WAPI Documentation

Release 2.9

Infoblox

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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:

What	Description
objref	A reference to an object. This must be a reference returned from an earlier call. For more information, see Object Reference.
WAPI	Used as a generic start in an URL. In real calls, this needs to be replaced with `/wapi/v2.9` or similar syntax.
objtype	The name of an object type, such as `network`.
field	The name of a field, such as `comment`.
value	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.
[*thing*]	These brackets are used to signify an optional value.
a | *b*	The symbol | is used to indicate that either *a* or *b* can be used.
thing...	`...` 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 `&` in arguments.
{ }	These brackets are used to group information in descriptions.

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:

Option	Description
_return_type	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.
_method	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**

> 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.

Option	Description
_schedinfo.scheduled_time	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.
_schedinfo.schedule_now	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.
_schedinfo.predecessor_task	Optional reference to a scheduled task that will be executed before the submitted task.
_schedinfo.warnlevel	Optional warning level for the operation, valid values are 'WARN' and 'NONE'. If not specified, 'NONE' will be used.
_approvalinfo.comment	Comment for the approval operation (this can be optional or required depending on the settings for the approval workflow).
_approvalinfo.query_mode	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".
_approvalinfo.ticket_number	Ticket number for the approval operation (this can be optional or required depending on the settings for the approval workflow).

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 version="1.0"?>
<list>
  <value type="object">
    <is_default type="boolean">true</is_default>
    <_ref>networkview/ZG5zLm5ldHdvcmtfdmlldyQw: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* }...]]

Component	Description
wapitype	The object type being referenced. Example: **network**.
refdata	Opaque internal object identifier. A sequence of letters, digits, "-" (dash) and "_" (underscore).
nameN	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.

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/ZG5 .... 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/
ZG5zLm5ldHdvcmskMTAuMC4wLjAvMjQvMA: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/
ZG5zLm5ldHdvcmskMTAuMC4wLjAvMjQvMA: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:

Content Type	Description
application/json	JSON format, see http://json.org for more information.
application/xml	XML format, see XML Format for more information.
text/xml	Alternative way to specify application/xml.
application/x-www-form-urlencoded	Arguments to method encoded in body. This is the same as specification after **?**, 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.

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:

Element	Description
<list>	Array, child nodes are items in list. Names of child elements are not significant (and can be same).
<X type="object">	Object X, child nodes are members of object. X can be any value if used outside an object context
<X type="T">	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.
<X null="true"/>	Field X with value null/None.

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):

```xml
<?xml version="1.0"?>
<list>
  <value type="object">
    <comment null="true"/>
    <_ref>network/ZG5zLm51dHdvcmskMTAuMC4wLjAvOC8w:20.0.0.0/8/default</_ref>
    <disable type="boolean">false</disable>
    <network>20.0.0.0/8</network>
    <network_view>default</network_view>
  </value>
</list>
```

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>
    <_ref>network/ZG5zLm51dHdvcmskOC4wLjAuMC84LzA:8.0.0.0/8/default</_ref>
  </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.

Status	Description
400	**Bad Request**. 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.)
500	**Server Error**. 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").

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):

Field	Value
Error	Error type (followed by an explanation after **:**).
code	Symbolic error code.
text	Explanation of the error.
trace	Debug trace from the server, only if debug is on.

Example of Error Return (trace shortened):

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

METHODS

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 objecs) the appliance returns an error if the number of returned objects would exceed 500.

Options

Method Option	Description
_max_results	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.
_return_fields	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.
_return_fields+	Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).
_return_as_object	If set to 1, a results object will be returned (see below for more information). If not specified, it defaults to 0.
_paging	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.
_page_id	If set, the specified page of results will be returned.
_proxy_search	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'.
_schema	If this option is specified, a WAPI schema will be returned (see below for more information).
_schema_version	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.
_get_doc	If this option is specified, a WAPI schema with documentation will be returned. Applicable only when _schema_version is 2.
_schema_searchable	If this option is specified, search only fields will also be returned. Applicable only when _schema_version is 2.

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:

Modifier	Functionality
!	Negates the condition.
:	Makes string matching case insensitive.
~	Regular expression search. Expressions are unanchored.
<	Less than or equal.
>	Greater than or equal.

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:

Field	Present	Description
result	Always	Actual result of the read operation, this is a list of objects.
next_page_id	Optional	If there was a paging request, this is the ID for the next page of results.

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 'ipv4addrs.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

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

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:

Field	Description
requested_version	Actual requested version of the WAPI schema.
supported_objects	List of supported objects in the requested version.
supported_versions	List of all supported versions.

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):

```
{ "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:

Field	Description
schema_version	The version of schema description requested.
supported_schema_versions	List of supported versions for schema description.

Example:

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

Returns with a body (lists shortened):

```
{ "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:

Field	Description
cloud_additional_restrictions	List of cloud restrictions.
fields	List of fields of the object.
restrictions	List of object restrictions.
type	Requested *objtype*.
version	Actual requested version of the WAPI object schema.

The fields specific to schema description #2:

Field	Description
schema_version	The version of schema description requested.
wapi_primitive	Determines if the requested WAPI primitive is object, structure or function call.

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 cloud_additional_restrictions field contains the list of additional unsupported operations when using Cloud Network Automation. Example of operations: "all", "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:

Parameter	Description
is_array	True if this field is an array.
name	Name of this field.
search-able_by	String with supported search modifiers: "=", "!", ":", "~", "<", ">".
stan-dard_field	True for fields that are returned by default.
supports	List of supported operations: "s", "w", "u", "r".
type	List of supported types.
wapi_primitive	Determines if the requested WAPI primitive is object, structure or function call.

The fields specific to schema description #2:

Field	Description
schema_version	The version of schema description requested.
wapi_primitive	Determines if the requested WAPI primitive is object, structure or function call.
supports_inline_funccall	Determines if the field can be initialized by calling an inline function.
doc	The documentation of this field. It's applicable only when **_get_doc=1** is used. The returned documentation string might contain ReStructuredText directives.

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):

```
{ "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 differt **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):

```
{ "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",
```

```
        "SUCCESS"
      ],
      "is_array": false,
      "name": "overall_status",
      "supports": "r",
      "type": ["enum"]
    },
    { "doc": "The test connectivity failed error message.",
      "is_array": false,
      "name": "error_message",
      "supports": "r",
      "type": ["string"]
    }
  ]
  },
  "standard_field": false,
  "supports": "rwu",
  "type": ["testconnectivityparams"],
  "wapi_primitive": "funccall"
},
{ "doc": "The notification REST template instance. The parameters of
          REST API endpoint template instance are prohibited to
          change.",
  "is_array": false,
  "name": "template_instance",
  "schema": {
    "fields": [
      { "doc": "The name of REST API template parameter.",
        "is_array": false,
        "name": "template",
        "supports": "rwu",
        "type": ["string"]
      },
      { "doc": "The notification REST template parameters.",
        "is_array": true,
        "name": "parameters",
        "supports": "rwu",
        "type": ["notification:rest:templateparameter"]
      }
    ]
  },
  "standard_field": false,
  "supports": "rwu",
  "type": ["notification:rest:templateinstance"],
  "wapi_primitive": "struct"
},
```

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 *[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).

	Method Option	Description
Options	_return_fields	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.
	_return_fields+	Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).

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

Status	Description
201	Object created (success)

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).

	Method Option	Description
Options	_return_fields	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.
	_return_fields+	Specified list of fields (comma separated) will be returned in addition to the basic fields of the object (documented for each object).

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

Status	Description
200	Object updated (success)

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

Status	Description
200	Object deleted (success)

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
name	

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

Field	Type	Req	R/O	Base	Search
ad_domain	String	N	N	N	: = ~
additional_search_paths	[String]	N	N	N	N/A
comment	String	N	N	N	: = ~
disable_default_search_path	Bool	N	N	N	N/A
disabled	Bool	N	N	N	N/A
domain_controllers	[struct]	N	N	N	N/A
name	String	Y	N	Y	: = ~
nested_group_querying	Bool	N	N	N	N/A
timeout	Unsigned int	N	N	N	N/A

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:

Field	Notes
name	

access_method

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

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

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

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 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

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

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

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
name	

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

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 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

Field	Type	Req	R/O	Base	Search
comment	String	N	N	Y	: = ~
disable	Bool	N	N	N	N/A
extattrs	Extattr	N	N	N	ext
name	String	Y	N	Y	: = ~

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:

Field	Notes
admin_groups	
name	
password	See the field description for more information

admin_groups

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

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

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

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

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.

password

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.

time_zone

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*).

use_time_zone

use_time_zone

Use flag for: time_zone

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

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.

role

role

The Role name to search for. If an empty string is specified, all users without Roles will be searched.

Type

String.

Search

The field is available for search via

- '=' (exact equality)

Notes

role is a search-only field.

Fields List

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

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

Search-only Fields List

Field	Type	Search
role	String	=

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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

Field	Type	Req	R/O	Base	Search
admin_groups	[String]	N	N	N	N/A
auth_services	obj	N	N	N	N/A
default_group	String	N	N	Y	=
usage_type	String	N	N	Y	=

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/SW5mb2Jsb3ggQXBwbGlhbmNl: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.

serial

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.

used_by

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.

valid_not_after

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

Field	Type	Req	R/O	Base	Search
distinguished_name	String	N	Y	Y	=
issuer	String	N	Y	Y	=
serial	String	N	Y	Y	=
used_by	String	N	Y	Y	N/A
valid_not_after	Timestamp	N	Y	Y	N/A
valid_not_before	Timestamp	N	Y	Y	N/A

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
ca_certificates	
name	

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.

ca_certificates

ca_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.

enable_password_request

`enable_password_request`

Determines if username/password authentication together with client certificate authentication is enabled or disabled.

Type

Bool.

Create

The default value is *True*.

Search

The field is not available for search.

enable_remote_lookup

`enable_remote_lookup`

Determines if the lookup for user group membership information on remote services is enabled or disabled.

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

max_retries

`max_retries`

The number of validation attempts before the appliance contacts the next responder.

Type

Unsigned integer.

Create

The default value is *0*.

Search

The field is not available for search.

name

`name`

The name of the certificate authentication service.

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.

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

`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

`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

`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`

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

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

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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.

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): **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**.

action

`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

`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

`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

`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

`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.

separator

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.

start_time

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.

status

status

The status of the import operation

Type

String.

Valid values are:

- COMPLETED
- FAILED
- PENDING
- RUNNING
- STOPPED
- TEST_COMPLETED
- TEST_FAILED
- TEST_RUNNING
- TEST_STOPPED
- UPLOADED

Search

The field is not available for search.

Notes

status is part of the base object.

status cannot be updated.

status cannot be written.

update_method

update_method

The update method to be used for the operation.

Type

String.

Valid values are:

- MERGE
- OVERRIDE

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

Field	Type	Req	R/O	Base	Search
action	String	N	N	Y	N/A
admin_name	String	N	Y	Y	N/A
end_time	Timestamp	N	Y	Y	N/A
file_name	String	N	Y	Y	N/A
file_size	Unsigned int	N	Y	Y	N/A
import_id	Unsigned int	N	Y	Y	=
lines_failed	Unsigned int	N	Y	Y	N/A
lines_processed	Unsigned int	N	Y	Y	N/A
lines_warning	Unsigned int	N	Y	Y	N/A
on_error	String	N	N	Y	N/A
operation	String	N	N	Y	N/A
separator	String	N	Y	Y	N/A
start_time	Timestamp	N	Y	Y	N/A
status	String	N	Y	Y	N/A
update_method	String	N	N	Y	N/A

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:

Field	Notes
name	
type	

allowed_object_types

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

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.

default_value

`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.

descendants_action

`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

`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_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

`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.

min

min

Minimum 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.

name

name

The name of the Extensible Attribute Definition.

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.

namespace

namespace

Namespace for the Extensible Attribute Definition.

Type

String.

Valid values are:

- CLOUD
- CLOUD_GM
- MSADSITES
- RIPE

- default

Search

The field is available for search via

- '=' (exact equality)

Notes

namespace cannot be updated.

namespace cannot be written.

type

type

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

Field	Type	Req	R/O	Base	Search
allowed_object_types	[String]	N	N	N	N/A
comment	String	N	N	Y	: = ~
default_value	String	N	N	Y	N/A
descendants_action	struct	N	N	N	N/A
flags	String	N	N	N	N/A
list_values	[struct]	N	N	N	N/A
max	Unsigned int	N	N	N	N/A
min	Unsigned int	N	N	N	N/A
name	String	Y	N	Y	: = ~
namespace	String	N	Y	N	=
type	String	Y	N	Y	=

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".

doimport (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 *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) restoredtcconfig

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 overriden. 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 is 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 donwload 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.

(download) 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.

(download) 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".

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

type (String.   Valid   values   are: "NTP_KEY_FILE",   "DNS_CFG",   "DHCP_CFG",   "DHCPV6_CFG", "RADIUS_CFG",   "DNS_CACHE",   "DNS_ACCEL_CACHE",   "DHCP_EXPERT_MODE_CFG",   "TRAF-FIC_CAPTURE_FILE", "DNS_STATS", "DNS_RECURSING_CACHE"). This parameter is mandatory. Member data type.

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 download-complete 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*.

Search

The field is not available for search.

consent_banner_setting

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

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

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

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:

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

Search

The field is not available for search.

enable_gui_api_for_lan_vip

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

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

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

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

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

external_syslog_server_enable

If set to True, external syslog servers are enabled.

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

http_proxy_server_setting

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.

informational_banner_setting

informational_banner_setting

The Grid informational level banner settings.

Type

A/An *Informational level banner setting* struct.

Create

The default value is:

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

Search

The field is not available for search.

is_grid_visualization_visible

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

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

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

ntp_setting

The Grid Network Time Protocol (NTP) settings.

Type

A/An *The Grid Network Time Protocol (NTP) settings structure* struct.

Create

The default value is:

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

Search

The field is not available for search.

password_setting

password_setting

The Grid password settings.

Type

A/An *Password settings* struct.

Create

The default value is:

```
   { '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

scheduled_backup

The scheduled backup configuration.

Type

A/An *Scheduled backup settings* struct.

Create

The default value is:

```
   { '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

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

security_banner_setting

The Grid security banner settings.

Type

A/An *Security banner settings* struct.

Create

The default value is:

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

Search

The field is not available for search.

security_setting

security_setting

The Grid security settings.

Type

A/An *Security settings* struct.

Create

The default value is:

```
  { '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,
```

```
'security_access_remote_console_enable': True,
'session_timeout': 600,
'ssh_perm_enable': True,
'support_access_enable': False}
```

Search

The field is not available for search.

snmp_setting

snmp_setting

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.

syslog_facility

syslog_facility

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*.

Search

The field is not available for search.

time_zone

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

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

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

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".

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 "UP-GRADE".

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", "RE-FUSED", "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

action (String. Valid values are: "UPGRADE_PAUSE", "UPGRADE_RESUME", "DISTRIBUTION_PAUSE", "DISTRIBUTION_RESUME", "DISTRIBUTION_START", "DISTRIBUTION_STOP", "DOWNGRADE", "REVERT", "UPGRADE", "UPGRADE_TEST_START", "UPGRADE_TEST_STOP", "UPLOAD"). This parameter is mandatory. Upgrade action.

Output fields

None

Fields List

Field	Type	Req	R/O	Base	Search
audit_log_format	String	N	N	N	N/A
audit_to_syslog_enable	Bool	N	N	N	N/A
consent_banner_setting	struct	N	N	N	N/A
dns_resolver_setting	struct	N	N	N	N/A
dscp	Unsigned int	N	N	N	N/A
email_setting	struct	N	N	N	N/A
enable_gui_api_for_lan_vip	Bool	N	N	N	N/A
enable_lom	Bool	N	N	N	N/A
enable_member_redirect	Bool	N	N	N	N/A
enable_recycle_bin	Bool	N	N	N	N/A
				Continued on next page	

Table 3.1 – continued from previous page

Field	Type	Req	R/O	Base	Search
external_syslog_backup_servers	[struct]	N	N	N	N/A
external_syslog_server_enable	Bool	N	N	N	N/A
http_proxy_server_setting	struct	N	N	N	N/A
informational_banner_setting	struct	N	N	N	N/A
is_grid_visualization_visible	Bool	N	N	N	N/A
name	String	N	N	N	= ~
nat_groups	[String]	N	N	N	N/A
ntp_setting	struct	N	N	N	N/A
password_setting	struct	N	N	N	N/A
scheduled_backup	struct	N	N	N	N/A
secret	String	N	N	N	N/A
security_banner_setting	struct	N	N	N	N/A
security_setting	struct	N	N	N	N/A
snmp_setting	struct	N	N	N	N/A
syslog_facility	String	N	N	N	N/A
syslog_servers	[struct]	N	N	N	N/A
syslog_size	Unsigned int	N	N	N	N/A
threshold_traps	[struct]	N	N	N	N/A
time_zone	String	N	N	N	N/A
token_usage_delay	Unsigned int	N	N	N	N/A
trap_notifications	[struct]	N	N	N	N/A
vpn_port	Unsigned int	N	N	N	N/A

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 Gird x509certificate

Example: grid:x509certificate/ZGldHdvcmtfdmlldyQxMTk: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

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

Field	Type	Req	R/O	Base	Search
issuer	String	N	Y	Y	: = ~
serial	String	N	Y	Y	: = ~
subject	String	N	Y	Y	: = ~
valid_not_after	Timestamp	N	Y	N	! < = >
valid_not_before	Timestamp	N	Y	N	! < = >

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:

Field	Notes
ldap_user_attribute	
name	
recovery_interval	
retries	
servers	
timeout	

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

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

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

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

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

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

Field	Type	Req	R/O	Base	Search
comment	String	N	N	Y	: = ~
disable	Bool	N	N	Y	N/A
ea_mapping	[struct]	N	N	N	N/A
ldap_group_attribute	String	N	N	N	N/A
ldap_group_authentication_type	String	N	N	N	N/A
ldap_user_attribute	String	Y	N	Y	N/A
mode	String	N	N	Y	=
name	String	Y	N	Y	: = ~
recovery_interval	Unsigned int	Y	N	N	N/A
retries	Unsigned int	Y	N	N	N/A
search_scope	String	N	N	N	=
servers	[struct]	Y	N	N	N/A
timeout	Unsigned int	Y	N	N	N/A

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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

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

disabled

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.

name

`name`

The name of the local user authentication service.

Type

String.

Search

The field is not available for search.

Notes

name is part of the base object.

name cannot be updated.

name cannot be written.

Fields List

Field	Type	Req	R/O	Base	Search
comment	String	N	Y	Y	N/A
disabled	Bool	N	Y	Y	N/A
name	String	N	Y	Y	N/A

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
host_name	
ipv6_setting	See the field description for more information
vip_setting	See the field description for more information

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:

```
empty
```

Search

The field is not available for search.

comment

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

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`

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

`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

`email_setting`

The email setting for member.

Type

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

Create

The default value is:

```
{ '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

external_syslog_server_enable is associated with the field *use_syslog_proxy_setting* (see *use flag*).

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:

```
empty
```

Search

The field is not available for search.

is_dscp_capable

`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:

```
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

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

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

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_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_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_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_external_syslog_backup_servers

Use flag for: external_syslog_backup_servers

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

use_lcd_input

use_lcd_input

Use flag for: lcd_input

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

use_remote_console_access_enable

use_remote_console_access_enable

Use flag for: remote_console_access_enable

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

use_snmp_setting

use_snmp_setting

Use flag for: snmp_setting

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

use_support_access_enable

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_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_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_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 *Pysical 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 *Pysical 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

Field	Type	Req	R/O	Base	Search
active_position	String	N	Y	N	N/A
additional_ip_list	[struct]	N	N	N	N/A
comment	String	N	N	N	: = ~
config_addr_type	String	N	N	Y	=
dns_resolver_setting	struct	N	N	N	N/A
dscp	Unsigned int	N	N	N	N/A
email_setting	struct	N	N	N	N/A
enable_ha	Bool	N	N	N	=
enable_member_redirect	Bool	N	N	N	N/A
enable_ro_api_access	Bool	N	N	N	=
extattrs	Extattr	N	N	N	ext
external_syslog_backup_servers	[struct]	N	N	N	N/A
external_syslog_server_enable	Bool	N	N	N	N/A
host_name	String	Y	N	Y	: = ~
ipv6_setting	struct	Y*	N	N	N/A
ipv6_static_routes	[struct]	N	N	N	N/A
is_dscp_capable	Bool	N	Y	N	N/A
lan2_enabled	Bool	N	N	N	N/A
lan2_port_setting	struct	N	N	N	N/A
lcd_input	Bool	N	N	N	N/A
master_candidate	Bool	N	N	N	=
member_service_communication	[struct]	N	N	N	N/A
mgmt_port_setting	struct	N	N	N	N/A
node_info	[struct]	N	N	N	N/A
ntp_setting	struct	N	N	N	N/A
passive_ha_arp_enabled	Bool	N	N	N	N/A
platform	String	N	N	Y	=
pre_provisioning	struct	N	N	N	N/A
preserve_if_owns_delegation	Bool	N	N	N	=
remote_console_access_enable	Bool	N	N	N	N/A
router_id	Unsigned int	N	N	N	=
					Continued on next page

Table 3.2 – continued from previous page

Field	Type	Req	R/O	Base	Search
service_status	[struct]	N	Y	N	N/A
service_type_configuration	String	N	N	Y	=
snmp_setting	struct	N	N	N	N/A
static_routes	[struct]	N	N	N	N/A
support_access_enable	Bool	N	N	N	N/A
support_access_info	String	N	Y	N	N/A
syslog_proxy_setting	struct	N	N	N	N/A
syslog_servers	[struct]	N	N	N	N/A
syslog_size	Unsigned int	N	N	N	N/A
threshold_traps	[struct]	N	N	N	N/A
time_zone	String	N	N	N	N/A
trap_notifications	[struct]	N	N	N	N/A
upgrade_group	String	N	N	N	N/A
use_dns_resolver_setting	Bool	N	N	N	N/A
use_dscp	Bool	N	N	N	N/A
use_email_setting	Bool	N	N	N	N/A
use_enable_member_redirect	Bool	N	N	N	N/A
use_external_syslog_backup_servers	Bool	N	N	N	N/A
use_lcd_input	Bool	N	N	N	N/A
use_remote_console_access_enable	Bool	N	N	N	N/A
use_snmp_setting	Bool	N	N	N	N/A
use_support_access_enable	Bool	N	N	N	N/A
use_syslog_proxy_setting	Bool	N	N	N	N/A
use_threshold_traps	Bool	N	N	N	N/A
use_time_zone	Bool	N	N	N	N/A
use_trap_notifications	Bool	N	N	N	N/A
use_v4_vrrp	Bool	N	N	N	N/A
vip_setting	struct	Y*	N	N	N/A
vpn_mtu	Unsigned int	N	N	N	N/A

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

Search-only Fields List

Field	Type	Search
ipv4_address	String	=
ipv6_address	String	=

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/b25lLnByb2R1Y3RfbGljZW5zZSQwLGRoY3AsMA: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

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.

---

expiry_date

expiry_date

The expiration timestamp of the license.

Type

Timestamp.

Search

The field is not available for search.

Notes

expiry_date cannot be updated.

expiry_date cannot be written.

hwid

hwid

The hardware ID of the physical node on which the license is installed.

Type

String.

Search

The field is available for search via

- '=' (exact equality)

Notes

hwid cannot be updated.

hwid cannot be written.

key

key

License string.

Type

String.

Search

The field is available for search via

- '=' (exact equality)

Notes

key cannot be updated.

key cannot be written.

kind

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

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

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

Field	Type	Req	R/O	Base	Search
expiration_status	String	N	Y	N	N/A
expiry_date	Timestamp	N	Y	N	N/A
hwid	String	N	Y	N	=
key	String	N	Y	N	=
kind	String	N	Y	N	=
limit	String	N	Y	N	=
limit_context	String	N	Y	N	N/A
type	String	N	Y	Y	=

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/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRCbG94: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:

Field	Notes
name	

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

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

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

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

sync_status

The synchronization status of the sub Grid.

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

total_members

The total number of members in this sub grid.

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

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

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

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

- UPGRADING

- UPGRADING_COMPLETE

- UPGRADING_FAILED

- UPGRADING_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

Field	Type	Req	R/O	Base	Search
alternate_version	String	N	Y	N	N/A
comment	String	N	N	N	: = ~
completed_members	Unsigned int	N	Y	N	N/A
connection_status	String	N	Y	N	N/A
disable	Bool	N	N	N	N/A
extattrs	Extattr	N	N	N	ext
gm_host_name	String	N	Y	N	: = ~
gm_virtual_ip	String	N	Y	N	N/A
id	Unsigned int	N	Y	Y	N/A
is_strict_delegate_mode	Bool	N	N	N	N/A
join_error_string	String	N	Y	N	N/A
join_status	String	N	Y	N	N/A
join_token	String	N	Y	N	N/A
join_token_expiration	Timestamp	N	Y	N	N/A
last_sync_time	Timestamp	N	Y	N	N/A
last_upgrade_date	Timestamp	N	Y	N	N/A
name	String	Y	N	Y	: = ~
overall_service_status	String	N	Y	N	N/A
sync_status	String	N	Y	N	N/A
total_members	Unsigned int	N	Y	N	N/A
total_network_containers	Unsigned int	N	Y	N	N/A
total_networks	Unsigned int	N	Y	N	N/A
upgrade_status	String	N	Y	N	N/A
upgrade_status_time	Timestamp	N	Y	N	N/A
version	String	N	Y	N	N/A

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/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRRCbG94: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`

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

`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

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 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

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

Field	Type	Req	R/O	Base	Search
comment	String	N	Y	N	: = ~
enable_ha	Bool	N	Y	N	N/A
extattrs	Extattr	N	Y	N	ext
grid	String	N	Y	Y	=
ha_status	String	N	Y	N	N/A
host_name	String	N	Y	Y	: = ~
is_master	Bool	N	Y	N	N/A
master_candidate_enabled	Bool	N	Y	N	N/A
member_status	String	N	Y	N	N/A
member_type	String	N	Y	N	N/A
service_status	[struct]	N	Y	N	N/A
uptime	Timestamp	N	Y	N	N/A
virtual_ip	String	N	Y	N	N/A
virtual_oid	String	N	Y	N	N/A

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

Field	Type	Req	R/O	Base	Search
grid	String	N	Y	Y	=
monitors	[struct]	N	Y	N	N/A
virtual_node	String	N	Y	Y	=

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/ZG5zLmRoY3Bfb3B0aW9uXzgyX2ZpbHRlciRRCbG94: 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:

Field	Notes
address	
grid	
netmask	
network_view	

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

`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

`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

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

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

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

- '=' (exact equality)

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

`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

Field	Type	Req	R/O	Base	Search
address	String	Y	N	Y	= ~
comment	String	N	N	N	: = ~
disable	Bool	N	N	N	N/A
extattrs	Extattr	N	N	N	ext
grid	String	Y	N	Y	=
is_container	Bool	N	Y	N	N/A
is_ipv4	Bool	N	Y	N	N/A
netmask	Unsigned int	Y	N	Y	< = >
network_view	String	Y	N	Y	=

Search-only Fields List

Field	Type	Search
contains_address	String	=

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

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

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.

id

`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.

name

`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.

Fields List

Field	Type	Req	R/O	Base	Search
comment	String	N	Y	N	: = ~
extattrs	Extattr	N	Y	N	ext
grid	String	N	Y	Y	=
id	String	N	Y	Y	=
name	String	N	Y	Y	: = ~

3.22 mgm:usermapping : The MGM User Mapping object.

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**.

auth_admin_group

`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

`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

`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.

Field	Type	Req	R/O	Base	Search
auth_admin_group	String	N	Y	N	N/A
auth_user_name	String	N	Y	Y	=
grid	String	N	Y	Y	=
ignore	Bool	N	Y	N	N/A
user_name	String	N	Y	Y	=

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
name	

access_list

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.

Fields List

Field	Type	Req	R/O	Base	Search
access_list	[struct]	N	N	N	N/A
comment	String	N	N	Y	: = ~
exploded_access_list	[struct]	N	Y	N	N/A
extattrs	Extattr	N	N	N	ext
name	String	Y	N	Y	: = ~

3.24 natgroup : Network Address Translation group object.

NAT Groups are necessary if the Grid master is behind a NAT device and there memberies 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/ZG5zLm9wdGlvbl9kZWZpbml0aW9uJGluZm8uLmZhbHNlLjI1Mg: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:

Field	Notes
name	

---

comment

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

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

Field	Type	Req	R/O	Base	Search
comment	String	N	N	Y	: = ~
name	String	Y	N	Y	: = ~

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": "networkcontainer/ZG5zLm5ldHdvcmtfY29udGFpbmVyMC4wLzI0LzA: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:

Field	Notes
group	One of group or role is required.
object	At least one of object or resource_type is required.
permission	
resource_type	At least one of object or resource_type is required.
role	One of group or role is required.

group

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

- GRID_REPORTING_PROPERTIES
- GRID_SECURITY_PROPERTIES
- HOST
- HOST_ADDRESS
- HSM_GROUP
- IDNS_CERTIFICATE
- IDNS_GEO_IP
- IDNS_LBDN
- IDNS_LBDN_RECORD
- IDNS_MONITOR
- IDNS_POOL
- IDNS_SERVER
- IDNS_TOPOLOGY
- IMC_AVP
- IMC_PROPERTIES
- IMC_SITE
- IPV6_DHCP_LEASE_HISTORY
- IPV6_FIXED_ADDRESS
- IPV6_FIXED_ADDRESS_TEMPLATE
- IPV6_HOST_ADDRESS
- IPV6_NETWORK
- IPV6_NETWORK_CONTAINER
- IPV6_NETWORK_TEMPLATE
- IPV6_RANGE
- IPV6_RANGE_TEMPLATE
- IPV6_SHARED_NETWORK
- IPV6_TEMPLATE
- KERBEROS_KEY
- MEMBER
- MEMBER_ANALYTICS_PROPERTIES
- MEMBER_CLOUD
- MEMBER_DHCP_PROPERTIES
- MEMBER_DNS_PROPERTIES
- MEMBER_FILE_DIST_PROPERTIES
- MEMBER_SECURITY_PROPERTIES
- MSSERVER

- 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

Field	Type	Req	R/O	Base	Search
group	String	Y*	N	Y	=
object	String	Y*	N	N	=
permission	String	Y	N	Y	=
resource_type	String	Y*	N	Y	=
role	String	Y*	N	Y	=

* 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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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:

Field	Notes
name	
servers	

acct_retries

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

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

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

disable

Determines whether the RADIUS auth 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.

enable_cache

enable_cache

Determines whether the authentication cache is enabled.

Type

Bool.

Create

The default value is *False*.

Search

The field is not available for search.

mode

mode

The way to contact the RADIUS server.

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

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

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

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

Field	Type	Req	R/O	Base	Search
acct_retries	Unsigned int	N	N	N	N/A
acct_timeout	Unsigned int	N	N	N	N/A
auth_retries	Unsigned int	N	N	N	N/A
auth_timeout	Unsigned int	N	N	N	N/A
cache_ttl	Unsigned int	N	N	N	N/A
comment	String	N	N	Y	: = ~
disable	Bool	N	N	Y	N/A
enable_cache	Bool	N	N	N	N/A
mode	String	N	N	N	=
name	String	Y	N	Y	: = ~
recovery_interval	Unsigned int	N	N	N	N/A
servers	[struct]	Y	N	N	N/A

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:

Field	Description
data	Dictionary. Data that is dependent on the method and is sent in the body of a normal WAPI request.
args	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.
method	String. Method of the operation (see below for more information).
object	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.

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:

Field	Description
enable_substitution	Boolean. Determines if the variables created in the stated request can be used for the current operation.
assign_state	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.
discard	Boolean. Result of the current operation will be skipped and will not be added to the returned result list.

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:

Method	Description
STATE:ASSIGN	Copy fields in the data object to the state object.
STATE:DISPLAY	Added the state object to the returned result list.

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/ZG5zLm5ldHdvcmtfdmlldyQxMTk: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

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

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

dependent_tasks

If this scheduled task has dependent tasks, their references will be returned in this field.

Type

A/An *scheduledtask* object array.

This field supports nested return fields as described *here*.

Search

The field is not available for search.

Notes

dependent_tasks cannot be updated.

dependent_tasks cannot be written.

execute_now

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

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

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

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

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

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

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

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

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

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.

changed_objects.name

changed_objects.**name**

The name of the changed object

Type

String.

Search

The field is available for search via

- ':=' (case insensitive search)

- '=' (exact equality)

- '~=' (regular expression)

Notes

changed_objects.name is a search-only field.

changed_objects.object_type

changed_objects.**object_type**

The WAPI object type of the specified object.

Type

String.

Search

The field is available for search via

- '=' (exact equality)

Notes

changed_objects.object_type is a search-only field.

changed_objects.type

changed_objects.**type**

The object type. Following are samples of valid type values:

- A Record

- AAAA Record

- Authoritative Zone

- Bulk Host

- CNAME Record

- Delegated Zone

- DHCP Range

- DNAME Record

- 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

Field	Type	Req	R/O	Base	Search
approval_status	String	N	N	Y	=
approver	String	N	Y	N	: = ~
approver_comment	String	N	N	N	N/A
automatic_restart	Bool	N	N	N	N/A
changed_objects	[struct]	N	Y	N	N/A
dependent_tasks	[obj]	N	Y	N	N/A
execute_now	Bool	N	N	N	N/A
execution_details	[String]	N	Y	N	N/A
execution_details_type	String	N	Y	N	N/A
execution_status	String	N	Y	Y	=
execution_time	Timestamp	N	Y	N	< = >
is_network_insight_task	Bool	N	Y	N	N/A
member	String	N	Y	N	=
predecessor_task	String	N	Y	N	N/A
re_execute_task	Bool	N	N	N	N/A
scheduled_time	Timestamp	N	N	N	< = >
submit_time	Timestamp	N	Y	N	< = >
submitter	String	N	Y	N	: = ~
submitter_comment	String	N	N	N	N/A
task_id	Unsigned int	N	Y	Y	=
task_type	String	N	Y	N	N/A
ticket_number	String	N	Y	N	N/A

Search-only Fields List

Field	Type	Search
changed_objects.action	String	=
changed_objects.name	String	: = ~
changed_objects.object_type	String	=
changed_objects.type	String	: = ~

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

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

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:sip
- dtc:monitor:snmp
- dtc:monitor:tcp
- dtc:pool
- dtc:server
- dtc:topology
- filterfingerprint
- filtermac
- filternac
- filteroption
- filterrelayagent
- fingerprint

- fixedaddress
- fixedaddresstemplate
- ftpuser
- grid:dhcpproperties
- grid:dns
- grid:filedistribution
- grid:servicerestart:group
- grid:threatanalytics
- ipv6dhcpoptionspace
- 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

- '=' (exact equality)

Notes

objtype is a search-only field.

search_string

`search_string`

Pattern to search for. In most cases, using regular expression (~=) will be the preferred method. Using equal match (=) matches only complete, not partial, fields.

Type

String.

Search

The field is available for search via

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

Notes

search_string is a search-only field.

Search-only Fields List

Field	Type	Search
address	String	=
duid	String	=
fqdn	String	: = ~
mac_address	String	=
objtype	String	=
search_string	String	: = ~

3.30 smartfolder:children : Smart Folder children object.

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.

Object Reference

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

resource

The object retuned 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

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

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

The Smart Folder query values groupping 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

The Smart Folder query groupping 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

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.

Fields List

Field	Type	Req	R/O	Base	Search
resource	String	N	Y	Y	N/A
value	struct	N	Y	Y	N/A
value_type	String	N	Y	Y	N/A

Search-only Fields List

Field	Type	Search
group_by_values	[struct]	=
group_bys	[struct]	=
query_items	[struct]	=
smart_folder	String	=

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/ ZG5zLm9wdGlvbl9kZWZpbml0aW9uJGluZm8uLmZhbHNlLjI1Mg: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:

Field	Notes
name	

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 groupping 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.

---

name

`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

`query_items`

The global Smart Folder filter queries.

Type

A/An *Smart Folder query item structure* struct array.

Create

The default value is:

```
[ { '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".

is_shortcut (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

Field	Type	Req	R/O	Base	Search
comment	String	N	N	Y	: = ~
group_bys	[struct]	N	N	N	N/A
name	String	Y	N	Y	: = ~
query_items	[struct]	N	N	N	N/A

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/ ZG5zLm9wdGlvbl9kZWZpbml0aW9uJGluZm8uLmZhbHNlLjI1Mg:SF1/false

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, is_shortcut, name**.

The following fields are required to create this object:

Field	Notes
name	

comment

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

group_bys

The personal Smart Folder groupping 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:

```
[ { '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".

is_shortcut (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

Field	Type	Req	R/O	Base	Search
comment	String	N	N	Y	: = ~
group_bys	[struct]	N	N	N	N/A
is_shortcut	Bool	N	Y	Y	=
name	String	Y	N	Y	: = ~
query_items	[struct]	N	N	N	N/A

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:

Field	Notes
authentication_password	See the field description for more information
authentication_protocol	
name	
privacy_password	See the field description for more information
privacy_protocol	

authentication_password

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

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

`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

`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

`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 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

`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

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

Field	Type	Req	R/O	Base	Search
authentication_password	String	Y*	N	N	N/A
authentication_protocol	String	Y	N	N	N/A
comment	String	N	N	Y	: = ~
disable	Bool	N	N	N	N/A
extattrs	Extattr	N	N	N	ext
name	String	Y	N	Y	= ~
privacy_password	String	Y*	N	N	N/A
privacy_protocol	String	Y	N	N	N/A

* 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:

Field	Notes
name	
servers	

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

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

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

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.

disable

disable

Determines whether the TACACS+ authentication service object 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.

name

name

The TACACS+ 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.

servers

servers

The list of the TACACS+ servers used for authentication.

Type

A/An *The TACACS+ server structure* struct array.

Create

The field is required on creation.

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 (A/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

Field	Type	Req	R/O	Base	Search
acct_retries	Unsigned int	N	N	N	N/A
acct_timeout	Unsigned int	N	N	N	N/A
auth_retries	Unsigned int	N	N	N	N/A
auth_timeout	Unsigned int	N	N	N	N/A
comment	String	N	N	Y	: = ~
disable	Bool	N	N	Y	N/A
name	String	Y	N	Y	: = ~
servers	[struct]	Y	N	N	N/A

STRUCTS

4.1 ad_auth_server : Active Directory Authentication Server.

Represents an AD authentication server (i.e., domain controller) that is used to authenticate administrators.

auth_port

auth_port

The authentication port.

Type

Unsigned integer.

Create

The default value is *undefined*.

comment

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*.

disabled

disabled

Determines if the AD authorization server is disabled.

Type

Bool.

Create

The default value is *False*.

encryption

encryption

The type of encryption to use.

Type

String.

Valid values are:

- NONE
- SSL

Create

The default value is *NONE*.

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.

mgmt_port

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

object_type

The object type. This is undefined if the object is not yet supported.

Type

String.

Notes

object_type cannot be updated.

object_type cannot be written.

properties

`properties`

A list of properties that are being changed.

Type

String array.

Notes

properties cannot be updated.

properties cannot be written.

type

`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

`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 *undefined*.

4.5 extensibleattributedef:listvalues : List of values.

The structure contains the list of extensible attribute values.

value

value

Enum value

Type

String.

Create

The default value is *undefined*.

4.6 extsyslogbackupserver : External syslog backup server.

This structure contains information about the external server for backing up the rotated syslog files.

address

address

The IPv4 or IPv6 address of the backup syslog server.

Type

String.

Create

The field is required on creation.

directory_path

directory_path

The directory path for the replication of the rotated syslog files.

Type

String.

Create

The default value is *undefined*.

enable

enable

If set to True, the syslog backup server is enabled.

Type

Bool.

Create

The default value is *True*.

password

password

The password of the backup syslog server.

Type

String.

Create

The default value is *undefined*.

Notes

password is not readable.

port

port

The port used to connect to the backup syslog server.

Type

Unsigned integer.

Create

The default value is *22*.

protocol

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

`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

`enable`

Determines whether the consent banner is enabled.

Type

Bool.

Create

The default value is *False*.

message

`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

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

enable

Determines whether the display of the informational level banner is enabled.

Type

Bool.

Create

The default value is *True*.

message

message

The message included in the informational level banner.

Type

String.

Create

The default value is *empty*.

4.9 grid:ntp : The Grid Network Time Protocol (NTP) settings structure.

The Grid NTP settings structure is used to control the NTP synchronization of the date and time for all Infoblox appliances.

enable_ntp

enable_ntp

Determines whether NTP is enabled on the Grid.

Type

Bool.

Create

The default value is *False*.

ntp_keys

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

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`

Determines 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

nic_failover_enable_primary

Prefer LAN1 when available.

Type

Bool.

Create

The default value is *False*.

nic_failover_enabled

nic_failover_enabled

Determines if NIC failover is enabled or not.

Type

Bool.

Create

The default value is *False*.

v6_network_setting

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

mgmt_ipv6addr

Public IPv6 address for the LAN1 interface.

Type

String.

Create

The default value is *undefined*.

mgmt_lan

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

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

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.

address

address

The IP address or FQDN of the LDAP server.

Type

String.

Create

The field is required on creation.

authentication_type

authentication_type

The authentication type for the LDAP server.

Type

String.

Valid values are:

- ANONYMOUS
- AUTHENTICATED

Create

The default value is *ANONYMOUS*.

base_dn

base_dn

The base DN for the LDAP server.

Type

String.

Create

The field is required on creation.

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.

enable_external_ntp_servers

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*.

enable_ntp

enable_ntp

Determines whether the NTP service is enabled on the member.

Type

Bool.

Create

The default value is *False*.

ntp_keys

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

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

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_ntp_keys

Use flag for: ntp_keys

Type

Bool.

Create

The default value is *False*.

use_ntp_kod

use_ntp_kod

Use flag for: ntp_kod

Type

Bool.

Create

The default value is *False*.

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

OID of the physical node.

Type

String.

Notes

physical_oid cannot be updated.

physical_oid cannot be written.

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

- OFFLINE

- UNKNOWN

- WARNING

- WORKING

Notes

status cannot be updated.

status cannot be written.

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.

status

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.

enabled

enabled

Determines if MGMT port settings should be enabled.

Type

Bool.

Create

The default value is *False*.

security_access_enabled

security_access_enabled

Determines if security access on the MGMT port is enabled or not.

Type

Bool.

Create

The default value is *False*.

vpn_enabled

vpn_enabled

Determines 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

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

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

nat_external_ip

The NAT external IP address for the node.

Type

String.

Create

The default value is *empty*.

paid_nios

paid_nios

True if node is Paid NIOS.

Type

Bool.

Notes

paid_nios cannot be updated.

paid_nios cannot be written.

physical_oid

physical_oid

The OID of the physical node.

Type

String.

Notes

physical_oid cannot be updated.

physical_oid cannot be written.

service_status

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

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

address_ac

The client address/network with access control.

Type

A/An *Address ac* struct.

Create

The field is required on creation.

service

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

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

acl_type

The NTP access control list type.

Type

String.

Valid values are:

- LIST
- NAMED_ACL
- NONE

Create

The default value is *NONE*.

named_acl

named_acl

The NTP access named ACL.

Type

String.

Create

The default value is *empty*.

service

service

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*.

4.25 ntpkey : The Network Time Protocol (NTP) authentication key structure.

The NTP authentication key is used by NTP servers to authenticate clients.

number

number

The NTP authentication key identifier.

Type

Unsigned integer.

Create

The field is required on creation.

string

string

The NTP authentication key string.

Type

String.

Create

The field is required on creation.

type

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

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

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

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

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

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.

auto_port_setting_enabled

auto_port_setting_enabled

Enable or disalbe the auto port setting.

Type

Bool.

Create

The default value is *undefined*.

duplex

duplex

The port duplex; if speed is 1000, duplex must be FULL.

Type

String.

Valid values are:

- FULL
- HALF

Create

The default value is *undefined*.

speed

speed

The port speed; if speed is 1000, duplex is FULL.

Type

String.

Valid values are:

- 10
- 100
- 1000

Create

The default value is *undefined*.

4.29 preprovision : Pre-provisioning Settings.

The structure contains pre-provisioning settings.

hardware_info

hardware_info

An array of structures that describe the hardware being pre-provisioned.

Type

A/An *Pre-provisioning Hardware Settings* struct array.

Create

The field is required on creation.

licenses

licenses

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.

Type

Enum values array.

Valid values are:

- cloud_api
- dhcp
- dns
- dtc
- enterprise
- fireeye
- ms_management
- nios
- rpz
- sw_tp
- tp_sub
- vnios

Create

The field is required on creation.

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.

comment

comment

A descriptive comment for this queries user.

Type

String.

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

Create

The default value is *empty*.

user

user

The SNMPv3 user.

Type

String.

Create

The default value is *empty*.

4.32 radius:server : The RADIUS authentication server structure.

This structure is used for RADIUS authentication configuration.

acct_port

acct_port

The accounting port.

Type

Unsigned integer.

Create

The default value is *The default value is 1813 if use_accounting is set to False*.

---

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

disable

Determines whether the RADIUS server is disabled.

Type

Bool.

Create

The default value is *False*.

shared_secret

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

use_accounting

Determines whether the RADIUS accounting is enabled.

Type

Bool.

Create

The default value is *True*.

use_mgmt_port

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.

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

operation

The scheduled backup operation.

Type

String.

Valid values are:

- BACKUP
- NONE
- RESTORE

Create

The default value is *NONE*.

password

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

path

The directory path to the backup file stored on the server.

Type

String.

Create

The default value is *empty*.

restore_password

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

`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

`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

`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:

- 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.

address

address

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*.

enabled

enabled

Determines if email notification is enabled or not.

Type

Bool.

Create

The default value is *False*.

relay

relay

The relay name or IP address.

Type

String.

Create

The default value is *empty*.

relay_enabled

relay_enabled

Determines if email relay is enabled or not.

Type

Bool.

Create

The default value is *False*.

4.37 setting:httpproxyserver : HTTP Proxy Server Setting.

The Grid HTTP Proxy Server Setting object provides information about the HTTP proxy server configuration.

address

address

The address of the HTTP proxy server.

Type

String.

Create

The field is required on creation.

certificate

certificate

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.

Type

String.

Create

The default value is *undefined*.

Notes

certificate is not readable.

comment

comment

The descriptive comment for the HTTP proxy server configuration.

Type

String.

Create

The default value is *empty*.

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*.

---

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*).

gateway

gateway

The default gateway for the Grid Member.

Type

String.

Create

The default value is *empty*.

primary

primary

Determines if the current address is the primary VLAN address or not.

Type

Bool.

Create

The default value is *True*.

subnet_mask

subnet_mask

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

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

num_upper_char

The minimum number of uppercase characters.

Type

Unsigned integer.

Create

The default value is *0*.

password_min_length

password_min_length

The minimum length of the password.

Type

Unsigned integer.

Create

The default value is *4*.

reminder_days

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*.

4.40 setting:security : Security settings.

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*.

login_banner_enable

login_banner_enable

If set to True, the login banner is enabled.

Type

Bool.

Create

The default value is *True*.

login_banner_text

login_banner_text

The login banner text.

Type

String.

Create

The default value is *Disconnect NOW if you have not been expressly authorized to use this system*.

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*.

security_access_enable

security_access_enable

If set to True, HTTP access restrictions are enabled.

Type

Bool.

Create

The default value is *False*.

security_access_remote_console_enable

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

session_timeout

The session timeout interval in seconds.

Type

Unsigned integer.

Create

The default value is *600*.

ssh_perm_enable

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

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

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

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

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

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

`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

`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

`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.

value

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.

field_type

field_type

The Smart Folder query field type.

Type

String.

Valid values are:

- EXTATTR
- NORMAL

Create

The field is required on creation.

name

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*.

value_date

`value_date`

The timestamp value of the Smart Folder query.

Type

Timestamp.

Create

The default value is *undefined*.

value_integer

`value_integer`

The integer value of the Smart Folder query.

Type

Integer.

Create

The default value is *undefined*.

value_string

`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.

type

`type`

Type for alternative name for certificate.

Type

String.

Valid values are:

- DNS

- EMAIL

- IP

- URI

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

certificate

Reference to the underlying *X509Certificate object*.

Type

String.

This field supports nested return fields as described *here*.

Notes

certificate cannot be updated.

certificate cannot be written.

certificate_token

certificate_token

The token returned by *the uploadinit function call in object fileop*.

Type

String.

Create

Field returned is required if connection_type is "STCP".

Notes

certificate_token is not readable.

connection_type

connection_type

The connection type for communicating with this server.

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

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

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

port

The port this server listens on.

Type

Unsigned integer.

Create

The default value is *514*.

severity

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 *DEBUG*.

4.50 tacacsplus:server : The TACACS+ server structure.

This structure is used for TACACS+ authentication configuration.

address

`address`

The valid IP address or FQDN of the TACACS+ server.

Type

String.

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

Create

The field is required on creation.

auth_type

`auth_type`

The authentication protocol.

Type

String.

Valid values are:

- ASCII
- CHAP
- PAP

Create

The default value is *CHAP*.

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

use_accounting

Determines whether the TACACS+ accounting server is used.

Type

Bool.

Create

The default value is *False*.

use_mgmt_port

use_mgmt_port

Determines 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

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

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

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

- RecursiveClients

- Reporting

- RootFS

- SNMP

- SSH

- SerialConsole

- SwapUsage

- Syslog

- System

- TFTP

- Taxii

- ThreatAnalytics

- ThreatProtection

Create

The field is required on creation.

4.53 trapreceiver : Trap receiver.

This structure contains information about an SNMP trap receiver.

address

address

The address of the trap receiver.

Type

String.

Create

The default value is *empty*.

comment

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

`user`

The SNMPv3 user for this trap receiver.

Type

String.

Create

The default value is *empty*.

4.54 tsigac : TSIG ac.

This struct represents a TSIG key.

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

`tsig_key_alg`

The TSIG key algorithm.

Type

String.

Valid values are:

- HMAC-MD5
- HMAC-SHA256

Create

The default value is *HMAC-MD5*.

tsig_key_name

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_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/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA: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
```

Read a network

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/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16",
        "network": "10.1.0.0/16",
        "network_view": "default"
    },
    {
        "_ref": "network/ZG5zLm5ldHdvcmskMTAuMi4wLjAvMTYvMA:10.2.0.0%2F16",
        "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.

Modify a network

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/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:\
    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/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA: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/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:10.1.0.0%2F16",
        "comment": "Sample comment",
        "network": "10.1.0.0/16",
        "network_view": "default"
    },
    {
        "_ref": "network/ZG5zLm5ldHdvcmskMTAuMi4wLjAvMTYvMA:10.2.0.0%2F16",
        "network": "10.2.0.0/16",
        "network_view": "default"
    }
]
```

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 https://192.168.1.2/wapi/v2.9/network \
    -d comment~:=sample
```

The server returns the network we just modified:

```
[
    {
        "_ref": "network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA: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:

```
[]
```

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 \
    https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:\
    10.1.0.0%2F16
```

The server returns the reference of the object it just deleted, if the deletion was successful:

```
"network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA: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/ZG5zLm5ldHdvcmskMTAuMi4wLjAvMTYvMA:\
    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:

```
[]
```

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/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:

```
{
    "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:

```
{
    "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/ZG5zLmJpbmRfYSQuX2RLGEyLDEwLjEuMC4y: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'
{
    "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'
{
    "result": [
        {
            "_ref": "record:a/ZG5zLmJpbmRfYSQuX2RLGEyLDEwLjEuMC4y: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 version="1.0"?>
<value>network/ZG5zLm5ldHdvdMS4wLjAvMTYvMA:10.1.0.0%2F16</value>
```

To create another network, send another POST request:

```
curl -k1 -u admin:testpw -X POST -HAccept:text/xml -HContent-Type:text/xml \
    --data-binary '<value type="object"><network>10.2.0.0/16</network></value>' \
    https://192.168.1.2/wapi/v2.9/network?_return_type=xml-pretty
```

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?_return_type=xml-pretty
```

The server returns a list with both networks:

```
<?xml version="1.0"?>
<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:

```
curl -k1 -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?\
    _return_type=xml-pretty
```

The server still returns the network reference. Note that this could be different from before:

```
<?xml version="1.0"?>
<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:

```
curl -k1 -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 version="1.0"?>
<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>
  <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>
```

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 -HAccept: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 version="1.0"?>
<list>
  <value type="object">
    <comment>Sample comment</comment>
    <network_view>default</network_view>
    <_ref>network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA: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 -HAccept: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 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 -HAccept:text/xml \
    https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdvcmskMLjAvMTYvMA: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 version="1.0"?>
<value>network/ZG5zLm5ldHdvcmskMLjAvMTYvMA:10.1.0.0%2F16</value>
```

To delete the other network, send the following:

```
curl -k1 -u admin:testpw -X DELETE -HAccept:text/xml \
    https://192.168.1.2/wapi/v2.9/network/ZG5zLm5ldHdAuMi4wLjAvMTYvMA:10.2.0.0%2F16 \
    -d _return_type=xml-pretty
```

Note that both networks have been removed:

```
curl -k1 -u admin:testpw -X GET -HAccept: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 type="object"><ipv4addr>10.222.0.12</ipv4addr>'\
'</value></list></ipv4addrs></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 -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&_schedinfo.scheduled_time=1367752903'
```

The server returns a reference of the created scheduled task:

```
<?xml version="1.0"?>
<value>scheduledtask/b25lLnF1ZXVlZF90YXNrJDA:0/PENDING</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 -HContent-Type:text/xml --data-binary \
    '<value type="object"><network>10.2.0.0/16</network></value>' \
    https://192.168.1.2/wapi/v2.9/network?_return_type=xml-pretty
```

the server will then return a reference to the network that was just created:

```
<?xml version="1.0"?>
<value>network/ZG5zLm5ldHdvcmskMTAuMS4wLjAvMTYvMA:10.1.0.0/16/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 -HContent-Type:text/xml --data-binary \
'<value type="object"><exclude><list><value>10.1.1.0/24</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": "eJydUMtOwzAQvO+...",
    "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:

```
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": "eJydUMtOwzAQvO+..."
}'
```

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/b25lLmVhcF9j...",
        "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/b25lLmFkbWluJGVtcGxveWVlQGluZm9ibG94LmNvbQ:employee%40infoblox.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",
```

```
    "ocsp_check": "DISABLED",
    "ca_certificates": [
        "cacertificate/b25lLmVhcF9j..."
    ],
    "enable_password_request": false,
    "client_cert_subject": "",
    "trust_model": "DIRECT",
    "user_match_type": "AUTO_MATCH",
    "auto_populate_login": "SAN_EMAIL"
}'
```

The server will return a reference to the certificate:authservice object that was just created:

```
"certificate:authservice/b25lLm9jc3BfYXV0aF9zZXJ2aWNlJGNlcnQtbG9naW4: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* 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/b25lLnJlbW90ZV9hZG1pbl9wb2xpY3kkMA:authpolicy",
        "auth_services": [
            "localuser:authservice/Li5sb2NhbF91c2VyX2F1dGhfc2VydmljZSQw: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/b25lLnJlbW90ZV9hZG1pbl9wb2xpY3kkMA:authpolicy -d \
'{
    "auth_services": [
        "certificate:authservice/b25lLm9jc3BfYXV0aF9zZXJ2aWNlJGNlcnQtbG9naW4:cert-login",
        "localuser:authservice/Li5sb2NhbF91c2VyX2F1dGhfc2VydmljZSQw:Local%20Admin"
    ]
}'
```

The server will return reference to the authpolicy object if the operation succeeds:

```
"authpolicy/b25lLnJlbW90ZV9hZG1pbl9wb2xpY3kkMA: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
CApath: 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=
< Transfer-Encoding: chunked
<

[
    {
```

```
        "_ref": "admingroup/b25lLmFkbWluX2dyb3VwJC5zcGx1bmstcmVwb3J0aW5LWdyb3Vw:splunk-reporting-gro
        "name": "splunk-reporting-group"
    },
    {
        "_ref": "admingroup/b25lLmFkbWluX2dyb3VwJC5hZG1pbi1ncm91cA:admin-group",
        "name": "admin-group"
    },
    {
        "_ref": "admingroup/b25lLmFkbWluX2dyb3VwJC5jbG91ZC1hcGktb25seQ:cloud-api-only",
        "comment": "Admins allowed to perform API request on Cloud API",
        "name": "cloud-api-only"
    }
]

* Connection #0 to host 127.0.0.1 left intact
```

Note that you can incorporate the client key in the client certificate (simply concatenate the certificate and key files), and then use only the *–cert* option.

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:

```
{
    "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:

```
[{
    "method": "STATE:ASSIGN",
    "data": {
            "host_name": "test.somewhere.com"
    }
},
```

```
{
    "method": "GET",
    "object": "record:host",
    "data": {
            "name": "##STATE:host_name:##"
    },
    "assign_state": {
                    "host_ref": "_ref"
    },
    "enable_substitution": true,
    "discard": true
 },
 {
    "method": "PUT",
    "object": "##STATE:host_ref:##",
    "enable_substitution": true,
    "data": {
            "comment": "new comment"
    },
    "args": {
        "_return_fields": "comment"
    },
    "assign_state": {
                    "updated_comment": "comment"
    },
    "discard": true
 },
 {
    "method": "STATE:DISPLAY"
 }
]
```

Returns with a body:

```
{
    "host_name": "test.somewhere.com",
    "host_ref": "record:host/ZG5...zdA:test.somewhere.com/default",
    "updated_comment": "new comment"
}
```

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:

```
[{
    "method": "GET",
    "object": "network",
    "data": {
            "network": "10.1.0.0/16"
    },
    "args": {
            "_return_fields+": "extattrs"
```

```
        },
    "assign_state": {
        "ea_value": "*Building"
    },
    "discard": true
},
{
    "method": "POST",
    "object": "network",
    "data": {
            "network": "20.1.0.0/16",
            "extattrs": {
                        "Building": {
                                    "value": "##STATE:ea_value:##"
                        }
            }
    },
    "enable_substitution": true
}
]
```

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.

descendants_action:option_without_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' 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:

```
"extattrs-": {
            "attrstring": {},
            "attrinteger": {}
            }
```

To remove an extensible attribute that has a specific value, the value should be passed to the request as follows:

```
"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:

```
"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:370:7334.

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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