.
submit_time cannot be written.

### submitter

**submitter**
The submitter of the task.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Search**
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=’ (regular expression)

**Notes**
submitter cannot be updated.
submitter cannot be written.

### submitter_comment

**submitter_comment**
The comment specified by the submitter of the task.

**Type**
String.

Values with leading or trailing white space are not valid for this field.
Create
The default value is *empty*.

Search
The field is not available for search.

### task_id

**task_id**
The task ID.

**Type**
Unsigned integer.

**Search**
The field is available for search via
- '=' (exact equality)

**Notes**
task_id is part of the base object.
task_id cannot be updated.
task_id cannot be written.

### task_type

**task_type**
The task type.

**Type**
String.

**Valid values are:**
- OBJECT_CHANGE
- PORT_CONTROL

**Search**
The field is not available for search.

**Notes**
task_type cannot be updated.
task_type cannot be written.

### ticket_number

**ticket_number**
The task ticket number.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Search**

The field is not available for search.

**Notes**

ticket_number cannot be updated.

ticket_number cannot be written.

---

### Search-only Fields

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.

---

### changed_objects.action

**changed_objects.action**

The action to search for, valid values are:

- Convert IPv4 Lease
- Delete
- Restart Services
- Add
- Convert IPv6 Lease
- Lock/Unlock Zone
- Reset Grid
- Configure Grid
- Restart Services
- Network Discovery
- Upgrade Grid
- Modify

**Type**

String.

**Search**

The field is available for search via

- ‘=’ (exact equality)

**Notes**

changed_objects.action is a search-only field.
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>changed_objects.name</strong></td>
<td>The name of the changed object. Type: String.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
<td>The field is available for search via</td>
</tr>
<tr>
<td></td>
<td>• ‘:=’ (case insensitive search)</td>
</tr>
<tr>
<td></td>
<td>• ‘=’ (exact equality)</td>
</tr>
<tr>
<td></td>
<td>• ‘~=’ (regular expression)</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>changed_objects.name is a search-only field.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>changed_objects.object_type</strong></td>
<td>The WAPI object type of the specified object. Type: String.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
<td>The field is available for search via</td>
</tr>
<tr>
<td></td>
<td>• ‘=’ (exact equality)</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>changed_objects.object_type is a search-only field.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>changed_objects.type</strong></td>
<td>The object type. Following are samples of valid type values:</td>
</tr>
<tr>
<td></td>
<td>• A Record</td>
</tr>
<tr>
<td></td>
<td>• AAAA Record</td>
</tr>
<tr>
<td></td>
<td>• Authoritative Zone</td>
</tr>
<tr>
<td></td>
<td>• Bulk Host</td>
</tr>
<tr>
<td></td>
<td>• CNAME Record</td>
</tr>
<tr>
<td></td>
<td>• Delegated Zone</td>
</tr>
<tr>
<td></td>
<td>• DHCP Range</td>
</tr>
<tr>
<td></td>
<td>• DNAME Record</td>
</tr>
</tbody>
</table>
• DNS View
• Fixed Address
• Forward Zone
• Host Record
• IPv4 Network
• IPv4 Network Container
• IPv6 Network
• IPv6 Network Container
• MX Record
• NS Record
• PTR Record
• Reservation
• Roaming Host
• Shared A Record
• Shared AAAA Record
• Shared MX Record
• Shared Network
• Shared Record Group
• Shared SRV Record
• Shared TXT Record
• SRV Record
• Stub Zone
• TXT Record

Type
String.

Search
The field is available for search via
• ‘:=’ (case insensitive search)
• ‘=’ (exact equality)
• ‘=~’ (regular expression)

Notes
changed_objects.type is a search-only field.
### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>approval_status</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>approver</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>approver_comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>automatic_restart</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>changed_objects</td>
<td>[struct]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>dependent_tasks</td>
<td>[obj]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>execute_now</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>execution_details</td>
<td>[String]</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>execution_details_type</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>execution_status</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>execution_time</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>&lt;= &gt;</td>
</tr>
<tr>
<td>is_network_insight_task</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>member</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>=</td>
</tr>
<tr>
<td>predecessor_task</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>re_execute_task</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>scheduled_time</td>
<td>Timestamp</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>&lt;= &gt;</td>
</tr>
<tr>
<td>submit_time</td>
<td>Timestamp</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>&lt;= &gt;</td>
</tr>
<tr>
<td>submitter</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>: = ~</td>
</tr>
<tr>
<td>submitter_comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>task_id</td>
<td>Unsigned int</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>=</td>
</tr>
<tr>
<td>task_type</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>ticket_number</td>
<td>String</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Search-only Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>changed_objects.action</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>changed_objects.name</td>
<td>String</td>
<td>: = ~</td>
</tr>
<tr>
<td>changed_objects.object_type</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>changed_objects.type</td>
<td>String</td>
<td>: = ~</td>
</tr>
</tbody>
</table>

#### 3.29 search : Search object.

The **search** object is used to perform global searches for multiple object types in the database. This object contains only search parameters and returns objects that match the search criteria. The returned objects are base objects for the respective object types.

Search is the only allowed operation for **search** objects.

NOTE: Only one of the following can be used each time: ‘address’, ‘mac_address’, ‘duid’ or ‘fqdn’.

### Object Reference

**search** objects are search only and will not be returned. They can not be referenced.
Restrictions

The object does not support the following operations:

- Create (insert)
- Delete
- Modify (update)
- Permissions
- Global search (searches via the search object)
- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Search-only Fields

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.

address

IP address is used as the search criterion.

Type
String.

Search
The field is available for search via

- '=' (exact equality)

Notes
address is a search-only field.

duid

DUID is used as the search criterion.

Type
String.

Search
The field is available for search via

- '=' (exact equality)
Notes
duid is a search-only field.

**fqdn**

fqdn
FQDN is used as the search criterion.
Type
String.
Search
The field is available for search via
- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

Notes
fqdn is a search-only field.

**mac_address**

mac_address
MAC address is used as the search criterion.
Type
String.
Search
The field is available for search via
- ‘=’ (exact equality)

Notes
mac_address is a search-only field.

**objtype**

objtype
Type of object to search for. If not specified, all object types will be searched.
Type
String.
Valid values are:
- All
- AllNetwork
- AllZone
- IPAMObjects
- ad_auth_service
- admingroup
- adminrole
- adminuser
- allendpoints
- allnsgroup
- approvalworkflow
- awsrte53taskgroup
- awsuser
- bulkhost
- certificate:authservice
- ciscoise:notificationrule
- dhcpfailover
- dhcpoptionspace
- discovery:device
- discovery:deviceinterface
- discovery:memberproperties
- dns64group
- dtc:lbdn
- dtc:monitor:http
- dtc:monitor:icmp
- dtc:monitor:pdp
- dtc:monitor:snmp
- dtc:monitor:tcp
- dtc:pool
- dtc:server
- dtc:topology
- filterfingerprint
- filtermac
- filtermac
- filteroption
- filterrelayagent
- fingerprint
• fixedaddress
• fixedaddresstemplate
• ftpuser
• grid:dhcpproperties
• grid:dns
• grid:filedistribution
• grid:servicerestart:group
• grid:threatanalytics
• ipv6dhcppoptionspace
• ipv6fixedaddress
• ipv6fixedaddresstemplate
• ipv6network
• ipv6networkcontainer
• ipv6networktemplate
• ipv6range
• ipv6rangetemplate
• ipv6sharednetwork
• kerberoskey
• ldap_auth_service
• lease
• macfilteraddress
• member
• member:dhcpproperties
• member:dns
• member:filedistribution
• member:threatprotection
• mgm:grid
• mgm:member
• mgm:network
• mgm:networkview
• msserver:adsites:domain
• msserver:adsites:site
• mssuperscope
• namedacl
• natgroup
• network
• networkcontainer
• networktemplate
• networkuser
• networkview
• notification:rule
• nsgroup
• nsgroup:delegation
• nsgroup:forwardingmember
• nsgroup:forwardstubserver
• nsgroup:stubmember
• parentalcontrol:avp
• parentalcontrol:subscribersite
• radius:authservice
• range
• rangetemplate
• record:a
• record:aaaa
• record:alias
• record:CAA
• record:cname
• record:dhcid
• record:dname
• record:dnskey
• record:ds
• record:host
• record:host_ipv4addr
• record:host_ipv6addr
• record:mx
• record:naptr
• record:ns
• record:nsec
• record:nsec3param
• record:ptr
• record:rpz:a
• record:rpz:a:ipaddress
• record:rpz:aaaa
• record:rpz:aaaa:ipaddress
• record:rpz:cname
• record:rpz:cname:clientipaddress
• record:rpz:cname:clientipaddressdn
• record:rpz:cname:ipaddress
• record:rpz:cname:ipaddressdn
• record:rpz:mx
• record:rpz:naptr
• record:rpz:ptr
• record:rpz:srv
• record:rpz:txt
• record:rrsig
• record:srv
• record:tlsa
• record:txt
• rir:organization
• roaminghost
• ruleset
• sharednetwork
• sharedrecord:a
• sharedrecord:aaaa
• sharedrecord:cname
• sharedrecord:mx
• sharedrecord:srv
• sharedrecord:txt
• sharedrecordgroup
• snmpuser
• superhost
• tacacsplus:authservice
• tftpfiledir
• threatanalytics:moduleset
• threatprotection:profile
• upgradegroup
• vdiscoverytask
• view
Search
The field is available for search via
  • ‘:=’ (case insensitive search)
  • ‘=’ (exact equality)

Notes
objtype is a search-only field.

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>duid</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>fqdn</td>
<td>String</td>
<td>: := ~</td>
</tr>
<tr>
<td>mac_address</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>objtype</td>
<td>String</td>
<td>=</td>
</tr>
<tr>
<td>search_string</td>
<td>String</td>
<td>: := ~</td>
</tr>
</tbody>
</table>


The Smart Folder children object is used to read the objects that are associated with either a Smart Folder (global or personal) or a set of queries that users can make without saving a Smart Folder object on the appliance.

The Smart Folder children object can be used for both “filtering” and “grouping” the results of Smart Folder associated objects.
References to smartfolder:children are *object references*.
The *name* part of the Smart Folder object reference has the following components:
  - The ‘children’ string

**Example:** smartfolder:children/ ZG5zLm9wdGlvbl9kZWZpbml0aW9uJGluZm8uLmZhbHNlLjI1Mg:children

**Restrictions**

The object does not support the following operations:
  - Create (insert)
  - Delete
  - Modify (update)
  - Read by object reference
  - Global search (searches via *the search object*)
  - Scheduling
  - CSV export

The object cannot be managed on the Cloud Platform members.

**Fields**

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): `resource, value, value_type`.

**resource**

The object returned by the Smart Folder query.

**Type**

String.

This field supports nested return fields as described `here`.

**Search**

The field is not available for search.

**Notes**

resource is part of the base object.
resource cannot be updated.
resource cannot be written.
value

The value returned by the Smart Folder query.

Type

A/An *Smart Folder query item value structure* struct.

Search

The field is not available for search.

Notes

value is part of the base object.

value cannot be updated.

value cannot be written.

value_type

The type of the returned value.

Type

String.

Valid values are:

- BOOLEAN
- DATE
- EMAIL
- ENUM
- INTEGER
- OBJTYPE
- STRING
- URL

Search

The field is not available for search.

Notes

value_type is part of the base object.

value_type cannot be updated.

value_type cannot be written.

Search-only Fields

These fields are used only for searching. They are not actual members of the object and therefore the server does not return these fields with this name unless they are nested return fields.
**group_by_values**

**group_by_values**
The Smart Folder query values grouping information.

**Type**
A/An *Smart Folder group by value structure* struct array.

**Search**
The field is available for search via
- `=` (exact equality)

**Notes**
group_by_values is a search-only field.

**group_bys**

**group_bys**
The Smart Folder query grouping information.

**Type**
A/An *Smart Folder group by structure* struct array.

**Search**
The field is available for search via
- `=` (exact equality)

**Notes**
group_bys is a search-only field.

**query_items**

**query_items**
The Smart Folder query parameters.

**Type**
A/An *Smart Folder query item structure* struct array.

**Search**
The field is available for search via
- `=` (exact equality)

**Notes**
query_items is a search-only field.
smart_folder

The reference to a global or a personal Smart Folder.

Type
String.
This field supports nested return fields as described here.

Search
The field is available for search via

- ‘=’ (exact equality)

Notes
smart_folder is a search-only field.

<table>
<thead>
<tr>
<th>Fields List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field</td>
</tr>
<tr>
<td>resource</td>
</tr>
<tr>
<td>value</td>
</tr>
<tr>
<td>value_type</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Search-only Fields List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field</td>
</tr>
<tr>
<td>group_by_values</td>
</tr>
<tr>
<td>group_bys</td>
</tr>
<tr>
<td>query_items</td>
</tr>
<tr>
<td>smart_folder</td>
</tr>
</tbody>
</table>

### 3.31 smartfolder:global : Global Smart Folder object.

Smart Folders are used to organize your core network services data. Depending on your administrative roles and business needs, you can filter your data object types, names, extensible attributes and discovered data and then place the filtered results in a Smart Folder.

The global Smart Folders are created to be shared among administrators.

### Object Reference

References to smartfolder:global are object references.
The name part of the global Smart Folder object reference has the following components:

- The name of the global Smart Folder

**Example:** smartfolder:global/ ZG5zLm9wdGlvbl9kZWZpbmll0aW9uJGl2Zm8uLmZhbHNILjI1Mg:SF1
Restrictions

The object does not support the following operations:

• Global search (searches via the search object)
• CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

comment

comment

The global Smart Folder descriptive comment.

Type

String.

Create

The default value is empty.

Search

The field is available for search via

• ‘:=’ (case insensitive search)
• ‘=’ (exact equality)
• ‘~:=’ (regular expression)

Notes

comment is part of the base object.

group_bys

group_bys

The global Smart Folder grouping rules.

Type

A/An Smart Folder group by structure struct array.

Create

The default value is:
**name**

The global Smart Folder name.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The field is required on creation.

**Search**

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**

name is part of the base object.

**query_items**

The global Smart Folder filter queries.

**Type**

A/An *Smart Folder query item structure* struct array.

**Create**

The default value is:

```json
[{
  'field_type': 'NORMAL',
  'name': 'type',
  'op_match': True,
  'operator': 'EQ',
  'value': {
    'value_string': 'Network/Zone/Range/Member'},
  'value_type': 'ENUM'}
]
```

**Search**

The field is not available for search.
Function Calls

save_as

This function is used to create a shortcut to a Global Smart Folder in a Personal Smart Folder or to create a complete copy of the Global Smart Folder and save it either as another Smart Folder or as Global Smart Folder. This function does not support multiple object matches when called as part of an atomic insertion operation.

Input fields

global_flag (Bool.) Determines whether to save Smart Folder as Global Smart Folder. The default value is “False”.

isShortcut (Bool.) Determines whether the complete copy of the Smart Folder will be created or only a shortcut. The default value is “False”.

name (String.) The newly created Smart Folder name. The default value is “None”.

Output fields

result (String.) The resulting Smart Folder object.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>group_bys</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>query_items</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3.32 smartfolder:personal : Personal Smart Folder object.

Smart Folders are used to organize your core network services data. Depending on your administrative roles and business needs, you can filter your data object types, names, extensible attributes and discovered data and then place the filtered results in a Smart Folder.

The personal Smart Folder is used to Smart Folders available only to a administrator that have created the Smart Folder.

Object Reference

References to smartfolder:personal are object references.

The name part of the personal Smart Folder object reference has the following components:

- The name of the personal Smart Folder
- Flag that indicates whether personal Smart Folder is a Global Smart Folder shortcut

Example: smartfolder:personal/ ZG5zLm9wdGlvbl9kZWZpbml0aW9uJGluZm8uLmZhbHNILjI1Mg:SF1/false

Restrictions

The object does not support the following operations:

- Global search (searches via the search object)
The object cannot be managed on the Cloud Platform members.

### Fields

These fields are actual members of the object; thus, they can be requested by using `_return_fields`, if the fields are readable.

The basic version of the object contains the field(s): `comment`, `is_shortcut`, `name`.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
</tbody>
</table>

**comment**

The personal Smart Folder descriptive comment.

**Type**

String.

**Create**

The default value is `empty`.

**Search**

The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

**Notes**

`comment` is part of the base object.

**group_bys**

The personal Smart Folder grouping rules.

**Type**

A/An *Smart Folder group by structure* struct array.

**Create**

The default value is:

`empty`

**Search**

The field is not available for search.
is_shortcut

Determines whether the personal Smart Folder is a shortcut.

Type
Bool.

Search
The field is available for search via

- `=` (exact equality)

Notes
is_shortcut is part of the base object.
is_shortcut cannot be updated.
is_shortcut cannot be written.

name

The personal Smart Folder name.

Type
String.

Values with leading or trailing white space are not valid for this field.

Create
The field is required on creation.

Search
The field is available for search via

- `:=` (case insensitive search)
- `=` (exact equality)
- `~=` (regular expression)

Notes
name is part of the base object.

query_items

The personal Smart Folder filter queries.

Type
A/An Smart Folder query item structure struct array.

Create
The default value is:

```python
[ { 'field_type': 'NORMAL',
   'name': 'type',
   'op_match': True,
   'operator': 'EQ',
   'value': { 'value_string': 'Network/Zone/Range/Member'},
   'value_type': 'ENUM'}]
```

**Search**

The field is not available for search.

---

### Function Calls

**save_as**

This function is used to create a shortcut to a Personal Smart Folder or to create a complete copy of the Personal Smart Folder and save it either as another Personal Smart Folder or as a Global Smart Folder.

This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **global_flag** (Bool.) Determines whether to save Smart Folder as Global Smart Folder. The default value is “False”.
- **isShortcut** (Bool.) Determines whether the complete copy of the Smart Folder will be created or only a shortcut. The default value is “False”.
- **name** (String.) The newly created Smart Folder name. The default value is “None”.

**Output fields**

- **result** (String.) The resulting Smart Folder object.

---

### Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>group_bys</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>isShortcut</td>
<td>Bool</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>: = ~</td>
</tr>
<tr>
<td>query_items</td>
<td>[struct]</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

---

### 3.33 snmpuser : SNMP user object.

This object contains information related to SNMPv3 users.

**Object Reference**

References to snmpuser are object references.
Restrictions

The object does not support the following operations:

- Scheduling
- CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>authentication_password</td>
<td>See the field description for more information</td>
</tr>
<tr>
<td>authentication_protocol</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>privacy_password</td>
<td>See the field description for more information</td>
</tr>
<tr>
<td>privacy_protocol</td>
<td></td>
</tr>
</tbody>
</table>

**authentication_password**

Determines an authentication password for the user. This is a write-only attribute.

**Type**

String.

**Create**

Password for Authentication is required when Authentication protocol is set.

**Search**

The field is not available for search.

**Notes**

authentication_password is not readable.

**authentication_protocol**

The authentication protocol to be used for this user.

**Type**

String.

**Valid values are:**

- MD5
• NONE
• SHA

Create
The field is required on creation.

Search
The field is not available for search.

**comment**

A descriptive comment for the SNMPv3 User.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Search**
The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

Notes
comment is part of the base object.

**disable**

Determines if SNMPv3 user is disabled or not.

**Type**
Bool.

**Create**
The default value is *False*.

**Search**
The field is not available for search.
**extattrs**

Extensible attributes associated with the object.
For valid values for extensible attributes, see the following information.

**Type**
Extensible attributes.
This field allows +/- to be specified as part of the field name when updating the object, see the following information.

**Create**
The default value is empty.

**Search**
For how to search extensible attributes, see the following information.

**name**

The name of the user.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

**Search**
The field is available for search via

- `'='` (exact equality)
- `'~='` (regular expression)

**Notes**
name is part of the base object.

**privacy_password**

Determines a password for the privacy protocol.

**Type**
String.

**Create**
Password for Privacy is required when Privacy protocol is set.

**Search**
The field is not available for search.

Notes
privacy_password is not readable.

privacy_protocol

The privacy protocol to be used for this user.

Type
String.

Valid values are:
- AES
- DES
- NONE

Create
The field is required on creation.

Search
The field is not available for search.

Fields List

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>authentication_password</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>authentication_protocol</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>extattrs</td>
<td>Extattr</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>ext</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>~</td>
</tr>
<tr>
<td>privacy_password</td>
<td>String</td>
<td>Y*</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>privacy_protocol</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Required in some cases, see detailed field description above.

3.34 tacacsplus:authservice : The TACACS+ authentication service object.

This object is used to supply configuration for TACACS+ authentication service.

Object Reference

References to tacacsplus:authservice are object references.
The name part of a TACACS+ authentication service has following components:
• The name of the TACACS+ authentication service.
Example: tacacsplus:authservice/ZG5zLm5ldHdvcmtfdmlldyQxMTk:TACACSAuth

Restrictions

The object does not support the following operations:
• Scheduling
• CSV export

The object cannot be managed on the Cloud Platform members.

Fields

These fields are actual members of the object; thus, they can be requested by using _return_fields, if the fields are readable.

The basic version of the object contains the field(s): comment, disable, name.

The following fields are required to create this object:

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td></td>
</tr>
<tr>
<td>servers</td>
<td></td>
</tr>
</tbody>
</table>

acct_retries

acct_retries
The number of the accounting retries before giving up and moving on to the next server.

Type
Unsigned integer.

Create
The default value is 0.

Search
The field is not available for search.

acct_timeout

acct_timeout
The accounting retry period in milliseconds.

Type
Unsigned integer.

Create
The default value is 1000.

Search
The field is not available for search.

**auth_retries**

The number of the authentication/authorization retries before giving up and moving on to the next server.

**Type**
Unsigned integer.

**Create**
The default value is 0.

**Search**
The field is not available for search.

**auth_timeout**

The authentication/authorization timeout period in milliseconds.

**Type**
Unsigned integer.

**Create**
The default value is 5000.

**Search**
The field is not available for search.

**comment**

The TACACS+ authentication service descriptive comment.

**Type**
String.

**Create**
The default value is empty.

**Search**
The field is available for search via

- ‘:=’ (case insensitive search)
- ‘=’ (exact equality)
- ‘~=' (regular expression)

**Notes**
comment is part of the base object.
<table>
<thead>
<tr>
<th><strong>disable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>disable</strong></td>
</tr>
<tr>
<td>Determines whether the TACACS+ authentication service object is disabled.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Bool.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is <em>False</em>.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
</tr>
<tr>
<td>The field is not available for search.</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>disable is part of the base object.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>name</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>name</strong></td>
</tr>
<tr>
<td>The TACACS+ authentication service name.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td>Values with leading or trailing white space are not valid for this field.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
</tr>
<tr>
<td>The field is available for search via</td>
</tr>
<tr>
<td>• ':=' (case insensitive search)</td>
</tr>
<tr>
<td>• '=' (exact equality)</td>
</tr>
<tr>
<td>• '~=' (regular expression)</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>name is part of the base object.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>servers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>servers</strong></td>
</tr>
<tr>
<td>The list of the TACACS+ servers used for authentication.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>A/An <em>The TACACS+ server structure</em> struct array.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
</tbody>
</table>
Search
The field is not available for search.

Function Calls

**check_tacacsplus_server_settings**

Test connectivity to the server, authentication and accounting settings.
This function does not support multiple object matches when called as part of an atomic insertion operation.

**Input fields**

- **acct_timeout** (Unsigned integer.) The accounting timeout in milliseconds. The default value is “5000”.
- **auth_timeout** (Unsigned integer.) The authentication timeout in milliseconds. The default value is “5000”.
- **tacacsplus_authservice** (String.) The name of the parent TACACS+ authentication service.
- **tacacsplus_server** (An *The TACACS+ server structure* struct.). This parameter is mandatory. The TACACS+ server which will be tested. The ‘disable’ flag is ignored.

**Output fields**

- **acct_time** (Unsigned integer.) The amount of time taken for accounting test in milliseconds.
- **auth_time** (Unsigned integer.) The amount of time taken to authentication test in milliseconds.
- **error_message** (String.) The detailed description of failure.
- **overall_status** (String. Valid values are: “SUCCESS”, “FAILED”) The overall status of the test.

**Fields List**

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
<th>Req</th>
<th>R/O</th>
<th>Base</th>
<th>Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>acct_retries</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>acct_timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>auth_retries</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>auth_timeout</td>
<td>Unsigned int</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
<tr>
<td>comment</td>
<td>String</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>= ~</td>
</tr>
<tr>
<td>disable</td>
<td>Bool</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N/A</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>= ~</td>
</tr>
<tr>
<td>servers</td>
<td>[struct]</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N/A</td>
</tr>
</tbody>
</table>
4.1 **ad_auth_server**: Active Directory Authentication Server.

Represents an AD authentication server (i.e., domain controller) that is used to authenticate administrators.

<table>
<thead>
<tr>
<th>auth_port</th>
</tr>
</thead>
</table>

*auth_port*

The authentication port.

*Type*

Unsigned integer.

*Create*

The default value is *undefined*.

<table>
<thead>
<tr>
<th>comment</th>
</tr>
</thead>
</table>

*comment*

The descriptive comment for the AD authentication server.

*Type*

String.

Values with leading or trailing white space are not valid for this field.

*Create*

The default value is *empty*.

<table>
<thead>
<tr>
<th>disabled</th>
</tr>
</thead>
</table>

*disabled*

Determines if the AD authorization server is disabled.

*Type*

Bool.
Create
The default value is False.

**encryption**

The type of encryption to use.

Type
String.

Valid values are:
- NONE
- SSL

Create
The default value is NONE.

**fqdn_or_ip**

The FQDN (Fully Qualified Domain Name) or IP address of the server.

Type
String.

Values with leading or trailing white space are not valid for this field.

Create
The field is required on creation.

**mgmt_port**

Determine if the MGMT port is enabled for the AD authentication server.

Type
Bool.

Create
The default value is False.

Notes
mgmt_port is associated with the field use_mgmt_port (see use flag).
**use_mgmt_port**

*use_mgmt_port*
Use flag for: mgmt_port

*Type*
Bool.

*Create*
The default value is *False*.

### 4.2 addressac : Address ac.

This struct represents an access control rule for an address.

**address**

*address*
The address this rule applies to or “Any”.

*Type*
String.

Values with leading or trailing white space are not valid for this field.

*Create*
The field is required on creation.

**permission**

*permission*
The permission to use for this address.

*Type*
String.

**Valid values are:**
- ALLOW
- DENY

*Create*
The default value is *ALLOW*.

### 4.3 changedobject : Changed object information.

This struct contains information about changes to be made to the specified object.
**action**

**action**
This is a description of the action that is applied to this object.

**Type**
String.

**Valid values are:**

- Add
- Configure Grid
- Convert IPv4 Lease
- Convert IPv6 Lease
- Delete
- Lock/Unlock Zone
- Modify
- Network Discovery
- Reset Grid
- Restart Services
- Restart Services
- Upgrade Grid

**Notes**

action cannot be updated.  
action cannot be written.

**name**

**name**
The object name.

**Type**
String.

**Notes**

name cannot be updated.  
name cannot be written.

**object_type**
The object type. This is undefined if the object is not yet supported.

**Type**
String.

**Notes**
object_type cannot be updated.

properties

A list of properties that are being changed.

**Type**
String array.

**Notes**
properties cannot be updated.

properties cannot be written.

**type**

A value of the object type, this may contain objects that are not yet available in WAPI.

**Type**
String.

**Notes**
type cannot be updated.

type cannot be written.

4.4 extensibleattributedef:descendants : Descendants.

The structure describes what to do with descendant’s extensible attribute, if the value is different from the parent’s.

There are three possible cases, for each of them there is a specific option in the structure.

option_delete_ea

This option describes which action must be taken if the extensible attribute exists for the descendant, but is absent for the parent object:

- RETAIN: retain the extensible attribute value for the descendant object.
- REMOVE: remove this extensible attribute from the descendant object.
Type
String.

Valid values are:
- REMOVE
- RETAIN

Create
The default value is *undefined*.

---

**option_with_ea**

**option_with_ea**
This option describes which action must be taken if the extensible attribute exists for both the parent and descendant objects:
- **INHERIT**: inherit the extensible attribute from the parent object.
- **RETAIN**: retain the value of an extensible attribute that was set for the child object.
- **CONVERT**: the value of the extensible attribute must be copied from the parent object.

Type
String.

Valid values are:
- CONVERT
- INHERIT
- RETAIN

Create
The default value is *undefined*.

---

**option_without_ea**

**option_without_ea**
This option describes which action must be taken if the extensible attribute exists for the parent, but is absent from the descendant object:
- **INHERIT**: inherit the extensible attribute from the parent object.
- **NOT_INHERIT**: do nothing.

Type
String.

Valid values are:
- INHERIT
- NOT_INHERIT
Create
The default value is \textit{undefined}.

4.5 \texttt{extensibleattributedef:listvalues} : List of values.

The structure contains the list of extensible attribute values.

\begin{verbatim}
value
value
Enum value
Type
String.
Create
The default value is \textit{undefined}.
\end{verbatim}

4.6 \texttt{extsyslogbackupserver} : External syslog backup server.

This structure contains information about the external server for backing up the rotated syslog files.

\begin{verbatim}
address
address
The IPv4 or IPv6 address of the backup syslog server.
Type
String.
Create
The field is required on creation.
\end{verbatim}

\begin{verbatim}
directory_path
directory_path
The directory path for the replication of the rotated syslog files.
Type
String.
Create
The default value is \textit{undefined}.
\end{verbatim}
enable

If set to True, the syslog backup server is enabled.

Type
Bool.

Create
The default value is True.

password

The password of the backup syslog server.

Type
String.

Create
The default value is undefined.

Notes
password is not readable.

port

The port used to connect to the backup syslog server.

Type
Unsigned integer.

Create
The default value is 22.

protocol

The transport protocol used to connect to the backup syslog server.

Type
String.

Valid values are:

• FTP
• SCP
Create

The default value is SCP.

**username**

The username of the backup syslog server.

**Type**

String.

Create

The default value is undefined.

### 4.7 grid:consentbannersetting : Consent banner setting.

This structure contains configuration for consent banner. This banner appears as the first screen when users access Grid Manager. Users must read the terms and conditions and then click Accept on the consent screen before they can access the login screen of Grid Manager.

**enable**

Determines whether the consent banner is enabled.

**Type**

Bool.

Create

The default value is False.

**message**

The message included in the consent banner.

**Type**

String.

Create

The default value is empty.
4.8 grid:informationalbannersetting : Informational level banner setting.

This structure contains configuration for informational banner. The informational banner can be published for multiple uses, such as to indicate whether the Infoblox Grid is in production or a lab system. The banner can also be used for issuing messages of the day. The informational level banner appears on the header of the Grid Manager screen.

**color**

The color for the informational level banner.

**Type**

String.

**Valid values are:**

- BLACK
- BLUE
- BROWN
- CYAN
- GREEN
- MAGENTA
- ORANGE
- PURPLE
- RED
- YELLOW

**Create**

The default value is *GREEN*.

**enable**

Determines whether the display of the informational level banner is enabled.

**Type**

Bool.

**Create**

The default value is *True*. 
**message**

The message included in the informational level banner.

**Type**

String.

**Create**

The default value is *empty*.


The Grid NTP settings structure is used to control the NTP synchronization of the date and time for all Infoblox appliances.

**enable_ntp**

Determines whether NTP is enabled on the Grid.

**Type**

Bool.

**Create**

The default value is *False*.

**ntp_keys**

The list of NTP authentication keys used to authenticate NTP clients.

**Type**

A/An *The Network Time Protocol (NTP) authentication key structure* struct array.

**Create**

The default value is:

*empty*

**ntp_kod**


Determines whether the Kiss-o’-Death packets are enabled.

**Type**

Bool.

**Create**

The default value is *False*.

### ntp_servers

**ntp_servers**

The list of NTP servers configured on a Grid.

**Type**

A/An *The Network Time Protocol (NTP) server structure* struct array.

**Create**

The default value is:

`empty`

### 4.10 interface : IPv6/IPv4 interfaces settings.

The interface settings represent additional interface information that can be used for a Grid member. A single IP address may be added to each member by using these settings.

### anycast

**anycast**

Determines if anycast for the Interface object is enabled or not.

**Type**

Bool.

**Create**

The default value is *False*.

### comment

**comment**

A descriptive comment of this structure.

**Type**

String.

**Create**

The default value is *empty*. 
**enable_bgp**

**enable_bgp**
Determines if the BGP advertisement setting is enabled for this interface or not.

**Type**
Bool.

**Create**
The default value is *False*.

**enable_ospf**

**enable_ospf**
Determines if the OSPF advertisement setting is enabled for this interface or not.

**Type**
Bool.

**Create**
The default value is *False*.

**interface**

**interface**
The interface type for the Interface object.

**Type**
String.

**Valid values are:**
- LAN2
- LAN_HA
- LOOPBACK
- MGMT

**Create**
The default value is *LOOPBACK*.

**ipv4_network_setting**

**ipv4_network_setting**
The IPv4 network settings of the Grid Member.

**Type**
A/An *Network settings* struct.

**Create**
You must create the IPv4 settings field if the IPv6 settings are missing.

### ipv6_network_setting

*ipv6_network_setting*

The IPv6 network settings of the Grid Member.

*Type*

A/An *IPv6 Settings* struct.

*Create*

You must create the IPv6 settings field if the IPv4 settings are missing.

#### 4.11 ipv6setting : IPv6 Settings.

The structure contains IPv6 settings for a member.

### auto_router_config_enabled

*auto_router_config_enabled*

Determines if automatic router configuration should be enabled.

*Type*

Bool.

*Create*

The default value is *undefined*.

### cidr_prefix

*cidr_prefix*

IPv6 cidr prefix

*Type*

Unsigned integer.

*Create*

The default value is *undefined*.

### dscp

*dscp*

The DSCP (Differentiated Services Code Point) value determines relative priorities for the type of services on your network. The appliance implements QoS (Quality of Service) rules based on this configuration. Valid values are from 0 to 63.

*Type*
Unsigned integer.

**Create**
The default value is 0.

**Notes**
dscp is associated with the field `use_dscp` (see *use flag*).

---

### enabled

**enabled**
Determined if IPv6 networking should be enabled.

**Type**
Bool.

**Create**
The default value is *undefined*.

---

### gateway

**gateway**
Gateway address.

**Type**
String.

**Create**
The default value is *undefined*.

---

### primary

**primary**
Determines if the current address is the primary VLAN address or not.

**Type**
Bool.

**Create**
The default value is *True*.

---

### use_dscp

**use_dscp**
Use flag for: dscp

**Type**
Bool.
Create
The default value is *False*.

**virtual_ip**

*virtual_ip*
IPv6 address.
*Type*
String.
*Create*
The default value is *undefined*.

**vlan_id**

*vlan_id*
The identifier for the VLAN. Valid values are from 1 to 4096.
*Type*
Unsigned integer.
*Create*
The default value is *empty*.

### 4.12 lan2portsetting : LAN2 Port Setting.

Settings used to configure IP parameters for the LAN2 port.

**enabled**

*enabled*
If this field is set to True, then it has its own IP settings. Otherwise, port redundancy mechanism is used, in which the LAN1 and LAN2 ports share the same IP settings for failover purposes.
*Type*
 Bool.
*Create*
The default value is *False*.

**network_setting**

*network_setting*
If the ‘enable’ field is set to True, this defines IPv4 network settings for LAN2.

Type
A/An Network settings struct.
Create
The default value is:

{  }

nic_failover_enable_primary

Prefer LAN1 when available.

Type
Bool.
Create
The default value is False.

nic_failover_enabled

Determines if NIC failover is enabled or not.

Type
Bool.
Create
The default value is False.

v6_network_setting

If the ‘enable’ field is set to True, this defines IPv6 network settings for the LAN2 port.

Type
A/An IPv6 Settings struct.
Create
The default value is:

{  }
### virtual_router_id

**virtual_router_id**

If the ‘enabled’ field is set to True, this defines the virtual router ID for the LAN2 port.

**Type**

Unsigned integer.

**Create**

The default value is *undefined*.

### 4.13 lanhaportsetting : LAN/HA Port Settings.

This structure contains LAN/HA port settings for the HA node.

#### ha_ip_address

**ha_ip_address**

HA IP address.

**Type**

String.

**Create**

The default value is *undefined*.

#### ha_port_setting

**ha_port_setting**

Physical port settings for the HA interface.

**Type**

A/An *Physical Port Settings* struct.

**Create**

The default value is *undefined*.

#### lan_port_setting

**lan_port_setting**

Physical port settings for the LAN interface.

**Type**

A/An *Physical Port Settings* struct.

**Create**

The default value is *undefined*.
**mgmt_ipv6addr**

Public IPv6 address for the LAN1 interface.

**Type**
String.

**Create**
The default value is *undefined*.

**mgmt_lan**

Public IPv4 address for the LAN1 interface.

**Type**
String.

**Create**
The default value is *undefined*.

**Notes**
mgmt_lan is part of the base object.

### 4.14 ldap_eamapping: The LDAP extensible attribute mapping.

This structure is used to map LDAP fields to NIOS extensible attributes.

**mapped_ea**

The name of the extensible attribute definition object to which the LDAP attribute is mapped.

**Type**
String.

**Create**
The field is required on creation.

**name**

The LDAP attribute name.

**Type**
String.
Create
The field is required on creation.

4.15 ldap_server : The LDAP server structure.

This structure is used for LDAP authentication configuration.

<table>
<thead>
<tr>
<th>address</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
</tr>
<tr>
<td>The IP address or FQDN of the LDAP server.</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td>Create</td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>authentication_type</th>
</tr>
</thead>
<tbody>
<tr>
<td>authentication_type</td>
</tr>
<tr>
<td>The authentication type for the LDAP server.</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td>Valid values are:</td>
</tr>
<tr>
<td>• ANONYMOUS</td>
</tr>
<tr>
<td>• AUTHENTICATED</td>
</tr>
<tr>
<td>Create</td>
</tr>
<tr>
<td>The default value is ANONYMOUS.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>base_dn</th>
</tr>
</thead>
<tbody>
<tr>
<td>base_dn</td>
</tr>
<tr>
<td>The base DN for the LDAP server.</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td>Create</td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
</tbody>
</table>
### bind_password

**bind_password**  
The user password for authentication.  
**Type**  
String.  
**Create**  
You must specify bind_password when authentication type is set to “AUTHENTICATED”.  
**Notes**  
bind_password is not readable.

### bind_user_dn

**bind_user_dn**  
The user DN for authentication.  
**Type**  
String.  
**Create**  
You must specify bind_user_dn when authentication type is set to “AUTHENTICATED”.

### comment

**comment**  
The LDAP descriptive comment.  
**Type**  
String.  
**Create**  
The default value is *undefined*.

### disable

**disable**  
Determines if the LDAP server is disabled.  
**Type**  
Bool.  
**Create**  
The default value is *False*.
**encryption**

*encryption*
The LDAP server encryption type.

*Type*
String.

*Valid values are:*:
- NONE
- SSL

*Create*
The default value is SSL.

**port**

*port*
The LDAP server port.

*Type*
Unsigned integer.

*Create*
The field is required on creation.

**use_mgmt_port**

*use_mgmt_port*
Determines if the connection via the MGMT interface is allowed.

*Type*
Bool.

*Create*
The default value is False.

**version**

*version*
The LDAP server version.

*Type*
String.

*Valid values are:*
- V2
- V3
Create
The default value is V3.

4.16 member:ntp : The member Network Time Protocol (NTP) settings structure.

The member NTP settings structure is used to control the NTP synchronization of the date and time of the particular Infoblox appliance.

<table>
<thead>
<tr>
<th>enable_external_ntp_servers</th>
</tr>
</thead>
</table>

**enable_external_ntp_servers**
Determines whether the use of the external NTP servers is enabled for the member.

**Type**
Bool.

**Create**
The default value is *False*.

<table>
<thead>
<tr>
<th>enable_ntp</th>
</tr>
</thead>
</table>

**enable_ntp**
Determines whether the NTP service is enabled on the member.

**Type**
Bool.

**Create**
The default value is *False*.

<table>
<thead>
<tr>
<th>ntp_keys</th>
</tr>
</thead>
</table>

**ntp_keys**
The list of NTP authentication keys used to authenticate NTP clients.

**Type**
A/An *The Network Time Protocol (NTP) authentication key structure* struct array.

**Create**
The default value is:

empty

**Notes**
ntp_keys is associated with the field *use_ntp_keys* (see *use flag*).
**ntp_kod**

Determines whether the Kiss-o’-Death packets are enabled or disabled.

**Type**

Bool.

**Create**

The default value is *False*.

**Notes**

*ntp_kod* is associated with the field *use_ntp_kod* (see *use flag*).

---

**ntp_servers**

The list of NTP servers configured on a member.

**Type**

A/An *The Network Time Protocol (NTP) server structure* struct array.

**Create**

The default value is:

empty

**Notes**

*ntp_servers* is associated with the field *use_ntp_servers* (see *use flag*).

---

**use_ntp_keys**

Use flag for: *ntp_keys*

**Type**

Bool.

**Create**

The default value is *False*.

---

**use_ntp_kod**

Use flag for: *ntp_kod*

**Type**

Bool.

**Create**
The default value is *False*.

**use_ntp_servers**

*use_ntp_servers*

Use flag for: ntp_servers

*Type*

*Bool.*

*Create*

The default value is *False*.

### 4.17 member:pnodetoken : Pysical Node Token.

This structure contains information required for a physical node to join the Grid using a one-time token.

**physical_oid**

*physical_oid*

OID of the physical node.

*Type*

*String.*

*Notes*

physical_oid cannot be updated.

physical_oid cannot be written.

**token**

*token*

Identifier that should be used by the physical node to join the Grid.

*Type*

*String.*

*Notes*

token cannot be updated.

token cannot be written.
**token_exp_date**

**token_exp_date**
Time when the token expires.

**Type**
Timestamp.

**Notes**
token_exp_date cannot be updated.
token_exp_date cannot be written.

---

**4.18 memberservicecommunication : Member Service Communication.**

The structure contains service type communication options for a Grid member.

---

**option**

**option**
The option for communication type.

**Type**
String.

**Valid values are:**
- FORCE
- PREFER

**Notes**
option is part of the base object.
option cannot be updated.
option cannot be written.

---

**service**

**service**
The service for a Grid member.

**Type**
String.

**Valid values are:**
- AD
- GRID
• GRID_BACKUP
• MAIL
• NTP
• OCSP
• REPORTING
• REPORTING_BACKUP

Create

The default value is *undefined*.

**type**

*type*

Communication type.

*Type*

String.

*Valid values are:*

• IPV4
• IPV6

Create

The default value is *undefined*.

### 4.19 memberservicestatus : Member Service Status.

This structure contains a service status of the Grid Member.

**description**

*description*

The description of the current service status.

*Type*

String.

*Notes*

description cannot be updated.

description cannot be written.
service

service
The service identifier.

Type
String.

Valid values are:
• ANALYTICS
• ATP
• BLOXTOOLS
• CAPTIVE_PORTAL
• CLOUD_API
• DHCP
• DISCOVERY
• DNS
• DNS_CACHE_ACCELERATION
• FTP
• HSM
• HTTP_FILE_DIST
• IMC
• NTP
• REPORTING
• TAXII
• TFTP

Notes
service cannot be updated.

service cannot be written.

status

status
The service status.

Type
String.

Valid values are:
• FAILED
• INACTIVE
4.20 **mgm:monitorentry** : Monitor Entry.

The Monitor Entry provides information for a single monitor in MGM Member Monitor Data object.

**description**

*description*
The description for this monitor.

**Type**

String.

**Notes**
description cannot be updated.
description cannot be written.

**monitor_type**

*monitor_type*
The type of a monitor.

**Type**

String.

**Valid values are:**

- BGP
- BLOXTOOLS
- BOOT_TIME
- CAPTIVE_PORTAL
- DHCP
- DNS
- FTP
- HA_STATUS
- HTTP_FILE_DIST
• NTP
• OVERALL
• REPORTING
• TFTP

Notes
monitor_type cannot be updated.
monitor_type cannot be written.

<table>
<thead>
<tr>
<th>status</th>
</tr>
</thead>
</table>

status
The status for this monitor.

Type
String.

Valid values are:
• FAILED
• INACTIVE
• OFFLINE
• UNKNOWN
• WARNING
• WORKING

Notes
status cannot be updated.
status cannot be written.

4.21 mgmtportsetting : MGMT Port Setting.

The structure that defines whether the MGMT port settings must be used.

<table>
<thead>
<tr>
<th>enabled</th>
</tr>
</thead>
</table>

enabled
Determines if MGMT port settings should be enabled.

Type
Bool.

Create
The default value is False.
**security_access_enabled**

Determine if security access on the MGMT port is enabled or not.

*Type*

Bool.

*Create*

The default value is *False*.

**vpn_enabled**

Determine if VPN on the MGMT port is enabled or not.

*Type*

Bool.

*Create*

The default value is *False*.

### 4.22 nodeinfo : Node Info.

This structure contains a detailed status report about Grid member operations.

**ha_status**

Status about the node of an HA pair.

*Type*

String.

*Valid values are:*

- ACTIVE
- NOT_CONFIGURED
- PASSIVE

*Notes*

ha_status cannot be updated.

ha_status cannot be written.
hwid

HWID
Hardware ID.

Type
String.

Notes
hwid cannot be updated.
hwid cannot be written.

hwmodel

HWMODEL
Hardware model.

Type
String.

Notes
hwmodel cannot be updated.
hwmodel cannot be written.

hwplatform

HWPLATFORM
The platform on which NIOS is running on.

Type
String.

Valid values are:

- AWS
- AZURE
- HYPERV
- KVM
- PHYSICAL
- UNKNOWN
- VMWARE
- XEN

Notes
hwplatform cannot be updated.
hwplatform cannot be written.
**hwtype**

**hwtype**
Hardware type.

**Type**
String.

**Notes**
hwtype cannot be updated.
hwtype cannot be written.

**lan2_physical_setting**

**lan2_physical_setting**
Physical port settings for the LAN2 interface.

**Type**
A/An *Physical Port Settings* struct.

**Create**
The default value is *undefined*.

**lan_ha_port_setting**

**lan_ha_port_setting**
LAN/HA port settings for the node.

**Type**
A/An *LAN/HA Port Settings* struct.

**Create**
The default value is *undefined*.

**mgmt_network_setting**

**mgmt_network_setting**
Network settings for the MGMT port of the node.

**Type**
A/An *Network settings* struct.

**Create**
The default value is *undefined*. 
### mgmt_physical_setting

Physical port settings for the MGMT interface.

**Type**

A/An *Physical Port Settings* struct.

**Create**

The default value is *undefined*.

### nat_external_ip

The NAT external IP address for the node.

**Type**

String.

**Create**

The default value is *empty*.

### paid_nios

True if node is Paid NIOS.

**Type**

Bool.

**Notes**

paid_nios cannot be updated.

paid_nios cannot be written.

### physical_oid

The OID of the physical node.

**Type**

String.

**Notes**

physical_oid cannot be updated.

physical_oid cannot be written.
**service_status**

The service status list of the Grid Member.

Type

A/An *Node Service Status* struct array.

Notes

*service_status* cannot be updated.

*service_status* cannot be written.

**v6_mgmt_network_setting**

The network settings for the IPv6 MGMT port of the node.

Type

A/An *IPv6 Settings* struct.

Create

The default value is *undefined*.

**4.23 ntpac : The Network Time Protocol (NTP) access control item structure.**

The NTP access control item specifies clients that have permissions to access the NTP service.

**address_ac**

The client address/network with access control.

Type

A/An *Address ac* struct.

Create

The field is required on creation.

**service**

The type of service with access control.

Type

String.
Valid values are:

- TIME
- TIME_AND_NTPQ

Create
The default value is TIME.

4.24 ntpaccess : The Network Time Protocol (NTP) access control setting.

The NTP access control setting specifies either a named ACL or the list of clients that have permissions to access the NTP service.

`ac_list`

The list of NTP access control items.

Type
A/An The Network Time Protocol (NTP) access control item structure struct array.

Create
The default value is:
empty

`acl_type`

The NTP access control list type.

Type
String.

Valid values are:

- LIST
- NAMED_ACL
- NONE

Create
The default value is NONE.
The NTP access named ACL.

Type
String.

Create
The default value is empty.

The type of service with access control for the assigned named ACL.

Type
String.

Valid values are:
• TIME
• TIME_AND_NTPQ

Create
The default value is TIME.

The NTP authentication key is used by NTP servers to authenticate clients.

The NTP authentication key identifier.

Type
Unsigned integer.

Create
The field is required on creation.
**string**

The NTP authentication key string.

**Type**

String.

**Create**

The field is required on creation.

---

**type**

The NTP authentication key type.

**Type**

String.

**Valid values are:**

- DES_ASCII
- DES_HEX
- DES_NTP
- MD5_ASCII

**Create**

The field is required on creation.

---

### 4.26 ntpserver: The Network Time Protocol (NTP) server structure.

The NTP server structure is used to synchronize the date and time for the Infoblox appliance.

---

**address**

The NTP server IP address or FQDN.

**Type**

String.

**Create**

The field is required on creation.
**burst**

**burst**
Determines whether the BURST operation mode is enabled. In BURST operating mode, when the external server is reachable and a valid source of synchronization is available, NTP sends a burst of 8 packets with a 2 second interval between packets.

**Type**
Bool.

**Create**
The default value is `True`.

**enable_authentication**

**enable_authentication**
Determines whether the NTP authentication is enabled.

**Type**
Bool.

**Create**
The default value is `False`.

**iburst**

**iburst**
Determines whether the IBURST operation mode is enabled. In IBURST operating mode, when the external server is unreachable, NTP server sends a burst of 8 packets with a 2 second interval between packets.

**Type**
Bool.

**Create**
The default value is `True`.

**ntp_key_number**

**ntp_key_number**
The NTP authentication key number.

**Type**
Unsigned integer.

**Create**
The default value is `empty`. 
**preferred**

Determines whether the NTP server is a preferred one or not.

*Type*

`Bool`.

*Create*

The default value is `False`.

---

### 4.27 `ocsp_responder`: OCSP Responder.

This struct provides configuration for OCSP Responder.

**certificate**

The reference to the OCSP responder certificate.

*Type*

`String`.

This field supports nested return fields as described [*here*](#).

*Notes*

- `certificate` cannot be updated.
- `certificate` cannot be written.

**certificate_token**

The token returned by the `uploadinit` function call in `object fileop`.

*Type*

`String`.

*Create*

The default value is `undefined`.

*Notes*

- `certificate_token` is not readable.
### comment

The descriptive comment for the OCSP authentication responder.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The default value is `undefined`.

### disabled

**disabled**
Determines if this OCSP authentication responder is disabled.

**Type**
Bool.

**Create**
The default value is `undefined`.

### fqdn_or_ip

**fqdn_or_ip**
The FQDN (Fully Qualified Domain Name) or IP address of the server.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The field is required on creation.

### port

**port**
The port used for connecting.

**Type**
Unsigned integer.

**Create**
The default value is `undefined`.
4.28 physicalportsetting : Physical Port Settings.

This structure contains settings for an appliance physical port.

<table>
<thead>
<tr>
<th>auto_port_setting_enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>auto_port_setting_enabled</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>duplex</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>duplex</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Valid values are:</strong></td>
</tr>
<tr>
<td>• FULL</td>
</tr>
<tr>
<td>• HALF</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>speed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>speed</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Valid values are:</strong></td>
</tr>
<tr>
<td>• 10</td>
</tr>
<tr>
<td>• 100</td>
</tr>
<tr>
<td>• 1000</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
</tbody>
</table>
4.29 preprovision : Pre-provisioning Settings.

The structure contains pre-provisioning settings.

<table>
<thead>
<tr>
<th>hardware_info</th>
</tr>
</thead>
<tbody>
<tr>
<td>hardware_info</td>
</tr>
<tr>
<td>An array of structures that describe the hardware being pre-provisioned.</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>A/An <em>Pre-provisioning Hardware Settings</em> struct array.</td>
</tr>
<tr>
<td>Create</td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>licenses</td>
</tr>
<tr>
<td>An array of license types the pre-provisioned member should have in order to join the Grid, or the licenses that must be allocated to the member when it joins the Grid using the token-based authentication.</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Enum values array.</td>
</tr>
<tr>
<td>Valid values are:</td>
</tr>
<tr>
<td>• cloud_api</td>
</tr>
<tr>
<td>• dhcp</td>
</tr>
<tr>
<td>• dns</td>
</tr>
<tr>
<td>• dtc</td>
</tr>
<tr>
<td>• enterprise</td>
</tr>
<tr>
<td>• fireeye</td>
</tr>
<tr>
<td>• ms_management</td>
</tr>
<tr>
<td>• nios</td>
</tr>
<tr>
<td>• rpz</td>
</tr>
<tr>
<td>• sw_tp</td>
</tr>
<tr>
<td>• tp_sub</td>
</tr>
<tr>
<td>• vnios</td>
</tr>
<tr>
<td>Create</td>
</tr>
<tr>
<td>The field is required on creation.</td>
</tr>
</tbody>
</table>

4.30 preprovisionhardware : Pre-provisioning Hardware Settings.

The structure contains hardware information for a pre-provisioned member.
**hwmodel**

*hwmodel*

Hardware model - for IB-4010 are Rev1, Rev2; for IB-4030 are Rev1, Rev2; for PT-4000 is Rev2; for IB-VNIOS are IB-VM-100, IB-VM-810, IB-VM-820, IB-VM-RSP, IB-VM-1410, IB-VM-1420, IB-VM-2210, IB-VM-2220, IB-VM-4010, CP-V800, CP-V1400, CP-V2200. Note that you cannot specify hwmodel for following hardware types: IB-FLEX, IB-V2215, IB-V1425, IB-V4025, IB-V4015, IB-V1415, IB-V815, IB-V825, IB-V2225.

**Type**

String.

**Valid values are:**

- CP-V1400
- CP-V2200
- CP-V800
- IB-VM-100
- IB-VM-1410
- IB-VM-1420
- IB-VM-2210
- IB-VM-2220
- IB-VM-4010
- IB-VM-810
- IB-VM-820
- IB-VM-RSP
- Rev1
- Rev2

**Create**

The default value is *undefined*.

---

**hwtype**

*hwtype*

Hardware type.

**Type**

String.

**Valid values are:**

- IB-100
- IB-1410
- IB-1415
- IB-1420
- IB-1425
- IB-2210
- IB-2215
- IB-2220
- IB-2225
- IB-4010
- IB-4015
- IB-4020
- IB-4025
- IB-4030
- IB-4030-10GE
- IB-810
- IB-815
- IB-820
- IB-825
- IB-FLEX
- IB-RSP2
- IB-V1415
- IB-V1425
- IB-V2215
- IB-V2225
- IB-V4015
- IB-V4025
- IB-V815
- IB-V825
- IB-VNIOS
- PT-1400
- PT-1405
- PT-2200
- PT-2205
- PT-4000
- PT-4000-10GE

Create

The field is required on creation.
4.31 queriesuser : Queries user.

This structure contains information about the SNMPv3 queries user.

<table>
<thead>
<tr>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>comment</strong></td>
</tr>
<tr>
<td>A descriptive comment for this queries user.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td>Values with leading or trailing white space are not valid for this field.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is empty.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>user</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>user</strong></td>
</tr>
<tr>
<td>The SNMPv3 user.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is empty.</td>
</tr>
</tbody>
</table>

4.32 radius:server : The RADIUS authentication server structure.

This structure is used for RADIUS authentication configuration.

<table>
<thead>
<tr>
<th>acct_port</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>acct_port</strong></td>
</tr>
<tr>
<td>The accounting port.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Unsigned integer.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is The default value is 1813 if use_accounting is set to False.</td>
</tr>
</tbody>
</table>
**address**

*address*

The FQDN or the IP address of the RADIUS server that is used for authentication.

**Type**

String.

**Create**

The field is required on creation.

**auth_port**

*auth_port*

The authorization port.

**Type**

Unsigned integer.

**Create**

The default value is *The default value is 1812 if use_accounting is set to True.*

**auth_type**

*auth_type*

The authentication protocol.

**Type**

String.

**Valid values are:**

- CHAP
- PAP

**Create**

The default value is *PAP.*

**comment**

*comment*

The RADIUS descriptive comment.

**Type**

String.

**Create**

The default value is *undefined.*
disable

Determine whether the RADIUS server is disabled.

Type

Bool.

Create

The default value is False.

shared_secret

The shared secret that the NIOS appliance and the RADIUS server use to encrypt and decrypt their messages.

Type

String.

Create

The field is required on creation.

Notes

shared_secret is not readable.

use_accounting

Determines whether the RADIUS accounting is enabled.

Type

Bool.

Create

The default value is True.

use_mgmt_port

Determines whether the connection via the management interface is allowed.

Type

Bool.

Create

The default value is False.
### 4.33 scheduledbackup : Scheduled backup settings.

You can back up your system files locally on the appliance or to your management system, or use TFTP, FTP or SCP to back them up to a remote server. Backing up and restoring the configuration files using TFTP, FTP and SCP is supported on both IPv4 and IPv6 communication protocols. You can select to back up files manually or schedule automatic backups for a later date.

The scheduled backup setting provides configuration for backing up system files and discovery databases periodically and on demand. It also provides restore settings to restore the files on the same appliance or on a different appliance.

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>backup_frequency</strong></td>
<td>The frequency of backups.</td>
</tr>
<tr>
<td><strong>backup_server</strong></td>
<td>The IP address of the backup server.</td>
</tr>
<tr>
<td><strong>backup_type</strong></td>
<td>The destination of the backup files.</td>
</tr>
</tbody>
</table>

#### backup_frequency

**backup_frequency**
The frequency of backups.

**Type**
String.

**Valid values are:**
- DAILY
- HOURLY
- WEEKLY

**Create**
The default value is **WEEKLY**.

#### backup_server

**backup_server**
The IP address of the backup server.

**Type**
String.

**Create**
The default value is **empty**.

#### backup_type

**backup_type**
The destination of the backup files.

**Type**
String.

**Valid values are:**
- FTP
- LOCAL
• SCP
• TFTP

Create
The default value is LOCAL.

discovery_data
discovery_data
Determines whether the restore the NetMRI data is enabled.
Type
Bool.
Create
The default value is True.

enable
enable
Determines whether the scheduled backup is enabled.
Type
Bool.
Create
The default value is True.

execute
execute
The state for scheduled backup or restore operation.
Type
String.
Valid values are:
• TRIGGER
Create
The default value is undefined.
Notes
execute cannot be updated.
execute is not readable.
**hour_of_day**

**hour_of_day**
The hour of the day past 12:00 AM the backup is performed.

**Type**
Unsigned integer.

**Create**
The default value is 3.

**keep_local_copy**

**keep_local_copy**
Determines whether the local backup performed before uploading backup to remote storage.

**Type**
Bool.

**Create**
The default value is False.

**minutes_past_hour**

**minutes_past_hour**
The minute of the hour when the backup is performed.

**Type**
Unsigned integer.

**Create**
The default value is 0.

**nios_data**

**nios_data**
Determines whether the restore of the NIOS data is enabled.

**Type**
Bool.

**Create**
The default value is True.
**operation**

The scheduled backup operation.

**Type**
String.

**Valid values are:**

- BACKUP
- NONE
- RESTORE

**Create**
The default value is *NONE*.

**password**

The user password on the backup server.

**Type**
String.

**Create**
The default value is *undefined*.

**Notes**
password cannot be updated.
password is not readable.

**path**

The directory path to the backup file stored on the server.

**Type**
String.

**Create**
The default value is *empty*.

**restore_password**


The password on the restore server.

**Type**
String.

**Create**
The default value is `undefined`.

**Notes**
- `restore_password` cannot be updated.
- `restore_password` is not readable.

---

**restore_path**

**restore_path**
The directory path to the restored file on the server.

**Type**
String.

**Create**
The default value is `empty`.

---

**restore_server**

**restore_server**
The IP address of the restore server.

**Type**
String.

**Create**
The default value is `empty`.

---

**restore_type**

**restore_type**
The destination of the restore files.

**Type**
String.

**Valid values are:**
- FTP
- SCP

**Create**
The default value is `FTP`. 
**restore_username**

**restore_username**
The user name on the restore server.

**Type**
String.
Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**splunk_app_data**

**splunk_app_data**
Determines whether the restore of the Splunk application data is enabled.

**Type**
Bool.

**Create**
The default value is *True*.

**status**

**status**
The status of the scheduled backup.

**Type**
String.

**Valid values are:**
- ABORTED
- FAILED
- FINISHED
- IDLE
- IN PROGRESS
- ROLL
- ROLLED
- SCHEDULING
- TRIGGERED

**Notes**
status cannot be updated.
status cannot be written.
username

The user name on the backup server.

Type
String.
Values with leading or trailing white space are not valid for this field.

Create
The default value is empty.

weekday

The day of the week when the backup is performed.

Type
String.
Valid values are:
- FRIDAY
- MONDAY
- SATURDAY
- SUNDAY
- THURSDAY
- TUESDAY
- WEDNESDAY

Create
The default value is SATURDAY.

4.34 servicestatus : Node Service Status.

This structure contains a service status of the Grid Member’s node.

description

The description of the current service status.

Type
String.

Notes
description cannot be updated.
description cannot be written.

**service**

The service identifier.

**Type**

String.

**Valid values are:**

- AUTH_NAMED
- BFD
- BGP
- CORE_FILES
- CPU1_TEMP
- CPU2_TEMP
- CPU_USAGE
- CPU_USAGE
- DB_OBJECT
- DISCOVERY_CAPACITY
- DISK_SIZE
- DISK_USAGE
- ENET_HA
- ENET_LAN
- ENET_LAN2
- ENET_MGMT
- EXTERNAL_STORAGE
- FAN1
- FAN2
- FAN3
- FAN4
- FAN5
- FAN6
- FAN7
- FAN8
- JOIN_STATUS
- LCD
• MEMORY
• MGM_SERVICE
• NETWORK_CAPACITY
• NODE_STATUS
• NTP_SYNC
• OSPF
• OSPF6
• PASSIVE_HA_CONNECTIVITY
• POWER1
• POWER2
• POWER3
• POWER4
• POWER_SUPPLY
• RAID_BATTERY
• RAID_DISK1
• RAID_DISK2
• RAID_DISK3
• RAID_DISK4
• RAID_DISK5
• RAID_DISK6
• RAID_DISK7
• RAID_DISK8
• RAID_SUMMARY
• REPLICATION
• SFP_HA
• SFP_LAN
• SFP_LAN2
• SFP_MGMT
• SNIC_CHIP_TEMP
• SNIC_CORE_UTIL
• SNIC_PCB_TEMP
• SNIC_UTIL
• SUBGRID_CONN
• SWAP_USAGE
• SYS_TEMP
• VPN_CERT
Notes
service cannot be updated.
service cannot be written.

**status**

**status**
The service status.

**Type**
String.

**Valid values are:**
- FAILED
- INACTIVE
- WARNING
- WORKING

Notes
status cannot be updated.
status cannot be written.

### 4.35 setting: dnsresolver : DNS resolver Setting.

**resolvers**

**resolvers**
The resolvers of a Grid member. The Grid member sends queries to the first name server address in the list. The second name server address is used if first one does not response.

**Type**
String array. The array supports a maximum of 2 element(s).

**Create**
The default value is *empty*.

**search_domains**

**search_domains**
The Search Domain Group, which is a group of domain names that the Infoblox device can add to partial queries that do not specify a domain name. Note that you can set this parameter only when prefer Resolver or alternate Resolver is set.

**Type**
String array.
Create
The default value is *empty*.

### 4.36 setting:email : The email settings for the Grid member.

<table>
<thead>
<tr>
<th>address</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
</tr>
</tbody>
</table>
The notification email address of a Grid member.
**Type**
String.
Values with leading or trailing white space are not valid for this field.
Create
The default value is *empty*.

<table>
<thead>
<tr>
<th>enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>enabled</td>
</tr>
</tbody>
</table>
Determines if email notification is enabled or not.
**Type**
Bool.
Create
The default value is *False*.

<table>
<thead>
<tr>
<th>relay</th>
</tr>
</thead>
<tbody>
<tr>
<td>relay</td>
</tr>
</tbody>
</table>
The relay name or IP address.
**Type**
String.
Create
The default value is *empty*.

<table>
<thead>
<tr>
<th>relay_enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>relay_enabled</td>
</tr>
</tbody>
</table>
Determines if email relay is enabled or not.
**Type**
Bool.
Create

The default value is False.


The Grid HTTP Proxy Server Setting object provides information about the HTTP proxy server configuration.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td>The address of the HTTP proxy server.</td>
</tr>
<tr>
<td>Type</td>
<td>String.</td>
</tr>
<tr>
<td>Create</td>
<td>The field is required on creation.</td>
</tr>
<tr>
<td>certificate</td>
<td>The token returned by the uploadinit function call in object fileop for the CA certificate file used in the content inspection by an HTTP proxy server.</td>
</tr>
<tr>
<td>Type</td>
<td>String.</td>
</tr>
<tr>
<td>Create</td>
<td>The default value is undefined.</td>
</tr>
<tr>
<td>Notes</td>
<td>certificate is not readable.</td>
</tr>
<tr>
<td>comment</td>
<td>The descriptive comment for the HTTP proxy server configuration.</td>
</tr>
<tr>
<td>Type</td>
<td>String.</td>
</tr>
<tr>
<td>Create</td>
<td>The default value is empty.</td>
</tr>
</tbody>
</table>
**enable_content_inspection**

**enable_content_inspection**
Determines if HTTPS content inspection by the HTTP proxy server is enabled or not.

**Type**
Bool.

**Create**
The default value is *False*.

**enable_proxy**

**enable_proxy**
Determines if the HTTP proxy server is enabled or not.

**Type**
Bool.

**Create**
The default value is *False*.

**enable_username_and_password**

**enable_username_and_password**
Determines if username and password for HTTP Proxy Server connectivity is used or not.

**Type**
Bool.

**Create**
The default value is *False*.

**password**

**password**
The password for the HTTP proxy server.

**Type**
String.

**Create**
The default value is *undefined*.

**Notes**
password is not readable.
### port

**port**
The port on which the HTTP proxy server listens.

**Type**
Unsigned integer.

**Create**
The field is required on creation.

### username

**username**
The user name for the HTTP proxy server.

**Type**
String.

**Create**
The default value is empty.

### verify_cname

**verify_cname**
Determines if the CNAME record query verification is enabled or not.

**Type**
Bool.

**Create**
The default value is False.

---

#### 4.38 setting:network : Network settings.

This structure contains a network settings for the member.

### address

**address**
The IPv4 Address of the Grid Member.

**Type**
String.

**Create**
The default value is empty.
The DSCP (Differentiated Services Code Point) value determines relative priorities for the type of services on your network. The appliance implements QoS (Quality of Service) rules based on this configuration. Valid values are from 0 to 63.

**Type**
Unsigned integer.

**Create**
The default value is 0.

**Notes**
dscp is associated with the field use_dscp (see use flag).

---

The default gateway for the Grid Member.

**Type**
String.

**Create**
The default value is empty.

---

Determines if the current address is the primary VLAN address or not.

**Type**
Bool.

**Create**
The default value is True.

---

The subnet mask for the Grid Member.

**Type**
String.

**Create**
The default value is empty.
**use_dscp**

*use_dscp*
Use flag for: dscp

Type
Bool.

Create
The default value is *False*.

**vlan_id**

*vlan_id*
The identifier for the VLAN. Valid values are from 1 to 4096.

Type
Unsigned integer.

Create
The default value is *empty*.

### 4.39 setting:password : Password settings.

This structure contains settings related to the Grid admin passwords.

**chars_to_change**

*chars_to_change*
The minimum number of characters that must be changed when revising an admin password.

Type
Unsigned integer.

Create
The default value is *0*.

**expire_days**

*expire_days*
The number of days of the password expiration period (if enabled).

Type
Unsigned integer.

Create
The default value is *30*.
**expire_enable**

*expire_enable*
If set to True, password expiration is enabled.

*Type*
Bool.

*Create*
The default value is *False*.

**force_reset_enable**

*force_reset_enable*
If set to True, all new users must change their passwords when they first log in to the system, and existing users must change the passwords that were just reset.

*Type*
Bool.

*Create*
The default value is *False*.

**num_lower_char**

*num_lower_char*
The minimum number of lowercase characters.

*Type*
Unsigned integer.

*Create*
The default value is 0.

**num_numeric_char**

*num_numeric_char*
The minimum number of numeric characters.

*Type*
Unsigned integer.

*Create*
The default value is 0.
**num_symbol_char**

The minimum number of symbol characters. The allowed characters are ! @ # $ % ^ & * ( ).

Type
Unsigned integer.

Create
The default value is 0.

**num_upper_char**

The minimum number of uppercase characters.

Type
Unsigned integer.

Create
The default value is 0.

**password_min_length**

The minimum length of the password.

Type
Unsigned integer.

Create
The default value is 4.

**reminder_days**

The number of days before the password expiration date when the appliance sends a reminder.

Type
Unsigned integer.

Create
The default value is 15.


This structure contains the Grid security settings.
**admin_access_items**

*admin_access_items*

A list of access control settings used for security access.

**Type**

One of the following: *Address ac struct, TSIG ac struct array.*

**Create**

The default value is:

*empty*

**audit_log_rolling_enable**

*audit_log_rolling_enable*

If set to True, rolling of audit logs is enabled.

**Type**

*Bool.*

**Create**

The default value is *True.*

**http_redirect_enable**

*http_redirect_enable*

If set to True, HTTP connections are redirected to HTTPS.

**Type**

*Bool.*

**Create**

The default value is *False.*

**lcd_input_enable**

*lcd_input_enable*

If set to True, the LCD buttons on the front panel of the NIOS appliance can be used for IP address settings of the LAN1 port.

**Type**

*Bool.*

**Create**

The default value is *True.*
<table>
<thead>
<tr>
<th><strong>login_banner_enable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>login_banner_enable</strong></td>
</tr>
<tr>
<td>If set to True, the login banner is enabled.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Bool.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is <em>True</em>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>login_banner_text</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>login_banner_text</strong></td>
</tr>
<tr>
<td>The login banner text.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>String.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is <em>Disconnect NOW if you have not been expressly authorized to use this system</em>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>remote_console_access_enable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>remote_console_access_enable</strong></td>
</tr>
<tr>
<td>If set to True, superuser admins can access the Infoblox CLI from a remote location using an SSH (Secure Shell) v2 client.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Bool.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is <em>False</em>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>security_access_enable</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>security_access_enable</strong></td>
</tr>
<tr>
<td>If set to True, HTTP access restrictions are enabled.</td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Bool.</td>
</tr>
<tr>
<td><strong>Create</strong></td>
</tr>
<tr>
<td>The default value is <em>False</em>.</td>
</tr>
</tbody>
</table>
security_access_remote_console_enable

If set to True, remote console access restrictions will be enabled.
Type
Bool.
Create
The default value is True.

session_timeout

The session timeout interval in seconds.
Type
Unsigned integer.
Create
The default value is 600.

ssh_perm_enable

If set to False, SSH access is permanently disabled.
Type
Bool.
Notes
ssh_perm_enable cannot be updated.
ssh_perm_enable cannot be written.

support_access_enable

If set to True, support access for the Grid has been enabled.
Type
Bool.
Create
The default value is False.
**support_access_info**

**support_access_info**
Information string to be used for support access requests.

**Type**
String.

**Create**
The default value is *empty*.

### 4.41 setting:securitybanner : Security banner settings.

This structure contains settings related to the Grid security level banner.

**color**

**color**
The security level color.

**Type**
String.

**Valid values are:**

- BLACK
- BLUE
- BROWN
- CYAN
- GREEN
- MAGENTA
- ORANGE
- PURPLE
- RED
- YELLOW

**Create**
The default value is *GREEN*.

**enable**

**enable**
If set to True, the security banner will be displayed on the header and footer of the Grid Manager screen, including the Login screen.

**Type**

Bool.

**Create**

The default value is *False*.

### level

**level**

The security level.

**Type**

String.

**Valid values are:**

- CONFIDENTIAL
- RESTRICTED
- SECRET
- TOP_SECRET
- UNCLASSIFIED

**Create**

The default value is *UNCLASSIFIED*.

### message

**message**

The classification message to be displayed.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The default value is *empty*.

### 4.42 setting:snmp : SNMP setting.

This structure contains information about the SNMP subsystem.
**engine_id**

*engine_id*
The engine ID of the appliance that manages the SNMP agent.

**Type**
String array.

**Notes**
engine_id cannot be updated.

engine_id cannot be written.

**queries_community_string**

*queries_community_string*
The community string for SNMP queries.

**Type**
String.

**Create**
The default value is *empty*.

**queries_enable**

*queries_enable*
If set to True, SNMP queries are enabled.

**Type**
Bool.

**Create**
The default value is *empty*.

**snmpv3_queries_enable**

*snmpv3_queries_enable*
If set to True, SNMPv3 queries are enabled.

**Type**
Bool.

**Create**
The default value is *empty*. 
### snmpv3_queries_users

**snmpv3_queries_users**

A list of SNMPv3 queries users.

**Type**

A/An *Queries user* struct array.

**Create**

The default value is *empty*.

### snmpv3_traps_enable

**snmpv3_traps_enable**

If set to True, SNMPv3 traps are enabled.

**Type**

Bool.

**Create**

The default value is *empty*.

### syscontact

**syscontact**

The name of the contact person for the appliance. Second value is applicable only for HA pair. Otherwise second value is ignored.

**Type**

String array. The array supports a maximum of 2 element(s).

**Create**

The default value is *empty*.

### sysdescr

**sysdescr**

Useful information about the appliance. Second value is applicable only for HA pair. Otherwise second value is ignored.

**Type**

String array. The array supports a maximum of 2 element(s).

**Create**

The default value is *empty*.
### syslocation

**syslocation**

The physical location of the appliance. Second value is applicable only for HA pair. Otherwise second value is ignored.

**Type**

String array. The array supports a maximum of 2 element(s).

**Create**

The default value is *empty*.

### sysname

**sysname**

The FQDN (Fully Qualified Domain Name) of the appliance. Second value is applicable only for HA pair. Otherwise second value is ignored.

**Type**

String array. The array supports a maximum of 2 element(s).

**Create**

The default value is *empty*.

### trap_receivers

**trap_receivers**

A list of trap receivers.

**Type**

A/An *Trap receiver* struct array.

**Create**

The default value is *empty*.

### traps_community_string

**traps_community_string**

A string the NIOS appliance sends to the management system together with its traps. Note that this community string must match exactly what you enter in the management system.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The default value is *empty*.
**traps_enable**

If set to True, SNMP traps are enabled.

**Type**

Bool.

**Create**

The default value is *empty*.

### 4.43 setting: syslogproxy : Syslog proxy settings.

This structure contains the syslog proxy settings for the Grid Member.

**client_acls**

This list controls the IP addresses and networks that are allowed to access the syslog proxy.

**Type**

One of the following: *Address ac struct*, *TSIG ac struct array*.

**Create**

The default value is:

*empty*

**enable**

If set to True, the member receives syslog messages from specified devices, such as syslog servers and routers, and then forwards these messages to an external syslog server.

**Type**

Bool.

**Create**

The default value is *False*.

**tcp_enable**

If set to True, the appliance can receive messages from other devices via TCP.

**Type**

Bool.
Create

The default value is False.

**tcp_port**

**tcp_port**
The TCP port the appliance must listen on.

**Type**
Unsigned integer.

Create
The default value is 514.

**udp_enable**

**udp_enable**
If set to True, the appliance can receive messages from other devices via UDP.

**Type**
Bool.

Create
The default value is False.

**udp_port**

**udp_port**
The UDP port the appliance must listen on.

**Type**
Unsigned integer.

Create
The default value is 514.

### 4.44 smartfolder:groupby: Smart Folder group by structure.

The Smart Folder group by structure defines grouping information in a global or personal Smart Folder.

**enable_grouping**

**enable_grouping**
Determines whether the grouping is enabled.

**Type**

Bool.

**Create**

The default value is *False*.

### value

The name of the Smart Folder grouping attribute.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The field is required on creation.

### value_type

The type of the Smart Folder grouping attribute value.

**Type**

String.

**Valid values are:**

- EXTATTR
- NORMAL

**Create**

The default value is *NORMAL*.

### 4.45 smartfolder:groupbyvalue : Smart Folder group by value structure.

This structure is used to query for the Smart Folder children items.

### name


The extensible attribute, object type or object name that is used to group objects.

Type  
String.  
Values with leading or trailing white space are not valid for this field.

Create  
The field is required on creation.

<table>
<thead>
<tr>
<th>value</th>
</tr>
</thead>
</table>

value  
The value of the extensible attribute, object type or object name.

Type  
String.  
Create  
The field is required on creation.

4.46 smartfolder:queryitem : Smart Folder query item structure.

The Smart Folder query item contains information about a query to be stored in a global or personal Smart Folder.

<table>
<thead>
<tr>
<th>field_type</th>
</tr>
</thead>
</table>

field_type  
The Smart Folder query field type.

Type  
String.  
Valid values are:  
- EXTATTR  
- NORMAL  
Create  
The field is required on creation.

<table>
<thead>
<tr>
<th>name</th>
</tr>
</thead>
</table>

name  
The Smart Folder query name.

Type  
String.  
Values with leading or trailing white space are not valid for this field.
Create
The field is required on creation.

**op_match**

**op_match**
Determines whether the query operator should match.

**Type**
Bool.

**Create**
The default value is *True*.

**operator**

**operator**
The Smart Folder operator used in query.

**Type**
String.

**Valid values are:**
- BEGINS_WITH
- CONTAINS
- DROPS_BY
- ENDS_WITH
- EQ
- GEQ
- GT
- HAS_VALUE
- INHERITANCE_STATE_EQUALS
- IP_ADDR_WITHIN
- LEQ
- LT
- MATCH_EXPR
- RELATIVE_DATE
- RISES_BY
- SUFFIX_MATCH

Create
The field is required on creation.
**value**

*value*

The Smart Folder query value.

**Type**

A/An *Smart Folder query item value structure* struct.

**Create**

The default value is *undefined*.

---

**value_type**

*value_type*

The Smart Folder query value type.

**Type**

String.

**Valid values are:**

- BOOLEAN
- DATE
- EMAIL
- ENUM
- INTEGER
- OBJTYPE
- STRING
- URL

**Create**

The default value is *STRING*.

---

**4.47 smartfolder:queryitemvalue : Smart Folder query item value structure.**

The Smart Folder query item value contains the value used for query.

---

**value_boolean**

*value_boolean*

The boolean value of the Smart Folder query.

**Type**

Bool.
Create
The default value is `undefined`.

<table>
<thead>
<tr>
<th>value_date</th>
</tr>
</thead>
</table>

**value_date**
The timestamp value of the Smart Folder query.
**Type**
Timestamp.
**Create**
The default value is `undefined`.

<table>
<thead>
<tr>
<th>value_integer</th>
</tr>
</thead>
</table>

**value_integer**
The integer value of the Smart Folder query.
**Type**
Integer.
**Create**
The default value is `undefined`.

<table>
<thead>
<tr>
<th>value_string</th>
</tr>
</thead>
</table>

**value_string**
The string value of the Smart Folder query.
**Type**
String.
**Create**
The default value is `undefined`.

### 4.48 subjectalternativename: Subject alternative name structure.

<table>
<thead>
<tr>
<th>type</th>
</tr>
</thead>
</table>

**type**
Type for alternative name for certificate.
**Type**
String.
**Valid values are:**
Create
The field is required on creation.

value

value
Information for current type.

Type
String.

Create
The field is required on creation.

4.49 syslogserver : Syslog server.

This structure contains information about a remote syslog server.

address

address
The server address.

Type
String.

Create
The field is required on creation.

category_list

category_list
The list of all syslog logging categories.

Type
Enum values array.

Valid values are:
• ATP
• AUTH_ACTIVE_DIRECTORY
• AUTH_COMMON
• AUTH_LDAP
• AUTH_NON_SYSTEM
• AUTH_RADIUS
• AUTH_TACACS
• AUTH_UI_API
• CLOUD_API
• DHCPD
• DNS_CLIENT
• DNS_CONFIG
• DNS_DATABASE
• DNS_DNSSEC
• DNS_GENERAL
• DNS_LAME_SERVERS
• DNS_NETWORK
• DNS_NOTIFY
• DNS_QUERIES
• DNS_QUERY_REWRITE
• DNS_RESOLVER
• DNS_RESPONSES
• DNS_RPZ
• DNS_SCAVENGING
• DNS_SECURITY
• DNS_UNBOUND
• DNS_UPDATE
• DNS_UPDATE_SECURITY
• DNS_XFER_IN
• DNS_XFER_OUT
• DTC_HEALTHD
• DTC_IDNSD
• FTPD
• MS_AD_USERS
• MS_CONNECT_STATUS
• MS_DHCP_CLEAR_LEASE
• MS_DHCP_LEASE
• MS_DHCP_SERVER
• MS_DNS_SERVER
- MS_DNS_ZONE
- MS_SITES
- NON_CATEGORIZED
- NTP
- OUTBOUND_API
- TFTPD

**Create**
The default value is *empty*.

### certificate

**Type**
String.

This field supports nested return fields as described [here](#).

**Notes**
certificate cannot be updated.
certificate cannot be written.

### certificate_token

**Type**
String.

Create
Field returned is required if connection_type is “STCP”.

**Notes**
certificate_token is not readable.

### connection_type

**Type**
String.

**Valid values are:**
- STCP
- TCP
- UDP

Create
The default value is UDP.

**local_interface**

**local_interface**
The local interface through which the appliance sends syslog messages to the syslog server.

**Type**
String.

**Valid values are:**
- ANY
- LAN
- MGMT

Create
The default value is ANY.

**message_node_id**

**message_node_id**
Identify the node in the syslog message.

**Type**
String.

**Valid values are:**
- HOSTNAME
- IP_HOSTNAME
- LAN
- MGMT

Create
The default value is LAN.

**message_source**
The source of syslog messages to be sent to the external syslog server. If set to ‘INTERNAL’, only messages the appliance generates will be sent to the syslog server.

If set to ‘EXTERNAL’, the appliance sends syslog messages that it receives from other devices, such as syslog servers and routers.

If set to ‘ANY’, the appliance sends both internal and external syslog messages.

**Type**
String.

**Valid values are:**
- ANY
- EXTERNAL
- INTERNAL

**Create**
The default value is ANY.

**only_category_list**
The list of selected syslog logging categories. The appliance forwards syslog messages that belong to the selected categories.

**Type**
Bool.

**Create**
The default value is False.

**port**
The port this server listens on.

**Type**
Unsigned integer.

**Create**
The default value is 514.

**severity**
The severity filter. The appliance sends log messages of the specified severity and above to the external syslog server.

**Type**
String.
Valid values are:

- ALERT
- CRIT
- DEBUG
- EMERG
- INFO
- NOTICE
- WARNING

Create

The default value is \textit{DEBUG}.

\textbf{4.50} \texttt{tacacsplus:server} : The TACACS+ server structure.

This structure is used for TACACS+ authentication configuration.

\begin{table}[h]
\centering
\begin{tabular}{|l|}
\hline
\textbf{address} \\
\hline
\textbf{address} \\
The valid IP address or FQDN of the TACACS+ server. \\
\textbf{Type} \\
String. \\
Values with leading or trailing white space are not valid for this field. \\
\textbf{Create} \\
The field is required on creation. \\
\hline
\end{tabular}
\end{table}

\begin{table}[h]
\centering
\begin{tabular}{|l|}
\hline
\textbf{auth_type} \\
\hline
\textbf{auth_type} \\
The authentication protocol. \\
\textbf{Type} \\
String. \\
\textbf{Valid values are:} \\
- ASCII \\
- CHAP \\
- PAP \\
\textbf{Create} \\
The default value is \textit{CHAP}. \\
\hline
\end{tabular}
\end{table}
**comment**

*comment*
The TACACS+ descriptive comment.

*Type*
String.

*Create*
The default value is *undefined*.

**disable**

*disable*
Determines whether the TACACS+ server is disabled.

*Type*
Bool.

*Create*
The default value is *False*.

**port**

*port*
The TACACS+ server port.

*Type*
Unsigned integer.

*Create*
The default value is *49*.

**shared_secret**

*shared_secret*
The secret key to connect to the TACACS+ server with.

*Type*
String.

Values with leading or trailing white space are not valid for this field.

*Create*
The field is required on creation.

*Notes*

*shared_secret* is not readable.
**use_accounting**

Determine whether the TACACS+ accounting server is used.

**Type**

Bool.

**Create**

The default value is *False*.

**use_mgmt_port**

Determine whether the TACACS+ server is connected via the management interface.

**Type**

Bool.

**Create**

The default value is *False*.

### 4.51 thresholdtrap : The Grid SNMP threshold trap structure.

This structure is used to set the values of the thresholds of the SNMP traps.

**trap_reset**

Determines the threshold value to reset the trap.

**Type**

Unsigned integer.

**Create**

The default value is *The default value depends on the trap_type*.

**trap_trigger**

Determines the threshold value to trigger the trap.

**Type**

Unsigned integer.

**Create**

The default value is *The default value depends on the trap_type*.
**trap_type**

Determines the type of a given trap.

**Type**
String.

**Valid values are:**
- CpuUsage
- DBObjects
- Disk
- ExtStorage
- FDUsage
- IPAMUtilization
- Memory
- NetworkCapacity
- RPZHitRate
- RecursiveClients
- Reporting
- ReportingVolume
- Rootfs
- SwapUsage
- TcpUdpFloodAlertRate
- TcpUdpFloodDropRate
- ThreatProtectionDroppedTraffic
- ThreatProtectionTotalTraffic

**Create**
The field is required on creation.

### 4.52 trapnotification: The Grid SNMP trap notification structure.

This structure represents the trap notification settings of the Grid and Member objects. The structure determines which trap categories are enabled, and for which trap categories mail notification will be sent.

**enable_email**

- enable_email
Determines if the email notifications for the given trap are enabled or not.

**Type**

Bool.

**Create**

The default value is *False*.

---

### enable_trap

**enable_trap**

Determines if the trap is enabled or not.

**Type**

Bool.

**Create**

The default value is *True*.

---

### trap_type

**trap_type**

Determines the type of a given trap.

**Type**

String.

**Valid values are:**

- AnalyticsRPZ
- BFD
- BGP
- Backup
- Bloxtools
- CPU
- CaptivePortal
- CiscoISEServer
- Clear
- CloudAPI
- Cluster
- Controld
- DHCP
- DNS
- DNSAttack
- DNSIntegrityCheck
- DNSIntegrityCheckConnection
- Database
-DisconnectedGrid
-Discovery
- DiscoveryConflict
- DiscoveryUnmanaged
- Disk
- DuplicateIP
- ENAT
- FDUsage
- FTP
- Fan
- HA
- HSM
- HTTP
- IFMAP
- IMC
- IPAMUtilization
- IPMIDevice
- LCD
- LDAPServers
- License
- Login
- MGM
- MSServer
- Memory
- NTP
- Network
- OCSPResponders
- OSPF
- OSPF6
- Outbound
- PowerSupply
- RAID
- RIRSWIP
- RPZHitRate
4.53 trapreceiver : Trap receiver.

This structure contains information about an SNMP trap receiver.

**address**

The address of the trap receiver.

**Type**

String.

**Create**

The default value is *empty*.

**comment**

A descriptive comment for this trap receiver.

**Type**

String.

Values with leading or trailing white space are not valid for this field.

**Create**

The default value is *empty*. 
user

The SNMPv3 user for this trap receiver.

Type
String.

Create
The default value is empty.

4.54 tsgac : TSIG ac.

This struct represents a TSIG key.

tsig_key

A generated TSIG key. If the external primary server is a NIOS appliance running DNS One 2.x code, this can be set to :2xCOMPAT.

Type
String.

Values with leading or trailing white space are not valid for this field.

Create
The default value is empty.

tsig_key_alg

The TSIG key algorithm.

Valid values are:

- HMAC-MD5
- HMAC-SHA256

Create
The default value is HMAC-MD5.
**tsig_key_name**

The name of the TSIG key. If 2.x TSIG compatibility is used, this is set to ‘tsig_xfer’ on retrieval, and ignored on insert or update.

**Type**
String.

Values with leading or trailing white space are not valid for this field.

**Create**
The default value is *empty*.

**Notes**
*tsig_key_name* is associated with the field *use_tsig_key_name* (see *use flag*).

**use_tsig_key_name**

Use flag for: *tsig_key_name*

**Type**
Bool.

**Create**
The default value is *False*.
ADDITIONAL INFORMATION AND EXAMPLES

5.1 Examples accessing WAPI using Curl

The following sections demonstrate how to interact with WAPI through curl (see http://curl.haxx.se/ for more information). This sample code shows you how to create an object, modify it, search for it, and delete it. The sample code uses the network object and assumes that no other networks exist on the appliance.

Use -k1 in curl to allow connections even if the appliance SSL certificate is not signed by a recognized SSL authority and to force TLS negotiation. If you want to capture the actual traffic, use the –trace or –trace-ascii options to invoke curl.

These tests assume that the appliance ip is 192.168.1.2, and that you have a valid user name of ‘admin’ and a password of ‘testpw’.

\ at the end of the line means the line was wrapped for documentation purposes but should be joined with the previous line(s) when entering the command in your shell.

Note that some shells can interact with quote characters inside the requests. In case of a failure, consider using the curl -v and –trace-ascii options to inspect what has been sent to the server to ensure that your shell did not affect the requested data.

**Standard sample code**

**Create a network**

To create networks, use a POST request:

```
curl -k1 -u admin:testpw -X POST https://192.168.1.2/wapi/v2.9/network \
    -d network=10.1.0.0/16
```

The server returns a reference of the created network:

```
"network/ZG5zLm5ldHdvcmstkMTAuvMS4wLjAvMTYvMA:10.1.0.0%2F16"
```

To create another network, send another POST request:

```
curl -k1 -u admin:testpw -X POST https://192.168.1.2/wapi/v2.9/network \
    -d network=10.2.0.0/16
```
To verify that both networks have been created, send a GET request:

curl -k1 -u admin:testpw -X GET https://192.168.1.2/wapi/v2.9/network

The server returns a list with both networks:

```
[{
   "_ref": "network/ZG5zLm51dHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0/16",
   "network": "10.1.0.0/16",
   "network_view": "default"
},
{
   "_ref": "network/ZG5zLm51dHdvcmshMTAuMi4wLjAvMTYvMA:10.2.0.0/16",
   "network": "10.2.0.0/16",
   "network_view": "default"
}
]
```

Note that the returned references could be different in your installation. The sample code uses references returned in the above example. Depending on your installation, make sure that you use the references your server returns.

To modify a network, send a PUT request. Send the following to modify its comment:

curl -k1 -u admin:testpw -X PUT \\
https://192.168.1.2/wapi/v2.9/network/ZG5zLm51dHdvcmshMTAuMS4wLjAvMTYvMA:
10.1.0.0%2F16 -d comment='Sample comment'

The server still returns the network reference. Note that this could be different from before:

"network/ZG5zLm51dHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16"

Check that the network was modified, since comment is not a field that is returned by default add _return_fields to the GET request:

curl -k1 -u admin:testpw -X GET https://192.168.1.2/wapi/v2.9/network \\
-d _return_fields=network,network_view,comment

Note that the 10.1.0.0/16 network has been modified:

```
[{
   "_ref": "network/ZG5zLm51dHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16",
   "comment": "Sample comment",
   "network": "10.1.0.0/16",
   "network_view": "default"
},
{
   "_ref": "network/ZG5zLm51dHdvcmshMTAuMi4wLjAvMTYvMA:10.2.0.0%2F16",
   "network": "10.2.0.0/16",
   "network_view": "default"
}
]
To find networks with comments that contain the word sample in a case-insensitive way:

curl -k1 -u admin:testpw -X GET https://192.168.1.2/wapi/v2.9/network \
   -d comment~:=sample

The server returns the network we just modified:

```
[
  {
    "_ref": "network/ZG5zLm5ldHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16",
    "comment": "Sample comment",
    "network": "10.1.0.0/16",
    "network_view": "default"
  }
]
```

If there is no match, the server returns an empty list:

curl -k1 -u admin:testpw -X GET https://192.168.1.2/wapi/v2.9/network \
   -d comment~:=nomatch

The server returns the following:

```
[]
```

To delete a network, send a DELETE request using a reference you have retrieved by searching. For example, to delete
the networks we created above, send the following:

curl -k1 -u admin:testpw -X DELETE \
   https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16

The server returns the reference of the object it just deleted, if the deletion was successful:

"network/ZG5zLm5ldHdvcmshMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16"

To delete the other network, send the following:

curl -k1 -u admin:testpw -X DELETE \
   https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmshMTAuMi4wLjAvMTYvMA:10.2.0.0%2F16

Note that both networks have been removed:

curl -k1 -u admin:testpw -X GET https://192.168.1.2/wapi/v2.9/network

The server returns the following:

```
[]
```

To create a host record in a specified zone, first send the following request to create the zone:
curl -k1 -u admin:testpw -H "Content-Type: application/json" \ -X POST https://192.168.1.2/wapi/v2.9/zone_auth \ -d '{"fqdn": "zone.com"}'

Then send the following request to create the host:

curl -k1 -u admin:testpw -H "Content-Type: application/json" \ -X POST https://192.168.1.2/wapi/v2.9/record:host -d \ '{"ipv4addrs":[{"ipv4addr":"10.222.0.12"}],"name":"host.zone.com"}'

Note that it might be necessary to specify the content type explicitly when using the -d option in curl.

**Schedule an object creation.**

To schedule an object creation, use a POST request with the _schedinfo.scheduled_time parameter:

curl -k1 -u admin:testpw -X POST https://192.168.1.2/wapi/v2.9/network \ -d network=10.1.0.0/16 -d _schedinfo.scheduled_time=1367752903

The server returns a reference of the created scheduled task:

"scheduledtask/b25lLnF1ZXVlZF90YXNrJDY:6/PENDING"

**Execute a function call.**

To execute a function call, use a POST request with the _function parameter. For example, first create a network:

curl -k1 -u admin:testpw -X POST https://192.168.1.2/wapi/v2.9/network \ -d network=10.1.0.0/16

the server will then return a reference to the network that was just created:

"network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:10.1.0.0/16/default"

now use this reference to retrieve the next three available /24 networks in this network excluding 10.1.1.0/24 and 10.1.3.0/24:

curl -k1 -u admin:testpw -X POST \\ https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:10.1.0.0/16/default?_function=next_available_network -H "Content-Type: application/json" \ -d '{"exclude":["10.1.1.0/24", "10.1.3.0/24"], "cidr": 24, "num": 3}’

The server returns a list of available networks with the above constraints:

```
{
  "networks": [
    "10.1.0.0/24",
    "10.1.2.0/24",
    "10.1.4.0/24"
  ]
}
```

**Uploading a file to the appliance**

To upload a file to the appliance, first tell the appliance so:
curl -k1 -u admin:testpw -X POST \\
'https://192.168.1.2/wapi/v2.9/fileop?_function=uploadinit'

The appliance will return the URL and a token value:

```json
{
    "token": "eJydkMFOwzAMhu9+k.....",
    "url": "https://192.168.1.2/...."
}
```

The file can then be uploaded to the specified URL:

curl -k1 -u admin:testpw -F name=somefile.txt -F filedata=@somefile.txt \\
'https://192.168.1.2/....'

Finally, we need to signal to the appliance that the upload has been completed and that it needs to perform the requested action on the uploaded file. In this example, we will use setfiledest:

curl -k1 -u admin:testpw -X POST \\
'https://192.168.1.2/wapi/v2.9/fileop?_function=setfiledest' \\
-H "Content-Type: application/json" \\
-d '{"dest_path": "/somefile.txt", "type": "TFTP_FILE", \\
"token": "eJydkMFOwzAMhu9+k..."}'

### Downloading a file from the appliance

To download a file from the appliance, first select what to download. In this example, we will download a backup:

curl -k1 -u admin:testpw -X POST \\
'https://192.168.1.2/wapi/v2.9/fileop?_function=getgriddata' \\
-H "Content-Type: application/json" -d '{"type": "BACKUP"}'

The appliance will return a token and a URL from which the file should be downloaded:

```json
{
    "token": "eJydUMtuwyAQvO....",
    "url": "https://192.168.1.2/...."
}
```

We can then download the file:

curl -k1 -u admin:testpw -H "Content-type:application/force-download" -O \\
"https://192.168.1.2/...."

After the download has been completed, we can signal to the appliance that the operation is done by calling downloadcomplete and passing the token we have retrieved in the first step:

curl -k1 -u admin:testpw -X POST \\
'https://192.168.1.2/wapi/v2.9/fileop?_function=downloadcomplete' \\
-H "Content-Type: application/json" -d '{"token": "eJydUMtuwyAQvO+...."}'

### Executing a paging request

First insert a zone and some A records:
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/zone_auth \
-d fqdn=test1.com
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/network \
-d network=10.1.0.0/16
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/record:a \
-d ipv4addr=10.1.0.1 -d name=a1.test1.com
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/record:a \
-d ipv4addr=10.1.0.2 -d name=a2.test1.com
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/record:a \
-d ipv4addr=10.1.0.3 -d name=a3.test1.com
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/record:a \
-d ipv4addr=10.1.0.4 -d name=a4.test1.com
curl -k1 -u admin:testpw -X POST https://127.0.0.1/wapi/v2.9/record:a \
-d ipv4addr=10.1.0.5 -d name=a5.test1.com

Then check that all records have been inserted correctly:

curl -k1 -u admin:testpw -X GET \
'https://127.0.0.1/wapi/v2.9/record:a?name=test1.com&_return_fields=name'
[
    {
        "_ref": "record:a/ZG5zLmJpbmRfYSQuXY29tLn3DEwLjEuMC4x:a1.test1.com/default",
        "name": "a1.test1.com"
    },
    {
        "_ref": "record:a/ZG5zLmJpbmRLnRlc3QxLGE1LDEwLjEuMC41:a5.test1.com/default",
        "name": "a5.test1.com"
    },
    {
        "_ref": "record:a/ZG5zLmJpbmRfYSQc3QxLGE0LDEwLjEuMC40:a4.test1.com/default",
        "name": "a4.test1.com"
    },
    {
        "_ref": "record:a/ZG5zLmuY29tLnRlc3QxLGEzLDEwLjEuMC4z:a3.test1.com/default",
        "name": "a3.test1.com"
    },
    {
        "_ref": "record:a/ZG5zLmJpbmRfYSQuX2RLGExyLDEwLjEuMC4y:a2.test1.com/default",
        "name": "a2.test1.com"
    }
]

Now request two records at a time:

curl -k1 -u admin:testpw -X GET \
'https://127.0.0.1/wapi/v2.9/record:a?name=test1.com&_return_fields=name&_paging=1&_max_results=2&_return_as_object=1'
[
    "next_page_id": "789c5590...4efc1732",
    "result": [
        {
            "_ref": "record:a/ZG5zLmJpbmRfYSQuXY29tLn3DEwLjEuMC4x:a1.test1.com/default",
            "name": "a1.test1.com"
        },
        {
            "_ref": "record:a/ZG5zLmJpbmRLnRlc3QxLGE1LDEwLjEuMC41:a5.test1.com/default",
            "name": "a5.test1.com"
        }
    ]
]
The server has returned the first page of results and a next_page_id to be used for the next page request. Note that the actual next_page_id will not contain periods (.). The periods are used here to shorten the actual ID:

```
curl -k1 -u admin:testpw -X GET "https://127.0.0.1/wapi/v2.9/record:a?_page_id=789c5590...4efc1732"
```

```json
{
  "next_page_id": "789c5590...3e113c3d4d",
  "result": [
    {
      "_ref": "record:a/ZG5zLmJpbmRfYSQc3QxLGE0LDEwLjEuMC40:a4.test1.com/default",
      "name": "a4.test1.com"
    },
    {
      "_ref": "record:a/ZG5zLmuY29tLnRlc3QxLGEzLDEwLjEuMC4z:a3.test1.com/default",
      "name": "a3.test1.com"
    }
  ]
}
```

Let’s now fetch the last page of results using the page_id that was just returned:

```
curl -k1 -u admin:testpw -X GET "https://127.0.0.1/wapi/v2.9/record:a?_page_id=789c5590...3e113c3d4d"
```

```json
{
  "result": [
    {
      "_ref": "record:a/ZG5zLmJpbmRfYSQx2RLGEyLDEwLjEuMC4y:a2.test1.com/default",
      "name": "a2.test1.com"
    }
  ]
}
```

Note that the server has not returned a next_page_id because this was the last page of results.

**XML Sample code**

**Create a network**

To create networks, use a POST request:

```
curl -k1 -u admin:testpw -X POST -HContent-Type:text/xml --data-binary "<value type="object"><network>10.1.0.0/16</network></value>" https://192.168.1.2/wapi/v2.9/network?_return_type=xml-pretty
```

The server returns a reference of the created network:

```xml
<?xml version="1.0"?>
<value>network/ZG5zLmJpbmRfYSQx2RLGEyLDEwLjEuMC4y:a2.test1.com/default</value>
```

To create another network, send another POST request:

```
```
Read a network

To verify that both networks have been created, send a GET request:

```bash
curl -k -u admin:testpw -X GET \
https://192.168.1.2/wapi/v2.9/network?_return_type=xml-pretty
```

The server returns a list with both networks:

```xml
<list>
  <value type="object">
    <network_view>default</network_view>
    <_ref>network/ZG5zLm5ldHdvMS4wLjAvMTYvMA:10.1.0.0%2F16</_ref>
    <network>10.1.0.0/16</network>
  </value>
  <value type="object">
    <network_view>default</network_view>
    <_ref>network/ZG5zLm5ldHduMi4wLjAvMTYvMA:10.2.0.0%2F16</_ref>
    <network>10.2.0.0/16</network>
  </value>
</list>
```

Note that the returned references could be different in your installation. The sample code uses references returned in the above example. Depending on your installation, make sure that you use the references your server returns.

Modify a network

To modify a network, send a PUT request. Send the following to modify its comment:

```bash
curl -k -u admin:testpw -X PUT -HAccept:text/xml -HContent-Type:text/xml \
--data-binary "<value type="object"><comment>Sample comment</comment></value>" \
https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvMS4wLjAvMTYvMA:10.1.0.0%2F16?\n_return_type=xml-pretty
```

The server still returns the network reference. Note that this could be different from before:

```xml
<value>network/ZG5zLm5ldHdvMS4wLjAvMTYvMA:10.1.0.0%2F16</value>
```

Check that the network was modified, since comment is not a field that is returned by default add _return_fields to the GET request:

```bash
curl -k -u admin:testpw -X GET -HAccept:text/xml \
https://192.168.1.2/wapi/v2.9/network \
-d _return_fields=network,network_view,comment -d _return_type=xml-pretty
```

Note that the 10.1.0.0/16 network has been modified:

```xml
<list>
  <value type="object">
    <comment>Sample comment</comment>
    <network_view>default</network_view>
    <_ref>network/ZG5zLm5ldHdvMS4wLjAvMTYvMA:10.1.0.0%2F16</_ref>
    <network>10.1.0.0/16</network>
  </value>
</list>
```
Search for a network

To find networks with comments that contain the word sample in a case-insensitive way:

curl -k1 -u admin:testpw -X GET -H Accept:text/xml \  
   https://192.168.1.2/wapi/v2.9/network -d comment~:=sample \  
   -d _return_type=xml-pretty

The server returns the network we just modified:

```xml
<?xml version="1.0"?>
<list>
  <value type="object">
    <comment>Sample comment</comment>
    <network_view>default</network_view>
    <ref>network/ZG5zLm5ldHduMi4wLjAvMTYvMA:10.1.0.0%2F16</ref>
    <network>10.1.0.0/16</network>
  </value>
</list>
```

If there is no match, the server returns an empty list:

curl -k1 -u admin:testpw -X GET -H Accept:text/xml \  
   https://192.168.1.2/wapi/v2.9/network -d comment~:=nomatch \  
   -d _return_type=xml-pretty

The server returns the following:

```xml
<?xml version="1.0"?>
<list>
</list>
```

Delete a network

To delete a network, send a DELETE request using a reference you have retrieved by searching. For example, to delete the networks we created above, send the following:

curl -k1 -u admin:testpw -X DELETE -H Accept:text/xml \  
   https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmshdAuM4wLjAvMTYvMA:10.1.0.0%2F16 \  
   -d _return_type=xml-pretty

The server returns the reference of the object it just deleted, if the deletion was successful:

```xml
<?xml version="1.0"?>
<value>network/ZG5zLm5ldHdvcmshdAuM4wLjAvMTYvMA:10.1.0.0%2F16</value>
```

To delete the other network, send the following:

curl -k1 -u admin:testpw -X DELETE -H Accept:text/xml \  
   https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmshdAuM4wLjAvMTYvMA:10.2.0.0%2F16 \  
   -d _return_type=xml-pretty

Note that both networks have been removed:
curl -k1 -u admin:testpw -X GET -H Accept: text/xml \  
https://192.168.1.2/wapi/v2.9/network -d _return_type=xml-pretty

The server returns the following:

<?xml version="1.0"?>
<list>
</list>

**Create a host record**

To create a host record in a specified zone, first send the following request to create the zone:

curl -k1 -u admin:testpw -H "Content-Type: application/xml" -X POST \  
https://192.168.1.2/wapi/v2.9/zone_auth -d \  
'<?xml version="1.0"?><value type="object"><fqdn>zone.com</fqdn></value>'

Then send the following request to create the host:

curl -k1 -u admin:testpw -H "Content-Type: application/xml" -X POST \  
https://192.168.1.2/wapi/v2.9/record:host -d \  
'<?xml version="1.0"?><value type="object"><name>host.zone.com</name>
 </ipv4addrs></list></value>

Note that it might be necessary to specify the content type explicitly when using the -d option in curl.

**Schedule an object creation.**

To schedule an object creation, use a POST request with the _schedinfo.scheduled_time parameter:

curl -k1 -u admin:testpw -X POST -H "Content-Type: application/xml" -d \  
'<?xml version="1.0"?><value type="object"><network>10.1.0.0/16</network></value>'

The server returns a reference of the created scheduled task:

<?xml version="1.0"?>
<value>la/10.1.0.0/16</value>

**Execute a function call.**

To execute a function call, use a POST request with the _function parameter. For example, first create a network:

curl -k1 -u admin:testpw -X POST -H "Content-Type: application/xml" -d \  
'<?xml version="1.0"?><value type="object"><network>10.2.0.0/16</network></value>'

the server will then return a reference to the network that was just created:

<?xml version="1.0"?>
<value>network/10.2.0.0/16/default</value>

now use this reference to retrieve the next three available /24 networks in this network excluding 10.1.1.0/24 and 10.1.3.0/24:
curl -k1 -u admin:testpw -X POST -H Content-Type:text/xml --data-binary "
'value type="object'" exclude<list><value>10.1.0.0/24</value>
'value>10.1.3.0/24</value></list></exclude><cidr type="int">24</cidr>
'num type="int">3</num></value>
'https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:'
'10.1.0.0/16/default?_function=next_available_network&_return_type=xml-pretty'

The server returns a list of available networks with the above constraints:

<?xml version="1.0"?>
<value type="object">
<networks> <list>
  <value>10.1.0.0/24</value>
  <value>10.1.2.0/24</value>
  <value>10.1.4.0/24</value>
</list></networks></value>

Certificate Based Authentication

This section includes examples for configuring certificate based authentication. To simplify the examples, self-signed certificate is generated for client certificate signing.

Generate self-signed CA certificate

Generate a self-signed certificate and use it as a Certificate Authority (CA) certificate that is treated as a trusted source for signing client certificates *. To do so, run the `openssl req` command with the `-x509` argument.

To generate a private key alongside with a certificate, run the `-newkey` command with the argument that tells openssl that you need a RSA private key of length 4096. The `-nodes` (literally “No-DES”) parameter is used to skip passphrase private key protection, as follows:

`openssl req -x509 -newkey rsa:4096 -nodes -keyout ca.key.pem -out ca.cert.pem -days 365 -subj '/CN=ib-root-ca'

* - however in a real world using real Certificate Authorities is preferred.

Output:

Generating a 4096 bit RSA private key
..........................................................++
..........................................................++
writing new private key to ‘ca.key.pem’

-----

Generate Certificate Signing Request (CSR) for a client certificate

The first step in acquiring client certificate is to create a Certificate Signing Request (CSR) that is signed by the Certificate Authority. To generate a CSR, run the `openssl req` command with the `-new` argument. Same as for the CA certificate, a client private key is generated using the `-newkey` option without passphrase protection (`-nodes`). The CSR validity period is determined by the `-days` argument and is equal to 365 days. Note that the Canonical Name (CN) in the subject should contain the desired user name, as follows:
openssl req -new -sha256 -newkey rsa:4096 -nodes \
-keyout client.key.pem -days 365 -out client.req.pem \
-subj '/CN=ib-employee'

Output:
Generating a 4096 bit RSA private key
..........................................................++
........................++
writing new private key to 'client.key.pem'
-----

Sign the client certificate with CA certificate

The last step in generating the client certificate is the CSR signing by CA. (In this example, we are using a previously generated CA certificate). To sign the CSR by a CA, run the openssl **x509** command with the `-req` argument and pass the client CSR (client.req.pem), CA Certificate (ca.cert.pem), CA private key (ca.key.pem) and an arbitrary serial number (1209199). To include SAN (Subject Alternative Name) e-mail address use `-extfile` argument (or explicit configuration file) with `subjectAltName` set to a desired e-mail address, as follows:

openssl x509 -req -days 365 \
-extfile <(printf "subjectAltName=email:employee@infoblox.com") \
-in client.req.pem -CA ca.cert.pem -CAkey ca.key.pem -set_serial 1209199 \
-out client.cert.pem

Output:
Signature ok
subject=/CN=ib-employee
Getting CA Private Key

Upload CA Certificate

To upload the CA certificate, you first initialize the data upload procedure. To initialize the data upload procedure, call the fileop **datauploadinit** function that returns the URL of the destination file and the token that will be used in the certificate upload operations, as follows:

curl -H "Content-Type:application/json" -k -u admin:infoblox -X POST \
https://127.0.0.1/wapi/v2.9/fileop?_function=uploadinit -d '{}'

The server will return URL for direct upload and file token to use in fileop function calls:

```
{
    "token": "eJydUMt0wzAQvO+...",
    "url": "https://127.0.0.1/http_direct_file_io/..."
}
```

Using curl we can upload contents of the CA certificate (ca.cert.pem) to a URL returned from **datauploadinit** operation:

curl -k1 -u admin:infoblox -F file=ca.cert.pem \
"https://127.0.0.1/http_direct_file_io/..."

To upload the CA certificate (**cacertificate**), call the fileop **uploadcertificate** function with the **certificate_usage** parameter set to **EAP_CA**, **member** set to a desired member hostname, and **token** set to a token value returned by a fileop **datauploadinit** function call, as follows:

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curl -k1 -u admin:infoblox -X POST -H "Content-Type: application/json" \
https://127.0.0.1/wapi/v2.9/fileop?_function=uploadcertificate -d \
'{
  "certificate_usage": "EAP_CA",
  "member": "infoblox.localdomain",
  "token": "eJydUMt0zwAQvO+..."
}'

The server will return empty dictionary if operation succeeds:
{}

Run the GET operation to verify that the cacertificate is now present in the database, as follows:

curl -k1 -u admin:infoblox -X GET https://127.0.0.1/wapi/v2.9/cacertificate

The server will return cacertificate object:

```
[
  {
    "_ref": "cacertificate/b251LmWhcF9j...",
    "distinguished_name": "CN="ib-root-ca"",
    "issuer": "CN="ib-root-ca"",
    "serial": "9f770b9a53359c6b",
    "valid_not_after": 1528955885,
    "valid_not_before": 1497419885
  }
]
```

Create Admin User

Create `adminuser object` with `name` matching the client.cert.pem SAN e-mail, as follows:

curl -k1 -u admin:infoblox -H "Content-Type: application/json" -X POST \
https://127.0.0.1/wapi/v2.9/adminuser -d \
'{
  "admin_groups": ["admin-group"],
  "name": "employee@infoblox.com",
  "password": "infoblox"
}'

The server will return a reference to the adminuser that was just created:

"adminuser/b251LmFkbWluJGVtcGxveWVlQGlwZm9ibG94LmNvbQ:employee@infoblox.com"

Create Certificate Authentication Service (CAS)

Create `certificate:authservice object` with OCSP disabled (for simplicity), and the CA certificate set to a previously installed CA certificate (ca.cert.pem). To drop password authentication, `enable_password_request` is set to “false”. The AUTO_MATCH match type forces NIOS to extract the username from the certificate and searches for it in effective authorization policies based on the configured match policies. The `auto_populate_login` setting specifies the match policy, that is, match by e-mail address in the SAN, as follows:

curl -k1 -u admin:infoblox -H "Content-Type: application/json" -X POST \
https://127.0.0.1/wapi/v2.9/certificate:authservice -d \
'{
  "name": "cert-login",
  "enable_password_request": "false",
  "match": ["AUTO_MATCH"],
  "auto_populate_login": ["match_by_email"]
}'

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The server will return a reference to the certificate:authservice object that was just created:
"certificate:authservice/b251Lm9jc3BfYXV0aF9zZXJ2aWNlJGN1cnQtG9naW4:cert-login"

Include CAS to Authentication Policy

You need to include the Certificate Authentication Policy in the list of Grid authentication policies. To do so, first perform the GET operation on the authpolicy object, as follows:
curl -k1 -u admin:infoblox -X GET \\
https://127.0.0.1/wapi/v2.9/authpolicy?_return_fields=auth_services

The server will return an authpolicy object:
```
[  
   {  
      "_ref": "authpolicy/b251LnJlbW90ZV9hZGlpb19wb2xpY3kkMA:authpolicy",
      "auth_services": [  
         "localuser:authservice/Li5sb2NhbF91c2VyX2F1dGhc2VydmljZSQw:Local%20Admin"
      ]
   }
]
```

Then, update the authpolicy object. Note that the CAS reference should precede the Local User Authentication Service to avoid server performing password authentication, as follows:
curl -k1 -u admin:infoblox -H "Content-Type: application/json" -X PUT \\
https://127.0.0.1/wapi/v2.9/authpolicy/b251LnJlbW90ZV9hZGlpb19wb2xpY3kkMA:authpolicy -d \\
'{
   "auth_services": [  
      "certificate:authservice/b251Lm9jc3BfYXV0aF9zZXJ2aWNlJGN1cnQtG9naW4:cert-login",
      "localuser:authservice/Li5sb2NhbF91c2VyX2F1dGhc2VydmljZSQw:Local%20Admin"
   ]
}

The server will return reference to the authpolicy object if the operation succeeds:
"authpolicy/b251LnJlbW90ZV9hZGlpb19wb2xpY3kkMA:authpolicy"

Restart product and run sample GET

Perform the GET operation on any object (admingroup in our example) using the client key and client certificate, as follows:
curl -k -v -s --key client.key.pem --cert client.cert.pem \ -X GET https://127.0.0.1/wapi/v2.9/admingroup
Verbose (-v) output of the curl command is included to verify the TLS connection, as follows:

* Trying 127.0.0.1...
* Connected to 127.0.0.1 (127.0.0.1) port 443 (#0)
* ALPN, offering http/1.1
* Cipher selection: ALL:!EXPORT:!EXPORT40:!EXPORT56:!aNULL:!LOW:!RC4:@STRENGTH
* successfully set certificate verify locations:
  * CAfile: /etc/pki/tls/certs/ca-bundle.crt
  * CPath: none
* TLSv1.2 (OUT), TLS header, Certificate Status (22):
* TLSv1.2 (OUT), TLS handshake, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Server hello (2):
* TLSv1.2 (IN), TLS handshake, Certificate (11):
* TLSv1.2 (IN), TLS handshake, Server key exchange (12):
* TLSv1.2 (IN), TLS handshake, Server finished (14):
* TLSv1.2 (OUT), TLS handshake, Client key exchange (16):
* TLSv1.2 (OUT), TLS change cipher, Client hello (1):
* TLSv1.2 (OUT), TLS handshake, Finished (20):
* TLSv1.2 (IN), TLS change cipher, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Finished (20):
* SSL connection using TLSv1.2 / DHE-RSA-AES128-GCM-SHA256
* ALPN, server did not agree to a protocol
* Server certificate:
  * subject: C=US; ST=California; L=Sunnyvale; O=Infoblox; OU=Engineering; CN=www.infoblox.com
  * start date: 2017-07-13 08:09:23 GMT
  * expire date: 2018-07-13 08:09:23 GMT
  * issuer: C=US; ST=California; L=Sunnyvale; O=Infoblox; OU=Engineering; CN=www.infoblox.com
* SSL certificate verify result: self signed certificate (18), continuing anyway.

> GET /wapi/v2.9/admingroup HTTP/1.1
> Host: 127.0.0.1
> User-Agent: curl/7.43.0
> Accept: */*

* TLSv1.2 (IN), TLS handshake, Hello request (0):
* TLSv1.2 (OUT), TLS handshake, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Server hello (2):
* TLSv1.2 (IN), TLS handshake, Certificate (11):
* TLSv1.2 (IN), TLS handshake, Server key exchange (12):
* TLSv1.2 (IN), TLS handshake, Request CERT (13):
* TLSv1.2 (IN), TLS handshake, Server finished (14):
* TLSv1.2 (OUT), TLS handshake, Certificate (11):
* TLSv1.2 (OUT), TLS handshake, Client key exchange (16):
* TLSv1.2 (OUT), TLS handshake, CERT verify (15):
* TLSv1.2 (OUT), TLS change cipher, Client hello (1):
* TLSv1.2 (OUT), TLS handshake, Finished (20):
* TLSv1.2 (IN), TLS change cipher, Client hello (1):
* TLSv1.2 (IN), TLS handshake, Finished (20):
< HTTP/1.1 200 OK
< Date: Thu, 13 Jul 2017 08:25:10 GMT
< WWW-Authenticate: Basic realm="InfoBlox ONE Platform"
< Cache-Control: no-cache, no-store
< Pragma: no-cache
< Content-Type: application/json
< set-cookie: ibapauth="ip=127.0.0.1,client=API,group=admin-group,ctime=1499934313,timeout=600,mtime=1499934313,su=1,auth=LOCAL,user=employee@infoblox.com,X8E/BVuFP95+srDuipWO5n5xqThqK5XA2F4"; httponly; Path=/; secure
< Transfer-Encoding: chunked
<
5.2 Examples using object body requests

The following sections demonstrate how to interact with WAPI via a single entry point.

**Single object body request example**

Use a POST request to get the Host record with the name “test.somewhere.com”:

```
https://1.2.3.4/wapi/v2.9/request
```

With a body:

```json
{
   "data": {
      "name": "test.somewhere.com"
   },
   "method": "GET",
   "object": "record:host"
}
```

**Multiple object body request example**

Use a POST request to get the Host record with the name “test.somewhere.com”, save its reference to the state object and use it for an update operation:

```
https://1.2.3.4/wapi/v2.9/request
```

With a body:

```json
[
   {
      "method": "STATE:ASSIGN",
      "data": {
         "host_name": "test.somewhere.com"
      },
   },
   ...
]
```
Extensible attribute example

Use a POST request to copy extensible attribute “Building” from an existing network to a new one using “assign_state” to save the value in the state object:

https://1.2.3.4/wapi/v2.9/request

With a body:

```json
[ {
  "method": "GET",
  "object": "network",
  "data": {
    "network": "10.1.0.0/16"
  },
  "args": {
    "_return_fields+": "extattrs"
  }
}]
```

Returns with a body:

```json
{
  "host_name": "test.somewhere.com",
  "host_ref": "record:host/ZG5...zdA:test.somewhere.com/default",
  "updated_comment": "new comment"
}
```
5.3 Valid values for extensible attributes

Extensible attributes are sets of name/value pairs associated with an object. The name and the type of value are defined in the extensible attribute definition.

Objects that support extensible attributes have an `extattrs` field, which is a dictionary that contains the name/value dictionary pairs.

Following is an example of using JSON to encode the extensible attributes field:

```
"extattrs": {
    "attrstring": {"value": "test string"},
    "attrinteger": {"value": -1},
    "attremail": {"value": "test@test.com"},
    "attrdate": {"value": "2011-11-23T11:01:00Z"},
    "attrenum": {"value": "Enum Value"},
}
```

where each attribute has a valid type described by its name.

5.4 Extensible attributes inheritance

If inheritance is enabled for this extensible attribute, the following fields are supported in the extensible attribute value object:

```
"attr": {
    "value": <the extattr value>,
    # The following is a read-only field
    "inheritance_source": <reference to the object this EA is inheriting from>,

    # The following are write-only fields
    "inheritance_operation": one of ‘INHERIT’, ‘DELETE’ or ‘OVERRIDE’
    "descendants_action": {
        "option_delete_ea": one of ‘REMOVE’ or ‘RETAIN’
    }
}
```
"option_with_ea": one of 'CONVERT', 'INHERIT' or 'RETAIN'
"option_without_ea": one of 'INHERIT' or 'NOT_INHERIT'

Following is an example of using JSON to insert a set of extensible attributes exercising the above fields:

"extattrs": {
    "EAname": {
        "descendants_action": {
            "option_with_ea": "RETAIN",
            "option_without_ea": "NOT_INHERIT"},
        "value": "EAvalue"})

Note: For extensible attributes inheritance to work correctly with Host Record object (record:host) use_for_ea_inheritance should be set to true for one of its IP host addresses: IPv4 Host address object (record:host_ipv4addr) or IPv6 Host address object (record:host_ipv6addr).

### inheritance_operation

By default, this field is set to ‘OVERRIDE’ if it is not specified. If it is set to ‘INHERIT’, the value field will be ignored or omitted, and the value will be set to inherit from the object’s parent.

### inheritance_source

This is a read-only field. If present, it contains the reference to the object from which the value of the extensible attribute is inherited.

### descendants_action:option_delete_ea

This field determines the action to be taken for the object’s children when the extensible attribute is removed. This field is meaningful only when inheritance_operation is set to ‘DELETE’.

If this field is set to ‘REMOVE’, the extensible attributes of the object’s children will also be removed. If it set to ‘RETAIN’, they will be retained.

### descendants_action:option_with_ea

This field determines the action to be taken for the object’s children when the extensible attribute is added or modified. This field is meaningful only when inheritance_operation is set to ‘INHERIT’.

If this field is set to ‘CONVERT’ and the extensible attribute value of the object’s children is the same as that of the parent, the value will change to an inherited attribute. If the value is different, it will not be changed.

If this field is set to ‘INHERIT’, the extensible attribute value of the object’s children will be set to inherit from the parent, regardless of its previous value.

If the field is set to ‘RETAIN’, the extensible attribute value of the object’s children will not be modified.
This field determines the action to be taken for the object’s children when the extensible attribute is added or modified. This field is meaningful only when inheritance_operation is set to ‘INHERIT’ or ‘OVERRIDE’ and the object’s children do not have values set for this extensible attribute.

If this field is set to ‘INHERIT’, the object’s children will have a new extensible attribute added, which is inherited from its parent.

If this field is set to ‘NOT_INHERIT’, no changes will be made to the object’s children.

### 5.5 Extensible attributes search

Extensible attributes require a special search syntax. Searches for extensible attributes are sent by prefixing the extensible attribute name with an asterisk (*). Standard search suffixes can be applied to the extensible attribute if they are supported by the attribute type.

For example, a search for all networks that contain a string extensible attribute named ‘Building’ with a case-insensitive value ‘data center’ should be sent to the server as follows (using HTTP GET):

```
GET /wapi/v2.9/network?*Building:='Data Center'
```

### 5.6 Extensible attributes update

The extensible attributes field allows +/- to be specified as part of the field name while updating the object, which will respectively add/modify or remove the specified extensible attribute. The appliance returns an error when the specified extensible attribute does not exist. Note that this is supported only when using JSON to access WAPI.

Following is an example of unconditionally removing the “attrstring” and “attrinteger” extensible attributes:

```json
"extattrs-": {
    "attrstring": {},
    "attrinteger": {}
}
```

To remove an extensible attribute that has a specific value, the value should be passed to the request as follows:

```json
"extattrs-": {
    "attrstring": {"value": "test string"},
}
```

If the specified value is different than the existing value, the appliance returns an error.

Following is an example of adding or updating (if the extensible attribute already exists) the “attrstring” extensible attribute:

```json
"extattrs+": {
    "attrstring": {"value": "new string"}
}
```
5.7 Glossary

32-bit unsigned integers

32-bit unsigned integers range from 0 to 4294967295.

CIDR

A way to specify an IPv4 netmask using an integer from 0 to 32 and an IPv6 netmask using an integer from 0 to 128.

Epoch seconds

The number of seconds since midnight UTC on January 1, 1970.

FQDN

An FQDN consists of the host name followed by the domain name (Example: abc.com).

Unless otherwise specified, FQDNs are limited to 256 characters.

IPv4 Address

An IPv4 address is a 32-bit number in dotted decimal notation. It consists of four 8-bit groups of decimal digits separated by decimal points (Example: 192.168.1.2).

IPv6 Address

An IPv6 address is a string that consists of eight groups of four hexadecimal digits in which each group is separated by a colon (:). (Example: 2001:0db8:85a3:0000:0000:8a2e:0370:7334).

Various shortcuts exist to shorten the string representation of an IPv6 address. For example, you can omit the leading zeros of each group and replace one or any number of consecutive groups of 0 value with two colons (::). The previous example can be re-written as 2001:db8:85a3::8a2e:0370:7334.

Override/use flags

If a field has an associated use flag, it becomes effective only if the corresponding use flag is set to True. Otherwise, the default inherited from the “parent” is applied (this could be either the parent or Grid-level object).

When a field is first set to a value and the associated use flag is false, it will be automatically set to true.

5.8 Object restrictions

CSV export

The following objects support CSV import/export:
adminrole

Global search

The following objects support global search:

*ad_auth_service, admingroup, adminrole, adminuser, certificate:authservice, ldap_auth_service, member, mgm:grid, mgm:member, mgm:network, mgm:networkview, namedacl, natgroup, radius:authservice, snmpuser, tacacsplus:authservice*

Scheduling

The following objects support scheduling:

*fileop, mgm:grid, mgm:network, natgroup, smartfolder:global, smartfolder:personal*
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