



**FUDO**

Fudo Enterprise 5.5 - API  
documentation

Fudo Security

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### Documentation Structure

This API documentation consists of:

- *API overview* section providing an overview of key concepts that clarify important topics, such as API purpose, nomenclature, request format, methods, possible responses, endpoints and objects specification, parameters and attribute's properties.
- Sections describing endpoints related to individual objects and Fudo Enterprise functionalities.

### Conventions and symbols

This documentation is written using the following conventions:

- *italic* - this formatting is used to mark user interface elements.
- **example** - this formatting is used to write example value of a parameter, API method name or code example.
- Note field:

---

**Note:** Note field usually contains additional information closely related with described topic, e.g. suggestion concerning given procedure step; additional conditions which have to be met.

---

- Warning field:

**Warning:** Warning field usually contains essential information concerning system's operation. Not adhering to this information may have irreversible consequences.

### Disclaimer



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The purpose of Fudo Enterprise Application Programming Interface (API) is to provide users and administrators with the ability to speed up and automate time-consuming tasks related to remote access management. This API can be used to retrieve data about objects, manage large numbers of objects or integrate Fudo Enterprise with external systems.

---

**Note:** Please note that there are two versions of the Fudo Enterprise API, and use of each of them depend on the actual objects that need to be operated on:

- **APIv1** handles system authentication and operations on Password Changers and Password Changer Policies.
- **APIv2** handles system authentication and operations on all the other objects.

APIv1 is being systematically replaced with APIv2 and ultimately only APIv2 will remain in use.

---

## 2.1 API purpose

Fudo API provides a wide range of functionality for administrators, including:

- Retrieving data from and about Fudo objects, like users, servers, accounts, safes, listeners, etc.
- Searching and filtering objects.
- Adding, editing and deleting large numbers of objects and their attributes.
- Automatization of time-consuming admin tasks related to managing objects.
- Integration with external systems.

## 2.2 API nomenclature

For a better understanding of our API, please refer to the terminology we have adopted:

- **object** - the main elements of the API, on which endpoints operate. For example, user, account, listener, server, etc.
- **attribute** - a feature of the object. For example, the attributes of the object `account` include `id`, `name`, `description`, etc.
- **property** - an attribute property in the object specification. For example, the attribute `name` properties of the `account` object are: `type`, `required`, `ignore_case` and `unique`.

Pattern example:

```
"object": {
  "attribute": {
    "property0": "value",
    "property1": "value",
    "property2": "value",
    "property3": "value",
  },
}
```

Partial code example:

```
"account": {
  "id": {
    "type": "string",
    "readonly": true,
    "grant": "account",
    "unique": true
  },
  "name": {
    "type": "string",
    "required": true,
    "ignore-case": true,
    "unique": true
  },
  "description": {
    "type": "string"
  }
}
```

## 2.3 Request format

Please note that the query path differs depending on the API endpoints version you are using.

---

**Note:** **APIv1** request format:

```
<method> http://<fudo_address>/api/system/<endpoint>[?<params>] <body>
```

**APIv2** request format:

```
<method> http://<fudo_address>/api/v2/<endpoint>[?<params>] <body>
```

Where:

- `<method>` - is HTTP method (GET, POST, PATCH or DELETE only allowed),
- `<fudo address>` - is Fudo Enterprise IP address (e.g., 10.0.0.0),
- `<endpoint>` - is chosen endpoint (e.g., `/objspec/user`),
- `<params>` - is URL parameters available for a specific method (e.g., `filter`, `offset`, `limit`),
- `<body>` - is request body in JSON format.

An example of the request that returns a list of available users (with no parameters specified and no body needed):

```
GET https://10.0.0.0/api/v2/user
```

An example of the request that creates user with `user` role and `test-user` name:

```
POST https://10.0.0.0/api/v2/user
```

```
{
  "role": "user",
  "name": "test-user"
}
```

## 2.4 Methods

Please find below list of allowed methods while using this API.

GET	For reading data of an existing object. No request body is allowed.
POST	For creating an object. Requires a request body, specified in JSON format, that contains the values for properties of the object that is about to be created. The exception is <code>/session/&lt;session_id&gt;/backup/&lt;backup_id&gt;</code> endpoint, which does not require a body.
PATCH	For modifying an existing object. Requires a request body, specified in JSON format, that contains the values for properties of the object.
DELETE	For removing an existing object. No request body is allowed.

## 2.5 Possible responses

Please find below list of possible responses to API queries.

Code	Status	Description
200	success	OK
201	success	CREATED
400	failure	BAD REQUEST; message examples: <ul style="list-style-type: none"> <li>• Unrecognized endpoint</li> <li>• Request body is not allowed for this endpoint</li> </ul>
401	failure	UNAUTHORIZED; message example: <ul style="list-style-type: none"> <li>• Unauthorized request</li> <li>• Missing session key</li> <li>• Missing %s header</li> <li>• Referer mismatch</li> <li>• Unable to find the user</li> <li>• User is blocked</li> </ul>
403	failure	FORBIDDEN; message example: Permission denied
404	failure	NOT FOUND; message example: Object not found
500	failure	INTERNAL SERVER ERROR; message example: Database error
503	failure	SERVICE UNAVAILABLE; message example: Fudo is unhealthy

## 2.6 Endpoints and objects specification

To better understand Fudo Enterprise API functionality, we can group endpoints according to object types defined in Fudo Enterprise data model.

Object type	Endpoints example
user	<ul style="list-style-type: none"> <li>• /user</li> <li>• /user/&lt;id&gt;</li> <li>• /user/safe/time_policy</li> <li>• /user/safe</li> <li>• ...</li> </ul>
server	<ul style="list-style-type: none"> <li>• /server</li> <li>• /server/&lt;id&gt;</li> <li>• ...</li> </ul>

Continued on next page

Table 1 – continued from previous page

Object type	Endpoints example
account	<ul style="list-style-type: none"> <li>• /account</li> <li>• /account/&lt;id&gt;</li> <li>• /account/safe/listener</li> <li>• ...</li> </ul>
safe	<ul style="list-style-type: none"> <li>• /safe</li> <li>• /safe/&lt;id&gt;</li> <li>• /grant/safe</li> <li>• ...</li> </ul>
listener	<ul style="list-style-type: none"> <li>• /listener</li> <li>• /listener/&lt;id&gt;</li> <li>• /grant/listener</li> <li>• ...</li> </ul>

We can also distinguish additional types of endpoint groups corresponding to the objects listed below:

- pool
- external\_authentication
- session
- remote\_app

... and also groups of functional methods, like:

- objspec
- grant
- batch
- network

Let's take a closer look at the last four types in the following paragraphs.

### Objspec

The `objspec` type, used only with the `GET` method, enables administrators to retrieve specifications of objects on which endpoints operate, e.g.:

- `/objspec/user` request will return attributes of `user` object type,
- `/objspec/remote_app` request will return attributes of `remote_app` object type.

Below you can find an example of information returned for `GET https://10.0.0.0/api/v2/objspec/remote_app` request.

```
{
  "result": "success",
```

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```
"remote_app": {
  "id": {
    "type": "string",
    "readonly": true,
    "unique": true
  },
  "name": {
    "type": "string",
    "required": true,
    "ignore_case": true,
    "unique": true
  },
  "path": {
    "type": "string",
    "required": true
  },
  "arguments": {
    "type": "string"
  },
  "created_at": {
    "type": "string",
    "readonly": true
  },
  "modified_at": {
    "type": "string",
    "readonly": true
  },
  "removed": {
    "type": "boolean",
    "readonly": true
  }
}
```

As you can see on the above example, `remote_app` possess following attributes: `id`, `name`, `path`, `arguments`, `created_at`, `modified_at` and `removed`.

## Batch

Fudo API's `batch` powerful functionality enables administrators to send batch requests, allowing them to perform nested operations with different methods. Please refer to section *API v2: Batch requests*.

## Grant

This group, used with the `GET`, `POST` and `DELETE` methods, allows granting management privileges for users to selected accounts, pools, other users, listeners, safes, or servers.

## Network

The *Network* functionality allows to retrieve network settings such as DNS address(es), Admin Panel's address, Access Gateway's address, global configuration parameters, network interfaces configuration or routing configuration. It is used only with the `GET` method. To learn more, please refer to *API v2: Network* section.

## 2.7 Parameters

You can add a query string just after the endpoint, preceded by a question mark. This provides a string of information that will specify special parameters for your query. In this chapter, you will find a description of the **URL parameters** available for specific methods to be included within a path.

### Fields

This parameter is used to specify only desired object fields in the query. Null values are skipped, unless explicitly requested.

If query has no `fields` parameter specified:

- GET method will return all attributes of an object except those set to Null,
- POST method will show only `id` fields,
- PATCH method will not return any fields.

When using `fields` parameter with no value (`fields=`):

- GET method will return `id` field only,
- POST and PATCH will not return any fields.

Duplicated fields are ignored, e.g., `fields=id,name,name,protocol` will be treated like `fields=id,name,protocol`.

The example below utilizes the `fields` and `filter` parameters to narrow down the result to servers that include the string `test` in the `name` field, returning only the `id`, `name` and `protocol` fields in the response:

```
GET https://10.0.0.0/api/v2/server?fields=id,name,protocol&filter=name.match(test)
```

### Filter

---

**Note:** Please note that certain filters are applied automatically depending on the user's role.

---

This parameter narrows out the result with available additions:

- `.in()` - include possible attribute values,
- `.iin()` - case insensitive version of `.in()`,
- `.contains()` - include possible fields containing specified values, only applies to arrays (e.g., `account?filter=server_ids.contains(345)`),

### Note:

- When using `.in()`, `.iin()`, and `.contains()`, we can input multiple values with a comma as a separator (e.g., `server?filter=protocol.in(ssh,rdp,vnc)`, `account?filter=server_ids.contains(1,2,3)`). In this situation, at least one of the given conditions must be met.
- We can also use multiple conditions separated with comma (e.g., `server?filter=server_ids.contains(1),server_ids.contains(2)`). In such cases, all given conditions must be met. This rule applies to all parameters.



- `.match()` - include a regular expression to be searched in field values,
- `.imatch()` - case insensitive version of `.match()`,
- `.eq()` - equal (`name.eq(foo)`),
- `.ieq()` - case insensitive version of `.eq()`,
- `.ne()` - not equal,
- `.ine()` - case insensitive version of `.ne()`,
- `.lt()` - less than,
- `.le()` - less or equal,
- `.gt()` - greater than,
- `.ge()` - greater than or equal,
- `<attribute>` - filter objects based on attributes of type `boolean` set to `true`,
- `!<attribute>` - filter objects based on attributes of type `boolean` set to `false`,

---

**Note:** The example filter `filter=protocol.eq(ssh),!legacy_crypto,tls_enabled` filters out objects with the `protocol` equal to `ssh`, boolean type attribute `legacy_crypto` set to `false` and boolean type attribute `tls_enabled` set to `true`.

---

- `.isnull()` - filter objects with empty values in specified fields (e.g., `description.isnull()`),
- `.isempty()` - filter objects with empty values in specified fields, only applies to arrays.

---

**Note:** Every filter can be negated with `<!>`. For instance, the query `filter=!protocol.eq(ssh)` will skip all objects with the `protocol` attribute set to `ssh`. This example is equivalent of `protocol.ne(ssh)`.

---

---

**Note:** While using `DELETE` method:

- negation `<!>` cannot be used,
- for safety reasons, at least one unique filter value must be used in the query (e.g., `id, name`),

- if an object does not have a unique attribute, uniqueness is determined based on a set of attributes (e.g., `filter=account_id.eq(123456),safe_id.eq(345567),listener_id.eq(789012)`).

### Search in “all” attributes

The special attribute `all.` enables searching for a specified value in all attributes of type `number` and `string`.

**Note:** Only `.match()` and `.imatch()` methods can be used on this special attribute.

The example below searches for the string `rdp` in all eligible attributes of the `server` objects. As a result, it will return all servers that have the string `rdp` included in fields such as `name`, `protocol`, `description`, or `reason`.

```
GET https://10.0.0.0/api/v2/server?filter=all.imatch(rdp)
```

### Order

This parameter specifies the order of returned data.

**Note:** You can reverse the order with an exclamation mark `<!>`.

Example below will return all servers `id`, `name` and `protocol` fields, sorted first by `protocol`, and next by reverse `id` order:

*Example request*

```
GET https://10.0.0.0/api/v2/server?fields=id,name,protocol&order=protocol,!id
```

*Response*

```
{
  "result": "success",
  "server": [
    {
      "id": "918734323983581188",
      "name": "RDP_server_2",
      "protocol": "rdp"
    },
    {
      "id": "918734323983581187",
      "name": "RDP_server",
      "protocol": "rdp"
    },
    {
      "id": "918734323983581186",
      "name": "windows.example.org",
      "protocol": "rdp"
    },
    {
      "id": "918734323983581189",
      "name": "SSH_server",
```

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```

        "protocol": "ssh"
      },
      {
        "id": "918734323983581185",
        "name": "linux.example.org",
        "protocol": "ssh"
      }
    ]
  }
}

```

### Offset

This parameter is used to exclude from a response the first N items of a resource collection. Example below skips first 5 objects on the query response:

```
GET https://10.0.0.0/api/v2/user?offset=5
```

For predictable results, use this parameter in conjunction with `order` parameter.

### Limit

This query parameter specifies the number of instances that a single response contains. Example below limits the list of returned objects to 10 (by ID order):

```
GET https://10.0.0.0/api/v2/user?fields=id,name&order=id&filter=role.eq(user)&limit=10
```

### Note:

- If the limit is not specified in a query, the API will automatically return 1000 records by default.
- Setting the limit value above 1000 results in a Bad Request error.

### Debug

This parameter is used to diagnose a query. Example below returns query with debugging data:

```
GET https://10.0.0.0/api/v2/server?fields=id,name,protocol&order=protocol,!id&debug
```

```

{
  "result": "success",
  "server": [
    {
      "id": "918734323983581188",
      "name": "RDP_server_2",
      "protocol": "rdp"
    },
    {
      "id": "918734323983581187",
      "name": "RDP_server",
      "protocol": "rdp"
    },
    {
      "id": "918734323983581186",

```

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```

        "name": "windows.example.org",
        "protocol": "rdp"
    },
    {
        "id": "918734323983581189",
        "name": "SSH_server",
        "protocol": "ssh"
    },
    {
        "id": "918734323983581185",
        "name": "linux.example.org",
        "protocol": "ssh"
    }
],
"debug": {
    "timings": {
        "total start": null,
        "receive start": null,
        "receive duration": "0.000142s",
        "endpoint_verify start": null,
        "endpoint_verify duration": "0.000003s",
        "endpoint_execute start": null,
        "database_request (SELECT) start": null,
        "database_request (SELECT) duration": "0.001976s",
        "endpoint_execute duration": "0.002087s",
        "total duration": "0.008025s"
    }
}
}

```

### Total\_count

This parameter returns the total number of objects, taking into account the filters applied in the query, but at the same time ignoring `limit` and `offset` parameters. In the case of large amounts of objects it can be expensive to use.

### Estimated\_total\_count

This parameter can be inaccurate, so it is useful just to estimate quantities. It is much less expensive to use than `total_count`, includes deleted and hidden objects, ignores `filter` parameters and is only available for *superadmin* role.

### Reveal

This parameter enables to view objects with the following states:

- active,
- removed,
- visible,
- hidden,
- all.

By default `reveal` is set to `active` and `visible` states (`?reveal=active,visible`). If we do not specify it as `active` or `removed` (e.g., `?reveal=visible`) it will return only `active` objects.

The same situation occurs in the case of `visible` and `hidden` pair of parameters. If we do not specify `reveal` as `visible` or `hidden`, it will by default take the `visible` value and return only `visible` objects.

## 2.8 Attribute's properties

We can distinguish the following features of attributes used in object specification:

Table 2: Attribute's properties

Property	Possible values	Default value	Description
<code>type</code>	<ul style="list-style-type: none"> <li>• <code>boolean</code></li> <li>• <code>number</code></li> <li>• <code>string</code></li> <li>• <code>number-array</code></li> <li>• <code>string-array</code></li> </ul>	<code>string</code>	Attribute's type in JSON requests.
<code>readonly</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	When set to <code>true</code> , it cannot be set during POST or modified during PATCH.
<code>immutable</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	When set to <code>true</code> , it can be set only during POST, but cannot be modified during PATCH.
<code>ignore-case</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	When set to <code>true</code> , <code>apid</code> will ignore letters case when filtering by this attribute.
<code>allow-empty</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	When set to <code>true</code> , this string attribute can be set to an empty string.
<code>default</code>	<code>&lt;value&gt;</code>	No default	Attribute's default value.
<code>protected</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	The attribute's value is a secret and shouldn't be returned to the caller.
<code>grant</code>	<code>&lt;objtype&gt;</code>	No default	Require grant on <code>&lt;objtype&gt;</code> and use this attribute as an ID for the <code>&lt;objtype&gt;</code> object.
<code>required</code>	<ul style="list-style-type: none"> <li>• <code>true</code></li> <li>• <code>false</code></li> </ul>	<code>false</code>	When set to <code>true</code> , the attribute is always required.

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Table 2 – continued from previous page

Property	Possible values	Default value	Description
required-by	{ <attribute>: <value>, ... }	No default	<ul style="list-style-type: none"> <li>List of attributes and their values that require this attribute.</li> <li>If the value is an empty object then this attribute is required whenever the given attribute exists.</li> <li>Multiple <code>'required-by'</code> properties can be specified.</li> </ul>
requires	{ <attribute>: <value>, ... }	No default	<ul style="list-style-type: none"> <li>List of attributes and their values required by this attribute.</li> <li>If the value is an empty object then the given attribute is required, but value doesn't matter.</li> <li>Multiple <code>'requires'</code> properties can be specified. If that is the case then at least one of them has to be met.</li> </ul>
values	<ul style="list-style-type: none"> <li>&lt;value&gt;</li> </ul> or: <ul style="list-style-type: none"> <li>[ &lt;value&gt;, ... ]</li> </ul>	No default	Value or an array of possible values for this attribute.
value-labels	[ <label>, ... ]	No default	User-friendly names for all the values, used in graphical user interfaces.
value-range	[ <minval>, <maxval> ]	No default	Value range for a numeric attribute.
value-regexp	<regular expression>	No default	Regular expression that the value has to match.
unique	<ul style="list-style-type: none"> <li>true</li> <li>false</li> </ul> or: <ul style="list-style-type: none"> <li>&lt;attribute&gt;</li> </ul> or: <ul style="list-style-type: none"> <li>[ &lt;attribute&gt;, ... ]</li> </ul>	false	The given attribute is unique by itself (when <code>true</code> ) or is unique when combined with other attributes.

Continued on next page

Table 2 – continued from previous page

Property	Possible values	Default value	Description
expensive	<ul style="list-style-type: none"> <li>• true</li> <li>• false</li> </ul>	false	The given attribute is expensive to retrieve because it requires an additional operations in the database or a subquery.
description	string	No default	Short description of the attribute.

### 2.8.1 Selected use examples

#### Required-by

Description:

In the following example, the attribute is required when `protocol` is set to either `ssh` or `rdp`.

Example:

```
"required-by": { "protocol": [ "ssh", "rdp" ] }
```

Description:

Example below shows that when `external_port` is defined, this attribute is required.

Example:

```
"required-by": { "external_port": { } }
```

Description:

Multiple `required-by` properties can be specified. Two equivalent examples below shows that this attribute is required either:

- when `protocol` is `ssh` or
- when `protocol` is `http` or `rdp` and `tls_enabled` is `true`.

Example:

```
"required-by": { "protocol": "ssh" },
"required-by": { "protocol": [ "http", "rdp" ], "tls_enabled": true }
```

Equivalent example:

```
"required-by": { "protocol": "ssh" },
"required-by": { "protocol": "http", "tls_enabled": true },
"required-by": { "protocol": "rdp", "tls_enabled": true }
```

#### Requires

Description:

Following example shows that this attribute requires `protocol` to be set to `ssh` or `rdp`.

Example:

```
"requires": { "protocol": [ "ssh", "rdp" ] }
```

Description:

Following example shows that "external\_port" is required to exist, but its value is not important.

Example:

```
"requires": { "external_port": { } }
```

Description:

Following example shows that this attribute requires protocol to be set to rdp and "tls\_enabled" to be set to true.

Example:

```
"requires": { "protocol": "rdp", "tls_enabled": true }
```

## Unique

Description:

Example of unique attribute with no dependencies.

Example:

```
"id": {"unique": true}
```

Description:

Example of unique attribute with single dependency - a pair of those attributes is unique.

Example:

```
"safe_id": {
  "unique": "user_id"
},
"user_id": {
  "unique": "safe_id"
}
```

Description:

Example of unique attribute with double dependency - three attributes together are unique.

Example:

```
"account_id": {
  "unique": [ "listener_id", "safe_id" ]
},
"listener_id": {
  "unique": [ "account_id", "safe_id" ]
},
"safe_id": {
  "unique": [ "account_id", "listener_id" ]
}
```



## 2.9 API BETA endpoints

Endpoints in the `/beta` and `/internal` namespace are subject to change without notice. These endpoints are considered experimental and may undergo modifications, deprecations, or removals as we continue to refine and improve the API.

It is recommended to use these endpoints with caution and not to rely on them for production-level applications. Always check for updates and changes regularly when using `/beta` or `/internal` endpoints.

---

**Note:** For production environments, it is advisable to use the stable endpoints. The `/beta` and `/internal` endpoints are intended for testing and development purposes only.

---

---

 API v1: Authentication
 

---



---

**Deprecated since version 5.5**

- Please be informed that the endpoints outlined within this section have been deprecated and are scheduled for removal in the next major release.
  - It is recommended to switch to the APIv2 *API Key* authentication method as soon as possible.
- 

Accessing Fudo Enterprise data structures over API interface requires a *user* object defined in the local database. The same access rights restrictions apply to the API interface as in case of administration panel access.

Role	Access rights
user	<ul style="list-style-type: none"> <li>• Connecting to servers through assigned safes.</li> <li>• Login to the User Portal (requires adding the user to the <code>portal</code> safe).</li> <li>• Fetching servers' passwords (requires additional access right).</li> </ul>
service	<ul style="list-style-type: none"> <li>• Accessing SNMP information.</li> </ul>

---

Continued on next page

Table 1 – continued from previous page

Role	Access rights
operator	<ul style="list-style-type: none"> <li>• Logging in to the administration panel.</li> <li>• Browsing objects: servers, users, safes, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Blocking/unblocking objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Generating reports on demand and subscribing to periodic reports.</li> <li>• Managing email notifications.</li> <li>• Viewing live and archived sessions involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Converting sessions and downloading converted content involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart.</li> </ul>
admin	<ul style="list-style-type: none"> <li>• Logging in to the administration panel.</li> <li>• Managing objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Blocking/unblocking objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Generating reports on demand and subscribing to periodic reports.</li> <li>• Activating/deactivating email notifications.</li> <li>• Viewing live and archived sessions involving objects (user, safe, account, server), to which the user has been assigned management privileges.</li> <li>• Converting sessions and downloading converted content involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Managing policies.</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart.</li> </ul>
superadmin	<ul style="list-style-type: none"> <li>• Full access rights to objects management.</li> <li>• Full access rights to system configuration options.</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart, license, system events log.</li> </ul>

Continued on next page

Table 1 – continued from previous page

Role	Access rights
session viewer	<ul style="list-style-type: none"> <li>• Logging in to the administration panel,</li> <li>• Access to sessions involving only objects (user, server, safe, account, listener) to which the user has been assigned management privileges,</li> <li>• Login to the User Portal (requires adding the user to the <code>portal safe</code>).</li> <li>• Access only to the dashboard and the <i>Sessions</i> tab,</li> <li>• Viewing live and archived sessions, joining sessions, pausing sessions, terminating sessions with automatic user blocking,</li> <li>• No permissions to delete, download, or export sessions,</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, concurrent session chart.</li> </ul>

## Request

Method	POST
Path	<code>/api/system/login</code>
Headers	Content-Type: Application/JSON
Body	<pre>{   username: username,   password: password }</pre>

## Response

Status	200 OK
Headers	Content-Type: Application/JSON
Body	<pre>{   sessionid: ygmd2env50zgr2nblypmrfcvarggn0uf }</pre>

## Response

Status

401 UNAUTHORIZED

---

### Example request

```
curl -k -X POST -H "Accept:application/json" -H "Content-Type:application/json"
https://fudo.whl/api/system/login -d
{"username": "api_user", "password": "api_password"}

Result: {"sessionid": "oz2jfy042kz7d3zc2gos1ahxouxehk3"}
```

After successful authentication, include the key **Authorization** with the received value of the “sessionid“ into the Headers of the future requests.

## API v1: Password changers

**Deprecated since version 5.5**

Please be informed that the endpoints outlined within this section have been deprecated and are scheduled for removal in the next major release. Follow the *API v2: Password Changers* section to learn how to manage password changers using APIv2.

Account defines the privileged account existing on the monitored server. It specifies the actual login credentials, user authentication mode: anonymous (without user authentication), regular (with login credentials substitution) or forward (with login and password forwarding); password changing policy as well as the password changer itself.

**4.1 Data structures**

Table 1: PasswordChangerModel

Attribute	Type	Description
id	string	Object identifier. Read only.
name	string	Required.
timeout	int	Script's execution time limit expressed in seconds. Required.
transport	string{LDAP, SSH, Telnet, WinRM, plugin}	Transport layer specifier. Required.
changer_type	string{change,verify}	Script type. Required.
variables	VariablesModel	Required.
commands	CommandsModel	Required.

Table 2: VariablesModel

Attribute	Type	Description
id	string	Object identifier.
name	string	Required.
description	string	
encrypt	bool	<ul style="list-style-type: none"> <li>• <b>true</b> - encrypt variable value,</li> <li>• <b>false</b> - store variable value in plain text.</li> </ul>
required	bool	<ul style="list-style-type: none"> <li>• <b>true</b> - specifying this value is required,</li> <li>• <b>false</b> - specifying this value is not required.</li> </ul>
object_type	string	
object_property	string	

Table 3: CommandsModel

Attribute	Type	Description
id	string	Object identifier. Read only.
command	string	Required if command_type==INPUT.
expected	string	Required if command_type==EXPECTED
delay	int	Delay after running the command before executing the next one. Required if command_type==DELAY
comment	string	Optional commentary.
position	int	required

Table 4: account\_password\_changer

Attribute	Type	Description
id	string	Object identifier.
position	int	Password changer position in execution queue.
account	string	Account identifier.
password_changer	string	Password changer identifier
timeout	int	Script's execution time limit.
accountvariable_set		

Table 5: accountvariable\_set

Attribute	Type	Description
id	string	Object identifier.
password_changer_variable	string	
value	string	Variable value.
account_id	string	Account identifier.
server_id	string	Server identifier.
account_password_changer_id	string	
server_address_id	string	

## 4.2 Creating a password changer

### Request

Method	POST
Path	/api/system/password_changers
Headers	Content-Type: Application/JSON
Body	PasswordChangerModel

### Possible Response

Status	201 CREATED
Headers	Content-Type: Application/JSON
Body	PasswordChangerModel
Description	Object successfully created. Resultant object's attributes are included in response body.

### Possible Response



---

Status

400 BAD REQUEST

---

Headers

Content-Type: Application/JSON

---

Body

ValidationErrors

---

Description

Validation didn't pass.

---

**Example: Creating a WinRM password changer**

```
{ "name": "test_changer_00567",
"timeout": 300,
"transport": "WinRM",
"changer_type": "change",
"variables": [
  {
    "id": "7394910588142354434",
    "name": "transport_bind_ip",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_server",
    "object_property": "bind_ip"
  },
  {
    "id": "7394910588142354435",
    "name": "transport_ca_certificate",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_server",
    "object_property": "transport_ca_certificate"
  },
  {
    "id": "7394910588142354436",
    "name": "transport_encoding",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": null,
    "object_property": null
  },
  {
    "id": "7394910588142354437",
    "name": "transport_host",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_server",
```

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```
    "object_property": "address"
  },
  {
    "id": "7394910588142354438",
    "name": "transport_login",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_account",
    "object_property": "login"
  },
  {
    "id": "7394910588142354439",
    "name": "transport_port",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_server",
    "object_property": "port"
  },
  {
    "id": "7394910588142354440",
    "name": "transport_secret",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": "fudo_account",
    "object_property": "secret"
  },
  {
    "id": "7394910588142354441",
    "name": "x",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": null,
    "object_property": null
  }
],
"commands": [
  {
    "id": "7394910588142354434",
    "command": "echo %x%",
    "expected": null,
    "delay": null,
    "comment": null,
    "position": 0
  }
]}
```

### 4.3 Retrieving password changers list

#### Request

---

Method

GET

---

Path

/api/system/password\_changers

---

**Note:** Results pagination

Every GET request, which returns a collection of objects can be optionally paginated. To achieve it add a pagination parameter to the request path:

```
/api/system/objects?page=3&page_size=10
```

Table 6: Pagination parameters

page	int
page_size	int

---

### Possible Response

---

Status

200 OK

---

Headers

Content-Type: Application/JSON

---

Body

```
[
  PasswordChangerModel,
  ...
]
```

---

### Example

```
curl -k -X GET
"https://10.0.150.150/api/system/password_changers?sessionid={{sessionid}}"
```

---

### Response

```
[{
  "id": "1",
  "name": "Unix/SSH changer",
  "timeout": 300,
  "transport": "SSH",
  "changer_type": "change",
  "variables": [
    {
      "id": "1",
      "name": "transport_host",
```

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```
"description": null,
"encrypt": false,
"required": true,
"object_type": "fudo_server",
"object_property": "address"
},
{
  "id": "2",
  "name": "transport_bind_ip",
  "description": null,
  "encrypt": false,
  "required": false,
  "object_type": "fudo_server",
  "object_property": "bind_ip"
},
{
  "id": "3",
  "name": "transport_port",
  "description": null,
  "encrypt": false,
  "required": false,
  "object_type": "fudo_server",
  "object_property": "port"
},
{
  "id": "4",
  "name": "transport_login",
  "description": null,
  "encrypt": false,
  "required": true,
  "object_type": "fudo_account",
  "object_property": "login"
},
{
  "id": "5",
  "name": "transport_secret",
  "description": null,
  "encrypt": true,
  "required": true,
  "object_type": "fudo_account",
  "object_property": "secret"
},
{
  "id": "6",
  "name": "transport_method",
  "description": null,
  "encrypt": false,
  "required": true,
  "object_type": "fudo_account",
  "object_property": "method"
},
{
  "id": "7",
  "name": "transport_host_public_key",
  "description": null,
  "encrypt": false,
```

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```
    "required": false,
    "object_type": "fudo_server",
    "object_property": "ssh_public_key"
  },
  {
    "id": "8",
    "name": "transport_password_prompt",
    "description": null,
    "encrypt": false,
    "required": false,
    "object_type": null,
    "object_property": null
  },
  {
    "id": "9",
    "name": "account_login",
    "description": "Login for the account for which password will be changed.",
    "encrypt": false,
    "required": true,
    "object_type": "fudo_account",
    "object_property": "login"
  }
],
"commands": [
  {
    "id": "1",
    "command": null,
    "expected": "Last login:",
    "delay": null,
    "comment": null,
    "position": 1
  },
  {
    "id": "2",
    "command": "passwd %%account_login%",
    "expected": null,
    "delay": null,
    "comment": null,
    "position": 2
  },
  {
    "id": "3",
    "command": null,
    "expected": "[Pp]assword:",
    "delay": null,
    "comment": null,
    "position": 3
  },
  {
    "id": "4",
    "command": "%%account_new_secret%",
    "expected": null,
    "delay": null,
    "comment": null,
    "position": 4
  },
]
```

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```
{
  "id": "5",
  "command": null,
  "expected": "[Pp]assword:",
  "delay": null,
  "comment": null,
  "position": 5
},
{
  "id": "6",
  "command": "%account_new_secret%",
  "expected": null,
  "delay": null,
  "comment": null,
  "position": 6
},
{
  "id": "7",
  "command": null,
  "expected": "successfully",
  "delay": null,
  "comment": null,
  "position": 7
},
{
  "id": "8",
  "command": "logout",
  "expected": null,
  "delay": null,
  "comment": null,
  "position": 8
},
{
  "id": "9",
  "command": null,
  "expected": "closed",
  "delay": null,
  "comment": null,
  "position": 9
}
]]]
```

## 4.4 Retrieving a password changer

### Request

---

Method

GET

---

Path

/api/system/password\_changers/id

---



(continued from previous page)

```

    "encrypt":false,
    "required":false,
    "object_type":"fudo_server_address_property",
    "object_property":"bind_ip"
  }],
  "commands":
  [{
    "command":"command 1 %%transport_bind_ip%%",
    "expected": null,
    "position": 1,
    "delay":null,
    "command_type":"INPUT"
  },{
    "command":"command 2 %%transport_port%%",
    "expected": null,
    "position": 2,
    "delay":null,
    "command_type":"INPUT"
  },{
    "command":"command 3 %%transport_host%%",
    "expected":null,
    "position": 3,
    "delay":null,
    "command_type":"INPUT"
  ]}]

```

## 4.5 Modifying password changers

### Request

---

 Method

PUT

---

 Path

/api/system/password\_changers/id

### Possible Response

---

 Status

200 OK

---

 Headers

Content-Type: Application/JSON

---

 Body

PasswordChangerModel

### Possible Response



---

Status

400 BAD REQUEST

---

Headers

Content-Type: Application/JSON

---

Body

PasswordChangerModel

---

### Possible Response

---

Status

404 NOT FOUND

---

Description

Object not found.

---

## 4.6 Deleting a password changer

### Request

---

Method

DELETE

---

Path

/api/system/password\_changers/id

---

### Possible Response

---

Status

204 NO CONTENT

---

### Possible Response

---

Status

404 NOT FOUND

---

Description

Object not found.

---

Example:

```
curl -k -X DELETE
https://10.0.150.150/api/system/password_changers/68719476746?sessionId={{sessionId}}
```

## 4.7 Retrieving account-password changers assignments list

### Request

Method	GET
Path	/api/system/account_password_changers

**Note:** Results pagination

Every GET request, which returns a collection of objects can be optionally paginated. To achieve it add a pagination parameter to the request path:

```
/api/system/objects?page=3&page_size=10
```

Table 7: Pagination parameters

page	int
page_size	int

### Possible Response

Status	200 OK
Headers	Content-Type: Application/JSON
Body	[ AccountSafeAssignmentModel, ... ]

Example:

```
curl -k -X GET
"https://10.0.150.150/api/system/account_password_changers?sessionid={{sessionid}}"
```

## 4.8 Adding a password changer to account

### Request

---

Method

POST

---

Path

/api/system/account\_password\_changers

---

Body

account\_password\_changer

---

### Possible Response

---

Status

201 CREATED

---

Headers

Content-Type: Application/JSON

---

Body

AccountPasswordChanger

---

### Possible Response

---

Status

400 BAD REQUEST

---

Headers

Content-Type: Application/JSON

---

Body

ValidationErrors

---

### Possible Response

---

Status

404 NOT FOUND

---

Example:

```
curl -k -X POST
https://10.0.8.89/api/system/account_password_changers?sessionid={{sessionid}} -d
{
  "account": 1992864825347,
  "accountvariable_set": [
    {
```

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```
"account_id": 1992864825347,
"password_changer_variable": 109,
"server_address_id": null,
"server_id": null,
"value": null
},
{
"account_id": 1992864825347,
"password_changer_variable": 110,
"server_address_id": null,
"server_id": null,
"value": null
},
{
"account_id": null,
"password_changer_variable": 102,
"server_address_id": null,
"server_id": 1992864825347,
"value": null
},
{
"account_id": 1992864825347,
"password_changer_variable": 103,
"server_address_id": null,
"server_id": null,
"value": null
},
{
"account_id": null,
"password_changer_variable": 101,
"server_address_id": 1992864825351,
"server_id": null,
"value": null
},
{
"account_id": 1992864825347,
"password_changer_variable": 106,
"server_address_id": null,
"server_id": null,
"value": null
},
{
"account_id": null,
"password_changer_variable": 107,
"server_address_id": null,
"server_id": 1992864825347,
"value": null
},
{
"account_id": 1992864825347,
"password_changer_variable": 104,
"server_address_id": null,
"server_id": null,
"value": null
},
{

```

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```
        "account_id": null,  
        "password_changer_variable": 105,  
        "server_address_id": null,  
        "server_id": null,  
        "value": "base1"  
    }  
],  
"password_changer": 13,  
"position": 0,  
"timeout": 300  
}
```

## 4.9 Deleting an account-password changer assignment

### Request

---

Method

DELETE

---

Path

/api/system/account\_password\_changers/id

---

### Possible Response

---

Status

204 NO CONTENT

---

### Possible Response

---

Status

404 NOT FOUND

---

Example:

```
curl -k -X DELETE  
https://10.0.150.150/api/system/account_password_changers/68719476738?sessionid={  
↪{sessionid}}
```

---

## API v1: Password changer policy

---

---

### Deprecated since version 5.5

Please be informed that the endpoints outlined within this section have been deprecated and are scheduled for removal in the next major release. Follow the *API v2: Password Changer Policy* section to learn how to manage password changer policies using APIv2.

---

Password changer policy defines specifics of how frequently the password should be changed and password complexity requirements.

Password changer policy can't be created via API, but can be assigned to a particular Account.

## 5.1 Adding a password changer policy to account

### Request

---

Method

POST

---

Path

`/api/system/accounts`

---

Body

`AccountModel`

---

### Possible Response

---

---

**Status**

200 OK

---

**Headers**

Content-Type: Application/JSON

---

**Body**

AccountModel

---

**Possible Response**

---

**Status**

400 BAD REQUEST

---

**Headers**

Content-Type: Application/JSON

---

**Body**

ValidationErrors

---

**Possible Response**

---

**Status**

404 NOT FOUND

---

**Example:**

```
curl -k -X PUT -H "Accept:application/json" -H "Content-Type:application/json"
https://fudo.whl/api/system/accounts/755918023667220708?sessionid={{sessionid}} -
↪d
{
"credentials": {
  "login": "",
  "method": "password",
  "password_change_policy_id": "75594322023667220482"
},
"server_id": "755918764677220677",
"password_change_request": "0001-01-01T00:00:00",
"type": "regular",
"name": "TestAccount" }
```

---

## API v2: Authentication

---

To access Fudo Enterprise data structures via the API interface, you need a *user* object defined in the local database with the *API Key* authentication method specified. To obtain the *API Key*, please follow below steps in the Fudo Enterprise Admin Panel:

- Create new *user* or edit existing *admin* user definition.
- Specify the *API Key* authentication method for this *user*.
- Generate the *API Key* value, copy it, and archive it for future API requests.

---

**Note:** The API Key cannot be retrieved after saving this authentication method.

---

For more detailed information, please refer to the *Users* section of the Fudo Enterprise Documentation.

### 6.1 How To Authenticate Using an API Key

For successful authentication, include the key **Authorization** with the generated *API Key* value in the *Headers* of your API requests.

#### Example request

```
curl -k -X GET -H
↳ "Authorization:KEDVOgernOHGpiOmAksvegNDFVWihUy9vknnqCoYDU6X5fiaOmvLU9237LuEjFsc"
↳ https://10.0.0.0/api/v2/user
```

### 6.2 Access Rights Restrictions

The same access rights restrictions apply to the API interface as in case of Administration Panel access. Outlined in the table below are the access rights specified for each of the roles available

---



in Fudo Enterprise.

Role	Access rights
user	<ul style="list-style-type: none"> <li>• Connecting to servers through assigned safes.</li> <li>• Loggin to the User Portal (requires adding the user to the <code>portal</code> safe).</li> <li>• Fetching servers' passwords (requires additional access right).</li> </ul>
service	<ul style="list-style-type: none"> <li>• Accessing SNMP information.</li> </ul>
operator	<ul style="list-style-type: none"> <li>• Logging in to the administration panel.</li> <li>• Browsing objects: servers, users, safes, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Blocking/unblocking objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Generating reports on demand and subscribing to periodic reports.</li> <li>• Managing email notifications.</li> <li>• Viewing live and archived sessions involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Converting sessions and downloading converted content involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart.</li> </ul>
admin	<ul style="list-style-type: none"> <li>• Logging in to the administration panel.</li> <li>• Managing objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Blocking/unblocking objects: servers, users, safes, listeners, accounts, to which the user has been assigned sufficient access permissions.</li> <li>• Generating reports on demand and subscribing to periodic reports.</li> <li>• Activating/deactivating email notifications.</li> <li>• Viewing live and archived sessions involving objects (user, safe, account, server), to which the user has been assigned management privileges.</li> <li>• Converting sessions and downloading converted content involving objects (user, safe, account, server), to which the user has been assigned sufficient access permissions.</li> <li>• Managing policies.</li> <li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart.</li> </ul>

Continued on next page

Table 1 – continued from previous page

Role	Access rights
superadmin	<ul style="list-style-type: none"><li>• Full access rights to objects management.</li><li>• Full access rights to system configuration options.</li><li>• Available dashboard widgets: concurrent sessions, suspicious sessions, account alerts, active users, cluster status, concurrent sessions chart, license, system events log.</li></ul>
session viewer	<ul style="list-style-type: none"><li>• Logging in to the administration panel,</li><li>• Access to sessions involving only objects (user, server, safe, account, listener) to which the user has been assigned management privileges,</li><li>• Login to the User Portal (requires adding the user to the <code>portal safe</code>).</li><li>• Access only to the dashboard and the <i>Sessions</i> tab,</li><li>• Viewing live and archived sessions, joining sessions, pausing sessions, terminating sessions with automatic user blocking,</li><li>• No permissions to delete, download, or export sessions,</li><li>• Available dashboard widgets: concurrent sessions, suspicious sessions, concurrent session chart.</li></ul>

Account defines the privileged account existing on the monitored server. It specifies the actual login credentials, user authentication mode: anonymous (without user authentication), regular (with login credentials substitution) or forward (with login and password forwarding); password changing policy as well as the password changer itself.

## 7.1 Data structures

Table 1: AccountModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique account's name
description	string	no	Object description
note	string		Read-only; expensive to use
blocked	boolean; default value <code>false</code>	yes	
reason	string	if <code>blocked == true</code>	
type	string {regular, forward, anonymous}	yes	Immutable
category	string {nonprivileged, privileged}		
protocol	string		Protocol of the pool or server which the account is assigned to. Read-only; expensive to use.

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
server_id	string	yes	
server_name	string		Read-only; expensive to use
server_address	string		Read-only; expensive to use
server_mask	number		Read-only; expensive to use
server_port	number		Read-only; expensive to use
pool_id	string	yes	
pool_name	string		Read-only; expensive to use
hotseat	boolean; default value <code>false</code>	if <code>type == regular</code>	Enable to be informed about existing connections via the Access Gateway. Available for the server with <code>protocol == rdp</code>
method	string { <code>account</code> , <code>passvn</code> , <code>sshkey</code> }	if <code>type == regular</code>    <code>forward</code>	Authentication method
domain	string	if <code>type == regular</code>    <code>forward</code>	
login	string; be empty	may if <code>type == regular</code>	
secret	string; be empty	may no	
private_key_passphrase	string	with <code>secret</code>	Passphrase to use to decrypt private key. Protected.
ssh_public_key	string		SSH public key. Read-only; expensive to use.
ssh_fingerprint_sha256	string		SSH key SHA256 fingerprint. Read-only; expensive to use.
forward_domain	boolean; default value <code>false</code>	if <code>type == forward</code>	
servauth	boolean; default value <code>false</code>	if <code>type == forward</code>	Authentication against server
account_id	string	if <code>method == account</code>	
passvn_id	string	if <code>method == passvn</code>	
passvn_name	string		Read-only; expensive to use
dump_mode	string { <code>all</code> , <code>none</code> , <code>raw</code> , <code>noraw</code> }; default value <code>noraw</code>	yes	Session recording options

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
retention_locked	boolean; default value <b>false</b>	yes	
retention_remove	number		Value range from 1 to 2147483647.
retention_external	number		Value range from 1 to 2147483647.
timestamp_enabled	boolean; default value <b>false</b>	yes	
ocr_enabled	boolean; default value <b>false</b>	yes	
ocr_lang	string {eng, pol, deu, hun, nor, rus, ukr}; if more than 1, separated by the + symbol	if <code>ocr_enabled == true</code>	
ssh_agent	boolean; default value <b>false</b>	yes	
password_lastupdate	datetime		Read-only
password_lastcheck	datetime		Read-only
password_change_policy_id	string	if <code>type == regular</code>	Password change policy identifier.
password_change_policy_name	string		Password change policy name. Read-only; expensive to use.
password_checkout_time_limit	datetime (h:m:s)	if <code>password_change_on_checkin == true</code>	
password_change_on_checkin	boolean		If set, password will be changed after last password checkin.
password_change_on_session_end	boolean		If set, password will be changed after session finishes.
password_change_trigger_blocking	boolean		Waiting for password change after triggered. Read-only; expensive to use.
password_change_trigger_available	boolean		Can manually trigger password change request? Read-only; expensive to use.
password_recovery	boolean		If set and password verification detects unknown password, password changer will try to recover the password to a known value.
created_at	datetime		Read-only

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
modified_at	datetime		Read-only
removed	boolean		Read-only
last_login	datetime		Read-only; expensive to use
safes	object-array		JSON object array containing <b>id</b> , <b>name</b> , and <b>position</b> of assigned safes. Read-only; expensive to use.
safes_ids	string-array		Read-only; hidden; expensive to use
safe_names	string-array		Read-only; hidden; expensive to use
servers	object-array		Read-only; expensive to use; JSON object array containing <b>id</b> , <b>mask</b> , <b>name</b> , <b>port</b> and <b>address</b> of assigned servers.
servers_ids	string-array		Read-only; hidden; expensive to use
servers_names	string-array		Read-only; hidden; expensive to use
builtin	boolean		Read-only; expensive to use; if <b>true</b> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <b>true</b> , the object is hidden in UI.
state	string {created, discovered, onboarded, quarantined}		Account's discovery state: discovered, onboarded, quarantined, or created (for manually created accounts). Read-only. Expensive to use.
discovered_at	string		Account discovered at timestamp. Read-only; expensive to use
onboarded_at	string		Account onboarded at timestamp. Read-only; expensive to use.
onboarded_by_id	string		User identifier who onboarded this account. Read-only; expensive to use.

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
onboarded_by_name	string		User name who onboarded this account. Read-only; expensive to use.
quarantined_at	string		Account quarantined at timestamp. Read-only; expensive to use.
quarantined_by_id	string		User identifier who quarantined this account. Read-only; expensive to use.
quarantined_by_name	string		User name who quarantined this account. Read-only; expensive to use.
quarantine_reason	string		Quarantine reason. Read-only; expensive to use.
scanner_id	string		Scanner identifier. Read-only; expensive to use.
scanner_name	string		Scanner name. Read-only; expensive to use.
secret_exposed	boolean		Determines if there is a user who checked out the current password and now has lost access to the account, e.g. the user is now blocked, deleted, or there is no longer a safe containing both the user and the account, and gives the user secret check out rights. Read-only; expensive to use.

### Request for retrieving available attributes of the AccountModel

Method	GET
Path	/api/v2/objspec/account

Table 2: AccountSafeListenerAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
account_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>account_id</code> with attributes <code>safe_id</code> and <code>listener_id</code> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attributes <code>account_id</code> and <code>listener_id</code> .
listener_id	string	no	Immutable. Uniqueness is required in the combination of attribute <code>listener_id</code> with attributes <code>account_id</code> and <code>safe_id</code> .
account_name	string		Read-only; expensive to use
account_type	string		Read-only; expensive to use
protocol	string		Read-only; expensive to use
server_id	string		Read-only; expensive to use; null if pool is assigned.
server_name	string		Read-only; expensive to use; null if pool is assigned.
pool_id	string		Read-only; expensive to use; null if server is assigned.
pool_name	string		Read-only; expensive to use; null if server is assigned.
safe_name	string		Read-only; expensive to use
listener_name	string		Read-only; expensive to use
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

### Request for retrieving available attributes of the AccountSafeListenerAssignment-Model

---

Method

GET

---

Path

/api/v2/objspec/account\_safe\_listener

---



Table 3: AccountGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique for_account_id
for_account_id	string	yes	Immutable. Expects unique to_user_id
for_account_name	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

### Request for retrieving available attributes of the AccountGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/account\_grant

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Account objects.

## 7.2 Creating an account

### Request

---

Method

POST

---

Path

/api/v2/account

---

Headers

Content-Type: Application/JSON

---

Body

AccountModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/account>

```
{
  "name": "test-account",
  "type": "regular",
  "server_id": "1234567890",
  "method": "password",
  "login": "test-account-login",
  "domain": "my-domain"
}
```

### Response

```
{
  "result": "success",
  "account": {
    "id": "1234567890123456"
  }
}
```

## 7.3 Retrieving accounts list

### Request

---

Method

GET

---

Path

/api/v2/account

---

## 7.4 Retrieving an account

### Request

---

---

Method

GET

---

Path

/api/v2/account/<id>

---

## 7.5 Modifying an account

### Request

---

Method

PATCH

---

Path

/api/v2/account/<id>

---

Headers

Content-Type: Application/JSON

---

Body

AccountModel

---

**Example request: Enable OCR with German, English and Polish languages for an account**

Sending PATCH <https://10.0.0.0/api/v2/account/1234567890123456>

```
{ "ocr_enabled": true,  
  "ocr_lang": "deu+eng+pol"}
```

### Response

```
{"result": "success"}
```

## 7.6 Granting access for user to account

### Request

---

**Method**

POST

---

**Path**`/api/v2/grant/account`

---

**Headers**`Content-Type: Application/JSON`

---

**Body**

```
{
  to_user_id: 1234567890,
  for_account_id: 1234567891
}
```

---

## 7.7 Adding a password changer policy to account

Password changer policy can't be created via API, but can be assigned to a particular Account. It requires a password changer or/and password verifier assigned according to it's enabled options.

By default there is an existing password policy named *Static, without restrictions* with `id = 1`, which has no password change or verification functions assigned.

### Request

---

**Method**

PATCH

---

**Path**`/api/v2/account/<id>`

---

**Headers**`Content-Type: Application/JSON`

---

**Body**`AccountModel`

---

### Example request

Sending `https://10.0.0.0/api/v2/account/1234567890123456`

```
{"domain":null, "password_change_policy_id":"2345678901234567"}
```

### Response

```
{"result": "success"}
```

## 7.8 Modifying password change parameters for account

### Request

Method	PATCH
Path	/api/v2/account/<id>
Headers	Content-Type: Application/JSON
Body	AccountModel

### Example request

Sending `https://10.0.0.0/api/v2/account/1234567890123456798`

```
{
  "domain":null,
  "password_change_policy_id":"2345678901234567989",
  "password_checkout_time_limit":"06:59:00",
  "password_change_on_session_end":true,
  "password_change_on_checkin":true,
  "password_recovery":true
}
```

### Response

```
{"result": "success"}
```

## 7.9 Creating an account-safe-listener assignments

### Request

Method	POST
Path	/api/v2/account/safe/listener
Headers	Content-Type: Application/JSON
Body	AccountSafeListenerAssignmentModel

### Example request

Sending POST `https://10.0.0.0/api/v2/account/safe/listener`

```
{ "account_id": 1232678819172646919,  
  "safe_id": 1232678819172646913,  
  "listener_id": 1232678819172646914 }
```

### Response

```
{ "result": "success",  
  "account_safe_listener": {} }
```

## 7.10 Deleting an account-safe-listener assignment

### Request

---

Method

DELETE

---

Path

`/api/v2/account/<account_id>/safe/<safe_id>/listener/<listener_id>`

---

## 7.11 Deleting an account

### Request

---

Method

DELETE

---

Path

`/api/v2/account/<id>`

---

## 7.12 Managing security alerts

### Request

---

Method

POST

---

Path

`/api/v2/account/<account_id>/mark_sessions_as_safe`

---

## API v2: Account notes

Account notes related endpoints enable managing messages displayed to users in the User Portal (Access Gateway).

## 8.1 Data structures

Table 1: AccountNoteModel

Attribute	Type	Required	Description
id	string		Unique, read-only, protected account note identifier.
account_id	string	yes	Immutable. ID of the account to which the note is assigned.
note	string		Note content.
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the AccountNoteModel

---

Method

GET

---

Path

`/api/v2/objspec/account_note`

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 8.2 Retrieving a note from account

### Request

---

Method

GET

---

Path

/api/v2/account/<account\_id>/note

---

### Example request

Sending GET <https://10.0.0.0/api/v2/account/9124292845052624908/note>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.0.214.98/api/v2/account/9124292845052624908/note
```

### Response

```
{
  "note": "Note content.",
  "result": "success"
}
```

## 8.3 Assign note to an account

### Request

---

Method

POST

---

Path

/api/v2/account/<account\_id>/note

---

Headers

Content-Type: Application/HTML

---

Body

AccountNoteModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/account/9124292845052624908/note>



```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↳214.98/api/v2/account/9124292845052624908/note' -H 'Content-Type: application/HTML'
↳-d '{"note": "Note content."}'
```

### Response

```
{
  "result": "success"
}
```

## 8.4 Modifying a note

### Request

---

Method

PATCH

---

Path

/api/v2/account/<account\_id>/note

---

Headers

Content-Type: Application/HTML

---

Body

AccountNoteModel

---

### Example request

Sending PATCH <https://10.0.0.0/api/v2/account/9124292845052624908/note>

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↳0.214.98/api/v2/account/9124292845052624908/note' -H 'Content-Type: application/HTML
↳' -d '{"note": "Note modified content."}'
```

### Response

```
{
  "result": "success"
}
```

## 8.5 Deleting a note

### Request

Method

DELETE

Path

/api/v2/account/<account\_id>/note

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/account/9124292845052624908/note>

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.214.98/api/v2/account/9124292845052624908/note'
```

### Response

```
{
  "result": "success"
}
```

User defines a subject entitled to connect to servers within monitored IT infrastructure. Detailed object definition (i.e. unique login and domain combination, full name, email address etc.) enables precise accountability of user actions when login and password are substituted with a shared account login credentials.

## 9.1 Data structures

Table 1: UserModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique user's name
blocked	boolean; default value <b>false</b>	yes	
reason	string	if <b>blocked == true</b>	
domain	string	no	User's domain
role	string {admin, operator, service, superadmin, user, viewer}	yes	
full_name	string	no	User's full name
email	string	no	User's email address
organization	string	no	User's organization name
phone	string	no	User's phone number
ad_domain	string	no	User's AD domain
ldap_base	string	no	User's LDAP base

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
language	string {en, pl, ru, ua, kk}; default value <b>en</b>	yes	Interface language
previous_success	datetime		Read-only
last_success	datetime		Read-only
last_failure	datetime		Read-only
failures	number; default value 0	yes	Number of authentication failures
password_complexity	boolean; default value <b>false</b>	yes	Enable password complexity settings
external_sync	boolean; default value <b>false</b>	yes	
valid_since	datetime (h:m:s); default value <b>-infinity</b>	yes	Beginning access time
valid_to	datetime (h:m:s); default value <b>infinity</b>	yes	Ending access time
ldap_server_id	string	no	Id of the user's LDAP server
source_ip	string	no	
snmp_enabled	boolean; default value <b>false</b>	if <code>role == service</code>	
snmp_authentication		if <code>role == service &amp; snmp_enabled == true</code>	
snmp_encryption		if <code>role == service &amp; snmp_enabled == true</code>	
pubkey_ec	string	with <code>pubkey_rsa</code>	
pubkey_rsa	string	with <code>pubkey_ec</code>	
pubkey_fingerprint	string		Read-only; expensive to use. Fingerprint of user's public keys.
pubkey_trusted_by	string	with <code>pubkey_ec</code> and <code>pubkey_rsa</code>	
pubkey_trusted_at	string		Read-only
invite_code	string		Read-only
invite_code_expires_at	string		Read-only
invited_by	string		Read-only
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
oidc_subs	object-array		OpenID Connect sub claims. Read-only. Expensive.
safes	object-array		Read-only; expensive to use; JSON object array containing <code>id</code> , <code>name</code> , and <code>position</code> of assigned safes.
safes_ids	string-array		Read-only; hidden; expensive to use
safe_names	string-array		Read-only; hidden; expensive to use
authentication_methods	object-array		Read-only; expensive to use; JSON object array containing <code>id</code> , <code>type</code> , and <code>position</code> of configured authentication methods.
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

### Request for retrieving available attributes of the UserModel

Method	GET
Path	<code>/api/v2/objspec/user</code>

Table 2: UserSafeAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier.
user_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>user_id</code> with attribute <code>safe_id</code> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attribute <code>user_id</code> .
blocked	boolean; default value <code>false</code>	yes	Access to this safe is disabled for the user.
position	number		
password_visible	boolean; default value <code>false</code>	yes	Allow a user to use Secret Checkout feature and view passwords in the Access Gateway.

Continued on next page

Table 2 – continued from previous page

Attribute	Type	Required	Description
time_policy_checks	string		Read-only; Expensive to use. Checksum computed from time policies used for this user-safe connection.
use_time_policy	boolean; default value <code>false</code>	yes	
valid_since	datetime (h:m:s); default value <code>-infinity</code>	yes	Beginning access time.
valid_to	datetime (h:m:s); default value <code>infinity</code>	yes	Ending access time.
user_name	string		Read-only; Expensive to use.
user_domain	string		Read-only; Expensive to use.
user_email	string		Read-only; Expensive to use.
user_organization	string		Read-only; Expensive to use.
user_role	string		Read-only; Expensive to use.
safe_name	string		Read-only; Expensive to use.
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.
builtin	boolean		Read-only; Expensive to use; If <code>true</code> , the object is not editable.
hidden	boolean		Read-only; Expensive to use; If <code>true</code> , the object is hidden in UI.

### Request for retrieving available attributes of the UserSafeAssignmentModel

Method	GET
Path	/api/v2/objspec/user_safe

Table 3: UserSafeTimePolicyAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier.
user_safe_id	string		Read-only object Identifier.
user_id	string	yes	Immutable.
safe_id	string	yes	Immutable.
user_name	string		Read-only; Expensive to use.
user_role	string		Read-only; Expensive to use.
safe_name	string		Read-only; Expensive to use.
day_of_week	number	yes	Value range from 1 to 7.
valid_from	datetime (h:m:s)	yes	Beginning access time.
valid_to	datetime (h:m:s)	yes	Ending access time.
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.

---

## Request for retrieving available attributes of the UserSafeTimePolicyAssignment-Model

---

Method

GET

---

Path

/api/v2/objspec/user\_safe\_time\_policy

---

Table 4: UserGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique for_user_id
for_user_id	string	yes	Immutable. Expects unique to_user_id
for_user_name	string		Read-only, expensive to use
for_user_role	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	string		Read-only
modified_at	string		Read-only
removed	boolean		Read-only

---

## Request for retrieving available attributes of the UserGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/user\_grant

---



---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the User objects.

## 9.2 Creating a user

### Request

---

Method

POST

---

Path

/api/v2/user

---

Headers

Content-Type: Application/JSON

---

Body

UserModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/user>

```
{
  "role": "user",
  "name": "test-user",
  "language": "en"
}
```

### Response

```
{
  "result": "success",
  "user": {
    "id": "12345678901234567890"
  }
}
```

## 9.3 Retrieving users list

### Request

---

Method

GET

---

Path

/api/v2/user

---

### Example request

Sending GET <https://10.0.0.0/api/v2/user>

### Response

```
{
  "result": "success",
```

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```
"user": [  
  {  
    "id": "1234567891012345",  
    "name": "tet",  
    "blocked": false,  
    "role": "user",  
    "full_name": "",  
    "email": "",  
    "phone": "",  
    "ad_domain": "",  
    "ldap_base": "",  
    "language": "en",  
    "failures": 0,  
    "password_complexity": false,  
    "external_sync": false,  
    "valid_since": "-infinity",  
    "valid_to": "infinity",  
    "created_at": "2022-10-20 02:09:49.818029-07",  
    "modified_at": "2022-10-20 02:09:49.818029-07"  
  },  
  {  
    "id": "12345678910123456",  
    "name": "admin",  
    "blocked": false,  
    "role": "superadmin",  
    "language": "en",  
    "previous_success": "2022-10-25 05:33:19.377878-07",  
    "last_success": "2022-10-25 06:03:39.084783-07",  
    "last_failure": "2022-10-24 04:19:35.204557-07",  
    "failures": -1,  
    "password_complexity": false,  
    "external_sync": false,  
    "valid_since": "-infinity",  
    "valid_to": "infinity",  
    "created_at": "2022-10-20 02:01:32.093269-07",  
    "modified_at": "2022-10-25 06:03:39.085472-07"  
  }  
]  
}]
```

## 9.4 Retrieving a user

### Request

---

Method

GET

---

Path

/api/v2/user/<id>

---

## 9.5 Modifying a user

### Request

Method	PATCH
Path	/api/v2/user/<id>
Headers	Content-Type: Application/JSON
Body	UserModel

### Example request: Changing user login

Sending PATCH <https://10.0.0.0/api/v2/user/12345678901234567890>

```
{  
  "name": "new-user"  
}
```

### Response

```
{ "result": "success" }
```

### Example request: Blocking a user

Sending PATCH <https://10.0.0.0/api/v2/user/12345678901234567890>

```
{"blocked": true,  
  "reason": "lost rights"}
```

### Response

```
{ "result": "success" }
```

## 9.6 Retrieving user's management privileges

### Request

---

Method

GET

---

Path

```
/api/v2/grant/<to_user_id>/user/<for_user_id>  
/api/v2/grant/<to_user_id>/server/<for_server_id>  
/api/v2/grant/<to_user_id>/safe/<for_safe_id>  
/api/v2/grant/<to_user_id>/pool/<for_pool_id>  
/api/v2/grant/<to_user_id>/listener/<for_listener_id>  
/api/v2/grant/<to_user_id>/account/<for_account_id>
```

---

## 9.7 Revoking user's management privileges

Request

---

Method

DELETE

---

Path

```
/api/v2/grant/<to_user_id>/user/<for_user_id>  
/api/v2/grant/<to_user_id>/server/<for_server_id>  
/api/v2/grant/<to_user_id>/safe/<for_safe_id>  
/api/v2/grant/<to_user_id>/pool/<for_pool_id>  
/api/v2/grant/<to_user_id>/listener/<for_listener_id>  
/api/v2/grant/<to_user_id>/account/<for_account_id>
```

---

## 9.8 Granting access for user to another user

Request

---

Method

POST

---

Path

```
/api/v2/grant/user
```

---

Headers

```
Content-Type: Application/JSON
```

---

Body

```
{  
  to_user_id: 1234567890,  
  for_user_id: 1234567891  
}
```

---

## 9.9 Retrieving user-safe assignments list

### Request

---

Method

GET

---

Path

/api/v2/user/safe

---

## 9.10 Creating a user-safe assignment

### Request

---

Method

POST

---

Path

/api/v2/user/safe

---

Body

UserSafeAssignment

---

### Example request

Sending POST <https://10.0.0.0/api/v2/user/safe>

```
{ "user_id": "1232678819172646915",  
  "safe_id": "1232678819172646913" }
```

### Response

```
{ "result": "success",  
  "user_safe": {} }
```

## 9.11 Retrieving users' time policy settings within safes

### Request

---

Method

GET

---

Path

/api/v2/user/safe/time\_policy

---

**Example request**

Sending GET [https://10.0.0.0/api/v2/user/safe/time\\_policy](https://10.0.0.0/api/v2/user/safe/time_policy)

**Response** (User's time policy is declared separately for each day)

```
{
  "result": "success",
  "user_safe_time_policy": [
    {
      "id": "4602678819172646913",
      "safe_id": "4602678819172646913",
      "user_id": "4602678819172646914",
      "day_of_week": 2, <--- A user has access to the safe on Tuesday
      "valid_from": "09:00:00", <--- User's access starts at 9:00
      "valid_to": "14:00:00", <--- and ends at 14:00
      "created_at": "2022-10-26 02:25:19.155648-07",
      "modified_at": "2022-10-26 02:30:40.677788-07"
    },
    {
      "id": "4602678819172646914",
      "safe_id": "4602678819172646913",
      "user_id": "4602678819172646914",
      "day_of_week": 3, <--- A user has access to the safe on Wednesday
      "valid_from": "09:15:00", <--- User's access starts at 9:15
      "valid_to": "14:15:00", <--- and ends at 14:15
      "created_at": "2022-10-26 02:32:11.781045-07",
      "modified_at": "2022-10-26 02:32:11.781045-07"
    }
  ]
}
```

## 9.12 Modifying user's time policy settings within a safe

**Request**

Method	PATCH
Path	<a href="/api/v2/user/safe/time_policy/&lt;id&gt;">/api/v2/user/safe/time_policy/&lt;id&gt;</a>
Body	UserSafeTimePolicyAssignment

**Example request: Changing the day of user's access to Monday**

Sending PATCH [https://10.0.0.0/api/v2/user/safe/time\\_policy/1232678819172646913](https://10.0.0.0/api/v2/user/safe/time_policy/1232678819172646913)

```
{ "day_of_week": 1 }
```

**Response**

```
{ "result": "success" }
```

## 9.13 Creating user's time policy settings within a safe

### Request

---

Method	POST
Path	/api/v2/user/safe/time_policy
Body	UserSafeTimePolicyAssignment

---

**Example request:** Creating user's access to the the safe for Thursday from 16:00 till 23:00

Sending POST [https://10.0.0.0/api/v2/user/safe/time\\_policy](https://10.0.0.0/api/v2/user/safe/time_policy)

```
{ "user_id": "1232678819172646915",
  "safe_id": "1232678819172646913",
  "day_of_week": 4,
  "valid_from": "16:00:00",
  "valid_to": "23:00:00"
}
```

### Response

```
{ "result": "success",
  "user_safe_time_policy": {
    "id": "1232678819172646915" }}
```

## 9.14 Deleting a user-safe assignment

### Request

---

Method	DELETE
Path	/api/v2/user/<user_id>/safe/<safe_id>

---

## 9.15 Deleting a user

### Request

Method

DELETE

Path

`/api/v2/user/<id>`

---

## API v2: User authentication methods management

Table 1: `UserAuthenticationMethodModel`

Attribute	Type	Required	Description
<code>id</code>	string	yes	Read-only object Identifier
<code>type</code>	string {password, oath, extauth, sshkey, certificate, duo, sms, apikey}	yes	Immutable
<code>user_id</code>	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>user_id</code> with attribute <code>position</code> .
<code>user_name</code>	string		Read-only; Expensive to use
<code>user_role</code>	string		Read-only; Expensive to use
<code>position</code>	number	yes	Uniqueness is required in the combination of attribute <code>position</code> with attribute <code>user_id</code> .
<code>external_sync</code>	boolean; default value <code>false</code>	yes	
<code>secret</code>	string	if <code>type == duo</code>    <code>oath</code>    <code>password</code>    <code>sms</code>    <code>sshkey</code>	

Continued on next page



Table 1 – continued from previous page

Attribute	Type	Required	Description
needs_change	boolean; default value <b>false</b>	yes	
external_authentication_id	string	if type == duo    extauth    sms	
apikey_device_id	string	if type == apikey	Read-only; Expensive to use
apikey_device_platform	string	if type == apikey	Read-only; Expensive to use
apikey_device_pushid	string	if type == apikey	Read-only; Expensive to use
apikey_key	string	if type == apikey	Protected
certificate_subject	string	if type == certificate	
duo_user_id	string	if type == duo	
duo_username	string	if type == duo	
OATH	OATHAuthenticationMethodAttributes	if type == oath	OATH authentication properties
sms_token	string	if type == sms	Read-only; Protected
sshkey_user_presence_required	boolean; default value <b>true</b>	if type == sshkey	
sshkey_verification_required	boolean; default value <b>false</b>	if type == sshkey	
sshkey_counter	number	if type == sshkey	Read-only
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

Table 2: OATHAuthenticationMethodAttributes

Attribute	Type	Required	Description
oath_type	string {HOTP, TOTP}	yes	Immutable.
oath_initialized	boolean; value false	default yes	
oath_secret	string	yes	Protected.
oath_tokenlen	number	yes	Immutable; value range: [4, 16].
oath_timestep	number {30, 45, 60, 90, 120, 180, 300}	If oath_type == TOTP	
oath_counter	number; value 0	default yes	Read-only.
oath_timeshift	number; value 0	default If oath_type == TOTP	Read-only.
oath_url	null		Read-only.
oath_qrcode	null		Read-only.

### Request for retrieving available attributes of the UserAuthenticationMethodModel

---

Method

GET

---

Path

/api/v2/objspec/user\_authentication\_method

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the User objects.

## 10.1 Listing user's authentication methods

### Request

---

Method

GET

---

Path

/api/v2/user/<user\_id>/authentication

---

### Example request

Sending GET <https://10.0.0.0/api/v2/user/12345678901234567890/authentication>

## Response

```
{
  "result": "success",
  "user_authentication_method": [
    {
      "id": "12345612345123",
      "user_id": "12345678901234567890",
      "type": "password",
      "needs_change": false,
      "position": 0,
      "external_sync": false,
      "created_at": "2022-10-25 06:35:12.95741-07",
      "modified_at": "2022-10-25 06:35:12.95741-07",
      "user_name": "test-user"
    },
    {
      "id": "1234561234512357466",
      "user_id": "12345678901234567890",
      "type": "sshkey",
      "needs_change": false,
      "position": 1,
      "external_sync": false,
      "sshkey_user_presence_required": true,
      "sshkey_verification_required": false,
      "sshkey_counter": 0,
      "created_at": "2022-10-25 06:37:54.913056-07",
      "modified_at": "2022-10-25 06:37:54.913056-07",
      "user_name": "test-user"
    }
  ]
}
```

## 10.2 Creating user authentication method

### Request

Method	POST
Path	/api/v2/user/<user_id>/authentication
Headers	Content-Type: Application/JSON
Body	UserAuthenticationMethodModel

Example request: Setting user authentication method - Static Password

Sending POST <https://10.0.0.0/api/v2/user/12345678901234567890/authentication>

```
{
  "type": "password",
  "secret": "test-password"
}
```

### Response

```
{
  "result": "success",
  "user_authentication_method": {
    "id": "12345612345123"
  }
}
```

### Example request: Setting user authentication method - API Key

**Note:** When creating *API Key* authentication method, you can:

- set `apikey_key=null` or skip this attribute in the request - API will generate an `apikey_key` and return it in the response.
- set `apikey_key=<plaintext>` - API will save provided plaintext without returning it in the response.
- set `apikey_key=sha512:<hash-base64-encoding>` - API will save provided hash. Please be informed that the *SHA512* hash should be encoded in *Base64* formatting.

**Note:** You can use following command to generate an `apikey_key` and its hash. The `apikey_key` will be saved in the `apikey.txt` file, and the hash will be saved in the `apikey.sha512` file.

```
(umask 077 && echo sha512:${(openssl rand 48 | openssl base64 | tee apikey.txt | dd
↪bs=64 count=1 | openssl sha512 -binary | openssl base64 -A) > apikey.sha512)
```

### Request:

Sending POST <https://10.0.0.0/api/v2/user/12345678901234567890/authentication>

```
{
  "type": "apikey"
}
```

### Response:

```
{
  "result": "success",
  "user_authentication_method": {
    "id": "8511803295730237450",
    "apikey_key":
    ↪"Ah08ibgN98TAUsa8f7o3MDsJXnliodphdtSz5xzTsnVI4DLv0dfUn6s3BEubse70"
  }
}
```

**Request:**

Sending POST <https://10.0.0.0/api/v2/user/12345678901234567891/authentication>

```
{
  "type": "apikey",
  "position": 1,
  "apikey_key": "sha512:rPXbZAJ5q/
↪4GcHTC7Z0x8a568eVqrXuhzmmPjqHPMGovdbCaczEI7WxLw8oyAzKkUV2qWlr9n9g+70K4p12xKw=="
}
```

**Response:**

```
{
  "result": "success",
  "user_authentication_method": {
    "id": "8511803295730237478"
  }
}
```

**Note:** The `apikey_key` plain text is available only during authentication method creation process. Please remember to copy and archive it if needed.

## 10.3 Modifying user authentication method

**Request**

Method	PATCH
Path	/api/v2/user/<user_id>/authentication/<id>
Headers	Content-Type: Application/JSON
Body	UserAuthenticationMethodModel

**Example request****Request**

Sending PATCH <https://10.0.0.0/api/v2/user/12345678901234567890/authentication/12345612345123>

```
{
  "position": 1
}
```

**Response**

```
{  
  "result": "success"  
}
```

## 10.4 Deleting user authentication method

**Request**

---

Method

DELETE

---

Path

/api/v2/user/<user\_id>/authentication/<id>

---

**Example request**

Sending DELETE <https://10.0.0.0/api/v2/user/12345678901234567890/authentication/1234561234512357466>

**Response**

```
{  
  "result": "success"  
}
```

## 11.1 Data structures

Table 1: ExternalAuthenticationModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique; case insensitive
type	string {cerb, radius, ldap, ad}	yes	Immutable
address	string	yes	
port	number {from 1 to 65535}	yes	
bind_ip	string	no	Bind address. Include labels like 'fudo:label:test' or ip address
cerb	ExternalAuthentication-CerbModel	If type == cerb	Cerb object definition
radius	ExternalAuthentication-RadiusModel	If type == radius	Radius object definition
ldap	ExternalAuthentication-LdapModel	If type == ldap	LDAP object definition
ad	ExternalAuthentication-AdModel	If type == ad	Active Directory object definition
tls_enabled	boolean	If type == ad    ldap	Enable TLS protocol

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
tls_certificate	string	If type == ad    ldap & tls_enabled == true	
tls_ca_certificate	string	If type == ad    ldap & tls_enabled == true	
second_factor_type	string {duo, oath, sms}	no	
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

Table 2: ExternalAuthenticationCerbModel

Attribute	Type	Description
secret	string	Password to cerb provider; required; write-only
radius_nasid	string	Correct value of NAS id of Cerb provider

Table 3: ExternalAuthenticationRadiusModel

Attribute	Type	Description
secret	string	Password to cerb provider; required; write-only
radius_nasid	string	Correct value of NAS id of Radius provider

Table 4: ExternalAuthenticationLdapModel

Attribute	Type	Description
ldap_binddn	string	Bind domain to LDAP provider; required

Table 5: ExternalAuthenticationAdModel

Attribute	Type	Description
login	string	
secret	string	Password to cerb provider; required; write-only
ad_domain	string	Bind domain to AD provider; required

### Request for retrieving available attributes of the ExternalAuthenticationModel

Method	GET
Path	/api/v2/objspec/external_authentication



**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the External Authentication objects.

## 11.2 Retrieving external authentication methods list

### Request

Method

GET

Path

/api/v2/external\_authentication

### Example request

Sending GET `https://10.0.0.0/api/v2/external_authentication`

### Response

```
{
"result": "success",
"external_authentication": [
  {
    "id": "1234538875067072557",
    "type": "ad",
    "port": 636,
    "ad_domain": "jdoe.local",
    "created_at": "2021-08-09 19:40:05.171853+02",
    "modified_at": "2021-08-09 19:40:05.171853+02",
    "address": "10.0.139.100",
    "tls_enabled": true,
    "tls_certificate": "-----BEGIN CERTIFICATE-----\r\nMIIFrTCCBJWgAwIBAg...
↪ic=\r\n-----END CERTIFICATE-----\r\n"
  },
  {
    "id": "12345138875067072517",
    "type": "ldap",
    "port": 389,
    "ldap_binddn": "dc=qa-ldap,dc=null",
    "created_at": "2021-03-03 14:11:52.245683+01",
    "modified_at": "2021-03-03 14:14:46.052855+01",
    "address": "10.0.235.1",
    "tls_enabled": false,
    "tls_certificate": ""
  },
  {
```

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```

    "id": "12345067072573",
    "type": "cerb",
    "port": 1812,
    "created_at": "2022-10-19 10:23:11.29545+02",
    "modified_at": "2022-10-19 10:58:12.325396+02",
    "address": "10.0.234.21",
    "radius_nasid": "",
    "tls_enabled": false,
    "tls_certificate": ""
  },
  {
    "id": "3234566775067072572",
    "type": "radius",
    "port": 1812,
    "created_at": "2022-10-19 10:08:23.160433+02",
    "modified_at": "2022-10-19 10:19:50.525671+02",
    "second_factor_type": "oath",
    "address": "10.0.0.1",
    "radius_nasid": "abcdeg",
    "tls_enabled": true,
    "tls_certificate": "-----BEGIN CERTIFICATE-----\r\nMIIG5jC...
↪2MOXV1x+eQAm0Vy\r\n-----END CERTIFICATE-----\r\n"
  ]}]

```

## 11.3 Modifying external authentication method

### Request

Method	PATCH
Path	/api/v2/external_authentication/<id>
Headers	Content-Type: Application/JSON
Body	ExternalAuthenticationModel

### Example request: Adding SMS authentication for second factor to AD authentication

Sending PATCH https://10.0.0.0/api/v2/external\_authentication/1234538875067072557

```
{"second_factor_type": "sms"}
```

### Response

```
{ "result": "success"}
```

## 11.4 Creating an external authentication method

### Request

Method	POST
Path	/api/v2/external_authentication
Headers	Content-Type: Application/JSON
Body	ExternalAuthenticationModel

### Example request: Creating Cerb definition with second factor OATH authentication

Sending POST [https://10.0.0.0/api/v2/external\\_authentication](https://10.0.0.0/api/v2/external_authentication)

```
{ "type": "cerb",  
  "port": 1812,  
  "address": "10.0.234.21",  
  "radius_nasid": "abcds",  
  "secret": "my-password",  
  "tls_enabled": false,  
  "second_factor_type": "oath" }
```

### Response

```
{ "result": "success",  
  "external_authentication": {  
    "id": "123456819172646913" }}}
```

## 11.5 Deleting an external authentication method

### Request

Method	DELETE
Path	/api/v2/external_authentication/<id>

Server is a definition of the IT infrastructure resource, which can be accessed over one of the specified protocols.

## 12.1 Data structures

Table 1: `ServerModel`

Attribute	Type	Required	Description
<code>id</code>	string	yes	Unique, read-only object Identifier.
<code>name</code>	string	yes	Unique server's name.
<code>description</code>	string	no	Object description.
<code>blocked</code>	boolean; default value <code>false</code>	yes	
<code>reason</code>	string	if <code>blocked == true</code>	
<code>bind_ip</code>	string		Required format: IP address or <code>fudo:label:&lt;ip_label_name&gt;</code> for labeled IP addresses.
<code>address</code>	string	yes	IP address. Uniqueness is required in the combination of attribute <code>address</code> with attributes <code>mask</code> and <code>port</code> .

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
mask	number {from 0 to 128}	no	Uniqueness is required in the combination of attribute <code>mask</code> with attributes <code>address</code> and <code>port</code> .
port	number {from 1 to 65535}	yes	Uniqueness is required in the combination of attribute <code>port</code> with attributes <code>address</code> and <code>mask</code> .
legacy_crypto	boolean; default value <code>false</code>	If <code>protocol == rdp    ssh    http    telnet    tn3270    tn5250 &amp; tls_enabled == true</code>	Enabling legacy cryptographic protocols and settings.
protocol	string{http, modbus, mysql, rdp, ssh, system, tcp, tds, telnet, tn3270, tn5250, vnc}	yes	Immutable, case insensitive.
http	HTTPServerAttributes	If <code>protocol == http</code>	HTTP protocol properties.
rdp	RDPServerAttributes	If <code>protocol == rdp</code>	RDP protocol properties.
tls	TLSServerAttributes	If <code>tls_enabled == true</code>	TLS protocol properties.
ssh_public_key	string	If <code>protocol == ssh</code>	SSH public key.
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.
last_login	datetime		Read-only; Expensive to use.
pools	object-array		Read-only; Expensive to use; JSON object array containing <code>id</code> and <code>name</code> of assigned pools.
pools_ids	string-array		Read-only; hidden; expensive to use
pools_names	string-array		Read-only; hidden; expensive to use

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
state	string		Server's discovery state: discovered, onboarded, quarantined or created (for manually created accounts). Read-only. Expensive to use.
discovered_at	datetime		Read-only. Expensive to use. Server discovered at timestamp.
onboarded_at	datetime		Read-only. Expensive to use. Server onboarded at timestamp.
onboarded_by_id	string		Read-only. Expensive to use. Unique identifier of the user who performed the onboarding.
onboarded_by_name	string		Read-only. Expensive to use. Name of the user who performed the onboarding.
quarantined_at	datetime		Read-only. Expensive to use. Server quarantined at timestamp.
quarantined_by_id	string		Read-only. Expensive to use. Unique identifier of the user who performed the quarantine.
quarantined_by_name	string		Read-only. Expensive to use. Name of the user who performed the quarantine.
scanner_id	string		Read-only. Expensive to use. Unique identifier of a scanner used to discover this server.

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Table 1 – continued from previous page

Attribute	Type	Required	Description
scanner_name	string		Read-only. Expensive to use. Name of a scanner used to discover this server.
builtin	boolean		Read-only; Expensive to use; If <code>true</code> , the object is not editable.
hidden	boolean		Read-only; Expensive to use; If <code>true</code> , the object is hidden in UI.

---

Table 2: HTTPServerAttributes

Attribute	Type	Required	Description
http_host	string	yes	HTTP host header value.
http_timeout	number {seconds}	yes	Period of inactivity, after which the user will have to authenticate again.
http_authentication	boolean; default value <code>false</code>	no	
http_authentication_method	string {Asana, Azure, Facebook, HPE BladeSystem, HPE iLO, HTTP Authentication, LinkedIn, Salesforce, Twitter}; Default value <code>null</code>	If <code>http_authentication == true</code>	Case insensitive.
http_username_element	string	If <code>http_authentication == true</code> & <code>http_authentication_method == null</code>	Custom login page details.
http_press_enter	boolean; default value <code>false</code>	If <code>http_authentication == true</code> & <code>http_authentication_method == null</code>	The <i>Press the enter key prior to password</i> option.
http_password_element	string	If <code>http_authentication == true</code> & <code>http_authentication_method == null</code>	Custom login page details.
http_signon_realm	string	If <code>http_authentication == true</code> & <code>http_authentication_method == null</code>	Custom login page details.



Table 3: RDPServerAttributes

Attribute	Type	Required	Description
rdp_hotseat	boolean; default value <code>false</code>	yes	The option to have the users informed that other users are connected to the server, they are trying to connect to.
rdp_nla_enabled	boolean; default value <code>true</code>	If <code>protocol == rdp &amp; tls_enabled == true</code> .	
rdp_public_key	string	If <code>protocol == rdp &amp; tls_enabled == false</code>	RDP public key.

Table 4: TLSServerAttributes

Attribute	Type	Required	Description
tls_enabled	boolean; default value <code>true</code>	If <code>protocol == rdp    http    telnet    tn3270    tn5250</code>	Enabling the TLS protocol.
tls_ca_certificate	string	If <code>protocol == rdp    http    telnet    tn3270    tn5250 &amp; tls_enabled == true</code>	TLS CA certificate.
tls_certificate	string	If <code>protocol == rdp    http    telnet    tn3270    tn5250 &amp; tls_enabled == true</code>	TLS certificate.

### Request for retrieving available attributes of the ServerModel

Method	GET
Path	<code>/api/v2/objspec/server</code>

Table 5: ServerPoolModel

Attribute	Type	Required	Description
id	number	yes	Read-only object Identifier.
pool_id	number	yes	Immutable. Uniqueness is required in the combination of attribute <code>pool_id</code> with attribute <code>server_id</code> .
server_id	number	yes	Immutable. Uniqueness is required in the combination of attribute <code>server_id</code> with attribute <code>pool_id</code> .
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.

### Request for retrieving available attributes of the ServerPoolModel

---

Method

GET

---

Path

/api/v2/objspec/pool\_server

Table 6: ServerGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique for_server_id
for_server_id	string	yes	Immutable. Expects unique to_user_id
for_server_name	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	string		Read-only
modified_at	string		Read-only
removed	boolean		Read-only

### Request for retrieving available attributes of the ServerGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/server\_grant

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Server objects.

## 12.2 Creating a server

### Request

---

Method

POST

---

Path

/api/v2/server

---

Headers

Content-Type: Application/JSON

---

Body

ServerModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/server>

```
{
  "name": "my-1st-rdp-server",
  "protocol": "rdp",
  "address": "10.0.2.0",
  "port": 3389,
  "legacy_crypto": false
}
```

### Response

```
{ "result": "success",
  "server": {
    "id": "41234678819172646916" }}
```

## 12.3 Retrieving servers list

### Request

---

Method

GET

---

Path

/api/v2/server

---

## 12.4 Retrieving a server

### Request

---

Method

GET

---

Path

/api/v2/server/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/server/41234678819172646916>

```
{
  "result": "success",
  "server": {
    "id": "4602678819172646916",
    "name": "my-1st-rdp-server",
    "blocked": false,
    "address": "10.0.2.0",
    "mask": 32,
    "port": 3389,
    "protocol": "rdp",
    "legacy_crypto": false,
    "rdp_hotseat": false,
    "rdp_nla_enabled": true,
    "tls_enabled": true,
    "tls_use_ca_store": false,
    "created_at": "2022-10-27 01:43:39.688273-07",
    "modified_at": "2022-10-27 01:43:39.688273-07",
    "last_login": "-infinity"
  }
}
```

## 12.5 Modifying a server

### Request

---

Method

PATCH

---

Path

/api/v2/server/<id>

---

Headers

Content-Type: Application/JSON

---

Body

ServerModel

---

### Example request: Enable using CA store for server verification

Sending PATCH <https://10.0.0.0/api/v2/server/41234678819172646916>

```
{"tls_use_ca_store": true}
```

### Response

```
{ "result": "success" }
```

## 12.6 Adding a server to the pool

### Request

---

Method

POST

---

Path

/api/v2/pool/server

---

Headers

Content-Type: Application/JSON

---

Body

ServerPoolModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/pool/server>

```
{ "pool_id": "122678819172646916",  
  "server_id": "123402678819172646914" }
```

### Response

```
{ "result": "success",  
  "pool_server": {} }
```

## 12.7 Deleting a server from a pool

### Request

---

Method

DELETE

---

Path

/api/v2/pool/<pool\_id>/server/<server\_id>

---

## 12.8 Retrieving users allowed to manage servers

### Request

---

Method

GET

---

Path

/api/v2/grant/server

---

### Example request

Sending GET https://10.0.0.0/api/v2/grant/server

### Response

```
{ "result": "success",
"server_grant": [
  {
    "for_server_id": "4602678819172646916",
    "to_user_id": "4602678819172646914",
    "created_at": "2022-10-27 01:51:15.839452-07",
    "modified_at": "2022-10-27 01:51:15.839452-07" } ] }
```

## 12.9 Granting management privileges

### Request

---

Method

POST

---

Path

/api/v2/grant/server

---

Body

```
{
  to_user_id: 1234567890,
  for_server_id: 1234567891
}
```

---

## 12.10 Deleting a server

### Request

Method

DELETE

Path

/api/v2/server/<id>

---

Pools serve grouping purposes for the server objects based on the same protocol to be managed within other objects (for example, accounts) as one server.

## 13.1 Data structures

Table 1: PoolModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique pool's name
description	string	no	
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
servers	object-array		Read-only; expensive to use; JSON object array containing <code>id</code> , <code>mask</code> , <code>name</code> , <code>port</code> and <code>address</code> of assigned servers.
server_ids	string-array		Read-only; hidden; expensive to use
server_names	string-array		Read-only; hidden; expensive to use
protocol	string		Read-only; expensive to use.
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

Request for retrieving available attributes of the PoolModel



Method

GET

Path

`/api/v2/objspec/pool`

Table 2: ServerPoolModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier.
pool_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>pool_id</code> with attribute <code>server_id</code> .
server_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>server_id</code> with attribute <code>pool_id</code> .
pool_name	string		Read-only; Expensive to use.
server_name	string		Read-only; Expensive to use.
server_protocol	string		Read-only; Expensive to use.
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.

### Request for retrieving available attributes of the ServerPoolModel

Method

GET

Path

`/api/v2/objspec/pool_server`

Table 3: PoolGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique <code>for_pool_id</code>
for_pool_id	string	yes	Immutable. Expects unique <code>to_user_id</code>
for_pool_name	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	string		Read-only
modified_at	string		Read-only
removed	boolean		Read-only

## Request for retrieving available attributes of the PoolGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/pool\_grant

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Pool objects.

## 13.2 Retrieving pools list

### Request

---

Method

GET

---

Path

/api/v2/pool

---

### Example request

Sending GET <https://10.0.0.0/api/v2/pool>

### Response

```
{
  "result": "success",
  "pool": [
    {
      "id": "1232678819172646913",
      "name": "Linux servers",
      "description": "Example Linux pool",
      "created_at": "2022-10-20 02:01:38.373501-07",
      "modified_at": "2022-10-20 02:01:38.373501-07",
      "servers": [
        "1202678819172646913"
      ]
    },
    {
      "id": "41232678819172646914",
      "name": "Windows servers",
      "description": "Example Windows pool",
```

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```
"created_at": "2022-10-20 02:01:38.376251-07",
"modified_at": "2022-10-20 02:01:38.376251-07",
"servers": [
  "1202678819172646914"
]
},
{
  "id": "1232678819172646915",
  "name": "test-pool",
  "created_at": "2022-10-24 06:34:53.510281-07",
  "modified_at": "2022-10-24 06:34:53.510281-07",
  "servers": [
    "1202678819172646913"
  ]
}]}}
```

## 13.3 Retrieving a pool

### Request

---

Method

GET

---

Path

/api/v2/pool/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/pool/1232678819172646915>

### Response

```
{
"result": "success",
"pool": {
  "id": "1232678819172646915",
  "name": "test-pool",
  "created_at": "2022-10-24 06:34:53.510281-07",
  "modified_at": "2022-10-24 06:34:53.510281-07",
  "servers": [
    "1202678819172646913"
  ]
}}
```

## 13.4 Creating a pool

### Request

---

Method

POST

---

Path

/api/v2/pool

---

Headers

Content-Type: Application/JSON

---

Body

PoolModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/pool>

```
{"name": "my-2nd-pool"}
```

### Response

```
{ "result": "success",  
  "pool": {  
    "id": "1202678819172646916"  }}
```

## 13.5 Modifying a pool

### Request

---

Method

PATCH

---

Path

/api/v2/pool/<id>

---

Headers

Content-Type: Application/JSON

---

Body

PoolModel

---

### Example request

Sending PATCH <https://10.0.0.0/api/v2/pool/1202678819172646916>

```
{"name": "my-cool-pool"}
```

### Response

```
{ "result": "success" }
```

## 13.6 Retrieving server pools

### Request

---

Method

GET

---

Path

/api/v2/pool/server

---

### Example request

Sending GET <https://10.0.0.0/api/v2/pool/server>

### Response

```
{
  "result": "success",
  "pool_server": [
    {
      "pool_id": "1232678819172646913",
      "server_id": "1232678819172646913",
      "created_at": "2022-10-20 02:01:38.374809-07",
      "modified_at": "2022-10-20 02:01:38.374809-07"
    },
    {
      "pool_id": "1232678819172646914",
      "server_id": "1232678819172646914",
      "created_at": "2022-10-20 02:01:38.376536-07",
      "modified_at": "2022-10-20 02:01:38.376536-07"
    },
    {
      "pool_id": "1232678819172646915",
      "server_id": "1232678819172646913",
      "created_at": "2022-10-24 06:51:46.780733-07",
      "modified_at": "2022-10-24 06:51:46.780733-07"
    }
  ]
}
```

## 13.7 Adding a server to the pool

### Request

---

Method

POST

---

Path

/api/v2/pool/server

---

Headers

Content-Type: Application/JSON

---

Body

ServerPoolModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/pool/server>

```
{ "pool_id": "4602678819172646916",  
  "server_id": "4602678819172646914"}
```

### Response

```
{ "result": "success",  
  "pool_server": {} }
```

## 13.8 Deleting a server from a pool

### Request

---

Method

DELETE

---

Path

/api/v2/pool/<pool\_id>/server/<server\_id>

---

## 13.9 Retrieving users allowed to manage pools

### Request

---

Method

GET

---

Path

/api/v2/grant/pool

---

### Example request

Sending GET <https://10.0.0.0/api/v2/grant/pool>

### Response

```
{
  "result": "success",
  "pool_grant": [
    {
      "for_pool_id": "1232678819172646916",
      "to_user_id": "1232678819172646915",
      "created_at": "2022-10-26 04:08:38.907148-07",
      "modified_at": "2022-10-26 04:08:38.907148-07"
    }
  ]
}
```

## 13.10 Granting access for user to a pool

### Request

Method	POST
Path	/api/v2/grant/pool
Headers	Content-Type: Application/JSON
Body	<pre>{   to_user_id: 1234567890,   for_pool_id: 1234567891 }</pre>

## 13.11 Deleting a pool

### Request

Method	DELETE
Path	/api/v2/pool/<id>

Safe directly regulates user access to monitored servers. It specifies available protocols' features, policies and other details concerning users and servers relations.

## 14.1 Data structures

Table 1: SafeModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique safe's name
blocked	boolean; default value <b>false</b>	yes	
reason	string	if <b>blocked == true</b>	
login_reason	boolean; default value <b>false</b>	yes	Enable sending login reason for connection
use_ticketing_system	boolean; default value <b>false</b>	yes	
require_confirmation	boolean; default value <b>false</b>	yes	Enable confirmation of each connection
otp_in_access_gateway	boolean; default value <b>true</b>	yes	Enable generating OTP in the Access Gateway
webclient	boolean; default value <b>true</b>	yes	Enable connecting to the session in browser

Continued on next page



Table 1 – continued from previous page

Attribute	Type	Required	Description
confirmation_timeout	number; default value 5	yes	
inactivity_limit	number; default value 0	yes	
time_limit	number; default value 0	yes	
note_access	string {none, read, write}; default value <b>none</b>	Access level to the notes	
required_votes	number; default value 0	yes	How many voters will be voting for the access request
backup_id	string	no	Target destination ID for storing session data
backup_name	string	no	Read-only; expensive to use
rdp	SafeRDPAttributes	If protocol == rdp	
ssh	SafeSSHAttributes	If protocol == ssh	
vnc	SafeVNCAAttributes	If protocol == vnc	
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
last_login	datetime		Read-only
accounts	object-array		Read-only; expensive to use; JSON object array containing <b>id</b> , <b>name</b> , and <b>type</b> of assigned accounts.
account_ids	string-array		Read-only; hidden; expensive to use
account_names	string-array		Read-only; hidden; expensive to use
users	object-array		Read-only; expensive to use
user_ids	string-array		Read-only; hidden; expensive to use
user_names	string-array		Read-only; hidden; expensive to use
listeners	object-array		Read-only; expensive to use
listener_ids	string-array		Read-only; hidden; expensive to use
listener_names	string-array		Read-only; hidden; expensive to use

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
builtin	boolean		Read-only; expensive to use; if <b>true</b> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <b>true</b> , the object is hidden in UI.

Table 2: SafeRDPAttributes

Attribute	Type	Required	Description
rdp_audin	boolean; default value <b>true</b>	yes	Audio input redirection
rdp_clipdr	boolean; default value <b>true</b>	yes	Clipboard redirection
rdp_depth	number {8, 16, 24, 32}	no	Max. color depth
rdp_rdpdr	boolean; default value <b>true</b>	yes	
rdp_rdpwnd	boolean; default value <b>true</b>	yes	Sound redirection
rdp_rdpwndc	boolean; default value <b>true</b>	yes	
rdp_resolution	string {800x600, 1024x600, 1024x768, 1152x864, 1280x720, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768, 1400x1050, 1440x900, 1600x900, 1680x1050, 1600x1200, 1920x1080, 1920x1200, 2048x1152, 2560x1440, 2560x1600}	no	Max. resolution
rdp_suspend	boolean; default value <b>true</b>	yes	Enable content to not be available for viewing when the user minimizes its client application
rdp_tsmf	boolean; default value <b>true</b>	yes	

Table 3: SafeSSHAttributes

Attribute	Type	Required
ssh_agent	boolean; default value <b>true</b>	yes
ssh_environment	boolean; default value <b>true</b>	yes
ssh_exec	boolean; default value <b>true</b>	yes
ssh_port_forwarding	boolean; default value <b>true</b>	yes
ssh_scp	boolean; default value <b>true</b>	yes
ssh_session	boolean; default value <b>true</b>	yes
ssh_shell	boolean; default value <b>true</b>	yes
ssh_sftp	boolean; default value <b>true</b>	yes
ssh_terminal	boolean; default value <b>true</b>	yes
ssh_x11	boolean; default value <b>true</b>	yes

Table 4: SafeVNCAttributes

Attribute	Type	Required	Description
vnc_clipcli	boolean; default value <b>true</b>	yes	Enable a user to be allowed to paste text into the VNC server computer
vnc_clipsrv	boolean; default value <b>true</b>	yes	Enable a user to be allowed to copy and paste text from the VNC server computer into the user's computer

### Request for retrieving available attributes of the SafeModel

Method	GET
Path	/api/v2/objspec/safe

Table 5: UserSafeAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier.
user_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <b>user_id</b> with attribute <b>safe_id</b> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <b>safe_id</b> with attribute <b>user_id</b> .
blocked	boolean; default value <b>false</b>	yes	Access to this safe is disabled for the user.
position	number		
password_visible	boolean; default value <b>false</b>	yes	Allow a user to use Secret Checkout feature and view passwords in the Access Gateway.
time_policy_checks	string		Read-only; Expensive to use. Checksum computed from time policies used for this user-safe connection.
use_time_policy	boolean; default value <b>false</b>	yes	
valid_since	datetime (h:m:s); default value <b>-infinity</b>	yes	Beginning access time.
valid_to	datetime (h:m:s); default value <b>infinity</b>	yes	Ending access time.
user_name	string		Read-only; Expensive to use.
user_domain	string		Read-only; Expensive to use.
user_email	string		Read-only; Expensive to use.
user_organization	string		Read-only; Expensive to use.
user_role	string		Read-only; Expensive to use.
safe_name	string		Read-only; Expensive to use.

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Table 5 – continued from previous page

Attribute	Type	Required	Description
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.
builtin	boolean		Read-only; Expensive to use; If <b>true</b> , the object is not editable.
hidden	boolean		Read-only; Expensive to use; If <b>true</b> , the object is hidden in UI.

### Request for retrieving available attributes of the UserSafeAssignmentModel

Method	GET
Path	/api/v2/objspec/user_safe

Table 6: UserSafeTimePolicyAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier.
user_safe_id	string		Read-only object Identifier.
user_id	string	yes	Immutable.
safe_id	string	yes	Immutable.
user_name	string		Read-only; Expensive to use.
user_role	string		Read-only; Expensive to use.
safe_name	string		Read-only; Expensive to use.
day_of_week	number	yes	Value range from 1 to 7.
valid_from	datetime (h:m:s)	yes	Beginning access time.
valid_to	datetime (h:m:s)	yes	Ending access time.
created_at	datetime		Read-only.
modified_at	datetime		Read-only.
removed	boolean		Read-only.

### Request for retrieving available attributes of the UserSafeTimePolicyAssignment-Model

Method	GET
Path	/api/v2/objspec/user_safe_time_policy

Table 7: AccountSafeListenerAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
account_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>account_id</code> with attributes <code>safe_id</code> and <code>listener_id</code> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attributes <code>account_id</code> and <code>listener_id</code> .
listener_id	string	no	Immutable. Uniqueness is required in the combination of attribute <code>listener_id</code> with attributes <code>account_id</code> and <code>safe_id</code> .
account_name	string		Read-only; expensive to use
account_type	string		Read-only; expensive to use
protocol	string		Read-only; expensive to use
server_id	string		Read-only; expensive to use; null if pool is assigned.
server_name	string		Read-only; expensive to use; null if pool is assigned.
pool_id	string		Read-only; expensive to use; null if server is assigned.
pool_name	string		Read-only; expensive to use; null if server is assigned.
safe_name	string		Read-only; expensive to use
listener_name	string		Read-only; expensive to use
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

### Request for retrieving available attributes of the AccountSafeListenerAssignment-Model

---

Method

GET

---

Path

/api/v2/objspec/account\_safe\_listener

---

Table 8: SafePolicyAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only, protected object Identifier
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attributes <code>policy_id</code> .
policy_id	string	no	Immutable. Uniqueness is required in the combination of attribute <code>policy_id</code> with attributes <code>safe_id</code> .
safe_name	string		Read-only; expensive to use
policy_name	string		Read-only; expensive to use
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the SafePolicyAssignmentModel

---

Method

GET

---

Path

`/api/v2/objspec/safe_policy`

---

Table 9: SafeGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique <code>for_safe_id</code>
for_safe_id	string	yes	Immutable. Expects unique <code>to_user_id</code>
for_safe_name	string		Read-only, expensive to use
to_user_domain	string		Read-only, expensive to use
to_user_email	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

### Request for retrieving available attributes of the SafeGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/safe\_grant

---

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Safe objects.

## 14.2 Retrieving safes list

### Request

---

Method

GET

---

Path

/api/v2/safe

---

### Example request

Sending GET `https://10.0.0.0/api/v2/safe`

### Response

```
{ "result": "success",
"safe": [
  {
    "id": "123678819172646913",
    "name": "main",
    "blocked": false,
    "login_reason": false,
    "use_ticketing_system": false,
    "require_confirmation": false,
    "otp_in_access_gateway": true,
    "webclient": true,
    "confirmation_timeout": 5,
    "inactivity_limit": 0,
    "time_limit": 0,
    "note_access": "none",
    "required_votes": 0,
    "rdp_audin": true,
    "rdp_clipdr": true,
    "rdp_rdpdr": true,
```

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```
"rdp_rdpsnd": true,
"rdp_rdrynvc": true,
"rdp_suspend": true,
"rdp_tsmf": true,
"ssh_agent": true,
"ssh_environment": true,
"ssh_exec": true,
"ssh_port_forwarding": true,
"ssh_scp": true,
"ssh_session": true,
"ssh_shell": true,
"ssh_sftp": true,
"ssh_terminal": true,
"ssh_x11": true,
"vnc_clipcli": true,
"vnc_clipsrv": true,
"created_at": "2022-10-20 02:01:38.366865-07",
"modified_at": "2022-10-26 03:26:45.530129-07",
"last_login": "-infinity",
"accounts": [
  "122678819172646913",
  "1232678819172646914",
  "1232678819172646919"
]
}}}
```

## 14.3 Creating a safe

### Request

---

Method

POST

---

Path

/api/v2/safe

---

Headers

Content-Type: Application/JSON

---

Body

SafeModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/safe>

```
{ "name": "my-1st-safe" }
```

### Response



```
{ "result": "success",  
  "safe": {  
    "id": "1232678819172646915" }}
```

## 14.4 Retrieving a safe

### Request

---

Method

GET

---

Path

/api/v2/safe/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/safe/1232678819172646915>

### Response

```
{ "result": "success",  
  "safe": {  
    "id": "1232678819172646915",  
    "name": "my-1st-safe",  
    "blocked": false,  
    "login_reason": false,  
    "use_ticketing_system": false,  
    "require_confirmation": false,  
    "otp_in_access_gateway": true,  
    "webclient": true,  
    "confirmation_timeout": 5,  
    "inactivity_limit": 0,  
    "time_limit": 0,  
    "note_access": "none",  
    "required_votes": 0,  
    "rdp_audin": true,  
    "rdp_clipdr": true,  
    "rdp_rdpdr": true,  
    "rdp_rdpsnd": true,  
    "rdp_rdrync": true,  
    "rdp_suspend": true,  
    "rdp_tsmf": true,  
    "ssh_agent": true,  
    "ssh_environment": true,  
    "ssh_exec": true,  
    "ssh_port_forwarding": true,  
    "ssh_scp": true,  
    "ssh_session": true,  
    "ssh_shell": true,  
    "ssh_sftp": true,  
    "ssh_terminal": true,  
    "ssh_x11": true,
```

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```
"vnc_clipcli": true,  
"vnc_clipsrv": true,  
"created_at": "2022-10-27 02:26:22.951762-07",  
"modified_at": "2022-10-27 02:26:22.951762-07",  
"last_login": "-infinity" }}
```

## 14.5 Modifying a safe

### Request

Method	PATCH
Path	/api/v2/safe/<id>
Headers	Content-Type: Application/JSON
Body	SafeModel

**Example request: Enabling the Just-in-Time feature for a safe that would wait for 5 authorized users to vote for access**

Sending PATCH <https://10.0.0.0/api/v2/safe/1232678819172646915>

```
{ "required_votes": 5 }
```

### Response

```
{ "result": "success" }
```

## 14.6 Deleting a safe

### Request

Method	DELETE
Path	/api/v2/safe/<id>

## 14.7 Retrieving users' time policy settings within safes

### Request

Method	GET
Path	/api/v2/user/safe/time_policy

### Example request

Sending GET [https://10.0.0.0/api/v2/user/safe/time\\_policy](https://10.0.0.0/api/v2/user/safe/time_policy)

**Response** (User's time policy is declared separately for each day)

```
{
  "result": "success",
  "user_safe_time_policy": [
    {
      "id": "4602678819172646913",
      "safe_id": "4602678819172646913",
      "user_id": "1232678819172646915",
      "day_of_week": 2, <--- A user has access to the safe on Tuesday
      "valid_from": "09:00:00", <--- User's access starts at 9:00
      "valid_to": "14:00:00", <--- and ends at 14:00
      "created_at": "2022-10-26 02:25:19.155648-07",
      "modified_at": "2022-10-26 02:30:40.677788-07"
    },
    {
      "id": "4602678819172646914",
      "safe_id": "4602678819172646913",
      "user_id": "1232678819172646915",
      "day_of_week": 3, <--- A user has access to the safe on Wednesday
      "valid_from": "09:15:00", <--- User's access starts at 9:15
      "valid_to": "14:15:00", <--- and ends at 14:15
      "created_at": "2022-10-26 02:32:11.781045-07",
      "modified_at": "2022-10-26 02:32:11.781045-07"
    }
  ]
}
```

## 14.8 Modifying a user's time policy settings within a safe

### Request

---

Method

PATCH

---

Path

/api/v2/user/safe/time\_policy/<id>

---

Body

UserSafeTimePolicyAssignment

---

**Example request: Changing the day of user's access to Monday**

Sending PATCH https://10.0.0.0/api/v2/user/safe/time\_policy/1232678819172646913

```
{ "day_of_week": 1 }
```

**Response**

```
{ "result": "success" }
```

## 14.9 Retrieving user's settings within a safe

**Request**

---

Method

GET

---

Path

/api/v2/user/<user\_id>/safe/<safe\_id>

---

## 14.10 Modifying a user within a safe

**Request**

---

Method

PATCH

---

Path

/api/v2/user/<user\_id>/safe/<safe\_id>

---

Body

UserSafeAssignment

---

**Example request: Allow a user to use Secret Checkout feature and view passwords in the Access Gateway**

Sending PATCH https://10.0.0.0/api/v2/user/1232678819172646914/safe/12302678819172646913

```
{"password_visible": true}
```

### Response

```
{ "result": "success" }
```

## 14.11 Deleting a user from a safe

### Request

---

Method

DELETE

---

Path

/api/v2/user/<user\_id>/safe/<safe\_id>

---

## 14.12 Retrieving users allowed to manage selected safe

### Request

---

Method

GET

---

Path

/api/v2/user/safe

---

## 14.13 Granting management privileges

### Request

---

Method

POST

---

Path

/api/v2/grant/safe

---

Body

```
{  
  to_user_id: 1234567890,  
  for_safe_id: 1234567891  
}
```

---

## 14.14 Retrieving account-safe-listener assignments list

### Request

---

Method

GET

---

Path

/api/v2/account/safe/listener

---

## 14.15 Creating an account-safe-listener assignments

### Request

---

Method

POST

---

Path

/api/v2/account/safe/listener

---

Headers

Content-Type: Application/JSON

---

Body

AccountSafeListenerAssignmentModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/account/safe/listener>

```
{ "account_id": 1232678819172646919,  
  "safe_id": 1232678819172646913,  
  "listener_id": 1232678819172646914 }
```

### Response

```
{ "result": "success",  
  "account_safe_listener": {} }
```

## 14.16 Deleting an account-safe-listener assignment

### Request

---

Method

DELETE

---

Path

/api/v2/account/<account\_id>/safe/<safe\_id>/listener/<listener\_id>

---

## 14.17 Retrieving safe-policy assignments list

### Request

---

Method

GET

---

Path

/api/v2/safe/policy

---

### Example request

Sending GET <https://10.0.0.0/api/v2/safe/policy/>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.0.214.98/api/v2/safe/policy
```

### Response

```
{
  "result": "success",
  "safe_policy": [
    {
      "safe_id": "9124292845052624898",
      "policy_id": "9124292845052624898",
      "safe_name": "RDP_Safe",
      "policy_name": "AI_Policy_1",
      "created_at": "2024-06-21 06:15:12.135699-07",
      "modified_at": "2024-06-21 06:15:12.135699-07"
    }
  ]
}
```

## 14.18 Checking safe-policy assignment by ID

### Request

---

Method

GET

---

Path

/api/v2/safe/<safe\_id>/policy/<policy\_id>

---

Headers

Content-Type: Application/HTML

---

Body

PolicyModel

---

### Example request

Sending GET https://10.0.0.0/api/v2/safe/9124292845052624898/policy/9124292845052624898

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.0.214.98/api/v2/safe/9124292845052624898/policy/9124292845052624898
```

### Response

```
{
  "result": "success",
  "safe_policy": [
    {
      "safe_id": "9124292845052624898",
      "policy_id": "9124292845052624898",
      "safe_name": "RDP_Safe",
      "policy_name": "AI_Policy_1",
      "created_at": "2024-06-21 06:15:12.135699-07",
      "modified_at": "2024-06-21 06:15:12.135699-07"
    }
  ]
}
```

## 14.19 Creating an safe-policy assignments

### Request



---

Method

POST

---

Path

/api/v2/safe/policy

---

Headers

Content-Type: Application/JSON

---

Body

SafePolicyAssignmentModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/safe/policy>

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/safe/policy -H 'Content-Type: application/json' -d '{"safe_id":
↪"9124292845052624898","policy_id":"9124292845052624898"}'
```

### Response

```
{
  "result": "success"
}
```

## 14.20 Deleting a safe-policy assignment

### Request

---

Method

DELETE

---

Path

/api/v2/safe/<safe\_id>/policy/<policy\_id>

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/safe/9124292845052624898/policy/9124292845052624898>

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.
↪0.214.98/api/v2/safe/9124292845052624898/policy/9124292845052624898
```

### Response

```
{
  "result": "success"
}
```

The *Discovery* feature enables to search for servers and accounts on domain controllers and local accounts on Windows servers.

## 15.1 Data structures

Table 1: `DiscoveryModel`

Attribute	Type	Required	Description
<code>account_id</code>	string		Unique and read-only ID of the account to on-board/quarantine
<code>server_id</code>	string		Unique and read-only ID of the server to on-board/quarantine
<code>rule_id</code>	string		Read-only, protected ID of the rule used to on-board/quarantine
<code>handled_by</code>	string		Read-only, protected object identifier
<code>state</code>	string {on-boarded, quarantined}	yes	Desired discovery state to be set
<code>reason</code>	string, may be empty	if type == quarantined	Quarantine reason description

**Request for retrieving available attributes of the `DiscoveryModel`**

---

Method

GET

---

Path

/api/v2/objspec/discovery

---

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 15.2 Changing server's discovery state

### Request

---

Method

PATCH

---

Path

/api/v2/server/<server\_id>/discovery

---

### Example request

Sending PATCH `https://10.0.0.0/api/v2/server/1234567890123456798/discovery`

```
{
  "state": "onboarded"
}
```

### Response

```
{
  "result": "success"
}
```

### Example request

Sending PATCH `https://10.0.0.0/api/v2/server/1234567890123456789/discovery`

```
{
  "state": "quarantined",
  "reason": "Example text"
}
```

### Response

```
{
  "result": "success"
}
```

### Batch request example

```
{
  "requests": {
    "onboard_o": {
      "method": "PATCH",
      "endpoint": "/server/1234567890123456789/discovery",
      "data": {
        "state": "onboarded"
      }
    },
    "onboard_q": {
      "method": "PATCH",
      "endpoint": "/server/1234567890123456790/discovery",
      "data": {
        "state": "quarantined",
        "reason": "A quarantine reason"
      }
    }
  }
}
```

## 15.3 Changing account's discovery state

### Request

---

Method

PATCH

---

Path

/api/v2/account/<account\_id>/discovery

---

### Example request

Sending PATCH <https://10.0.0.0/api/v2/account/1234567890123456798/discovery>

```
{
  "state": "onboarded"
}
```

### Response

```
{
  "result": "success"
}
```

### Example request

Sending PATCH <https://10.0.0.0/api/v2/account/1234567890123456789/discovery>

```
{  
  "state": "quarantined",  
  "reason": "Example text"  
}
```

### Response

```
{  
  "result": "success"  
}
```

Password changer policy defines specifics of how frequently the password should be changed and password complexity requirements.

## 16.1 Data structures

Table 1: PasswordPolicyModel

Attribute	Type	Required	Description
id	string		Read-only. Unique. Password change policy identifier.
name	string	yes	Unique, case-insensitive, password change policy name.
change_frequency	number {0 - 2147483647}	with complexity_length	Time in minutes after which password should be changed.
verification_frequency	number {0 - 2147483647}		Time in minutes after which password should be verified.
complexity_length	number {0 - 2147483647}		Total password length.
password_changer_enabled	boolean		Read-only. Expensive to use. Is password changer enabled for this policy?
password_verifier_enabled	boolean		Read-only. Expensive to use. Is password verifier enabled for this policy?
complexity_lowercase	number {0 - 2147483647}	with complexity_length	Number of lower case characters in password.
complexity_uppercase	number {0 - 2147483647}	with complexity_length	Number of upper case characters in password.

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
complexity_numeric	number {0 - 2147483647}	with complexity_length	Number of numeric characters in password.
complexity_nonalnum	number {0 - 2147483647}	with complexity_length	Number of special characters in password.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the PasswordPolicyModel

---

Method

GET

---

Path

/api/v2/objspec/password\_change\_policy

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 16.2 Retrieving password changer policies list

### Request

---

Method

GET

---

Path

/api/v2/password\_change\_policy

---

### Example request

Sending GET `https://10.0.0.0/api/v2/password_change_policy`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/password_change_policy'
```

### Response

```
{
  "result": "success",
  "password_change_policy": [
    {
      "id": "1",
      "name": "Static, without restrictions",
      "password_changer_enabled": false,
      "password_verifier_enabled": false,
      "created_at": "2024-06-10 05:59:22.994431-07",
      "modified_at": "2024-06-10 05:59:22.994431-07",
      "builtin": true,
      "hidden": false
    },
    {
      "id": "9124292845052624897",
      "name": "Pass Changing Enabled",
      "change_frequency": 2,
      "complexity_length": 8,
      "password_changer_enabled": true,
      "password_verifier_enabled": false,
      "complexity_lowercase": 1,
      "created_at": "2024-06-11 23:29:24.511416-07",
      "modified_at": "2024-06-12 02:16:38.410347-07",
      "builtin": false,
      "hidden": false
    }
  ]
}
```

## 16.3 Retrieving password change policy by ID

### Request

---

Method

GET

---

Path

/api/v2/password\_change\_policy/<id>

---

### Example request

Sending GET [https://10.0.0.0/api/v2/password\\_change\\_policy/9124292845052624897](https://10.0.0.0/api/v2/password_change_policy/9124292845052624897)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/password_change_policy/9124292845052624897'
```

### Response

```
{
  "result": "success",
  "password_change_policy": {
```

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```
"id": "9124292845052624897",
"name": "Pass Changing Enabled",
"change_frequency": 2,
"complexity_length": 8,
"password_changer_enabled": true,
"password_verifier_enabled": false,
"complexity_lowercase": 1,
"created_at": "2024-06-11 23:29:24.511416-07",
"modified_at": "2024-06-12 02:16:38.410347-07",
"builtin": false,
"hidden": false
}
}
```

## 16.4 Defining password change policy

### Request

Method	POST
Path	/api/v2/password_change_policy
Headers	Content-Type: Application/HTML
Body	PasswordPolicyModel

### Example request

Sending POST [https://10.0.0.0/api/v2/password\\_change\\_policy](https://10.0.0.0/api/v2/password_change_policy)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/password_change_policy' -H 'Content-Type: application/json' -d '{"name
↪": "Password_Verif_1", "change_frequency": 2, "complexity_length": 8, "complexity_
↪lowercase": 2}'
```

### Response

```
{
  "result": "success",
  "password_change_policy": {
    "id": "9124292845052624898"
  }
}
```

## 16.5 Modifying password change policy

### Request

Method	PATCH
Path	/api/v2/password_change_policy/<id>
Headers	Content-Type: Application/HTML
Body	PasswordPolicyModel

### Example request

Sending PATCH [https://10.0.0.0/api/v2/password\\_change\\_policy/9124292845052624897](https://10.0.0.0/api/v2/password_change_policy/9124292845052624897)

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.214.98/api/v2/password_change_policy/9124292845052624897' -H 'Content-Type: application/json' -d '{"change_frequency":4,"complexity_lowercase":2}'
```

### Response

```
{
  "result": "success"
}
```

## 16.6 Deleting password change policy

### Request

Method	DELETE
Path	/api/v2/password_change_policy/<id>

### Example request

Sending DELETE [https://10.0.0.0/api/v2/password\\_change\\_policy/9124292845052624897](https://10.0.0.0/api/v2/password_change_policy/9124292845052624897)

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.214.98/api/v2/password_change_policy/9124292845052624897
```

## Response

```
{  
  "result": "success"  
}
```

Password changers manage credentials for privileged accounts on monitored servers. They operate on various transport layers: SSH, LDAP, Telnet, or WinRM. You can use built-in options or create custom scripts.

## 17.1 Data structures

Table 1: PasswordChangerModel

Attribute	Type	Required	Description
id	string		Read-only, unique password change identifier.
type	string {change, verify}	yes	Password changer type.
name	string	yes	Unique, case-insensitive password changer name.
transport	string {LDAP, SSH, Telnet, WinRM}	If type == change    verify	Transport layer for password changer.
timeout	number {0 - 2147483647}	If type == change    verify	Script's execution time limit expressed in seconds. Value-range: 0 to 2147483647.
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

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Table 1 – continued from previous page

Attribute	Type	Required	Description
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the PasswordChangerModel

Method	GET
Path	/api/v2/objspec/password_changer

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

## 17.2 Retrieving password changers list

### Request

Method	GET
Path	/api/v2/password_changer

### Example request

Sending GET `https://10.0.0.0/api/v2/password_changer`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/password_changer'
```

### Response

```
{
  "result": "success",
  "password_changer": [
    {
      "id": "1",
      "type": "change",
      "name": "Unix\SSH changer",
      "transport": "SSH",

```

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```

        "timeout": 300,
        "builtin": true,
        "hidden": false,
        "created_at": "2024-06-10 05:59:22.99706-07",
        "modified_at": "2024-06-10 05:59:22.99706-07"
    },
    {
        "id": "2",
        "type": "verify",
        "name": "Unix\SSH verifier",
        "transport": "SSH",
        "timeout": 300,
        "builtin": true,
        "hidden": false,
        "created_at": "2024-06-10 05:59:22.997876-07",
        "modified_at": "2024-06-10 05:59:22.997876-07"
    }
]
}

```

## 17.3 Retrieving password changer by ID

### Request

---

Method

GET

---

Path

/api/v2/password\_changer/&lt;id&gt;

### Example request

Sending GET [https://10.0.0.0/api/v2/password\\_changer/1](https://10.0.0.0/api/v2/password_changer/1)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/password_changer/1'
```

### Response

```

{
  "password_changer": {
    "id": "1",
    "name": "Unix\SSH changer",
    "type": "change",
    "transport": "SSH",
    "timeout": 300,
    "variables": [
      {
        "name": "transport_bind_ip",
        "description": "An IP on Fudo interface that will be used as source_
↪address."
      }
    ]
  }
}

```

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```

    "object_type": "server",
    "object_property": "bind_ip",
    "encrypted": false,
    "optional": true,
    "transport": true,
    "value": {
      "value_type": "self"
    }
  },
  {
    "name": "transport_host",
    "description": "An address to which password changer\verifier↵
↵connects.",
    "object_type": "server",
    "object_property": "address",
    "encrypted": false,
    "optional": false,
    "transport": true,
    "value": {
      "value_type": "self"
    }
  }
],
"commands": [
  {
    "type": "expected",
    "value": "Last login:",
    "description": null
  },
  {
    "type": "input",
    "value": "passwd %%account_login%%",
    "description": null
  }
],
"builtin": true,
"hidden": false,
"created_at": "2024-06-10 05:59:22.99706-07",
"modified_at": "2024-06-10 05:59:22.99706-07"
},
"result": "success"
}

```

## 17.4 Defining password changer

### Request

---

Method	POST
Path	/api/v2/password_changer
Headers	Content-Type: Application/HTML
Body	PasswordChangerModel

---

### Example request

Sending POST [https://10.0.0.0/api/v2/password\\_changer](https://10.0.0.0/api/v2/password_changer)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.0.
↪214.98/api/v2/password_changer' -H 'Content-Type: application/json' -d '{"name":
↪"Password_Changer_WinRM", "type": "change", "transport": "WinRM", "timeout": 1000,
↪"commands": [{"type": "input", "value": "net user \\\\"%account_login%\" \\\\"%account_new_
↪secret%\""}]'
```

### Response

```
{
  "password_changer": {
    "id": "9124292845052624933"
  },
  "result": "success"
}
```

## 17.5 Modifying password changer

### Request

---

Method	PATCH
Path	/api/v2/password_changer/<id>
Headers	Content-Type: Application/HTML
Body	PasswordChangerModel

---

Example request: change basic properties



Sending PATCH [https://10.0.0.0/api/v2/password\\_changer/9124292845052624927](https://10.0.0.0/api/v2/password_changer/9124292845052624927)

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/password_changer/9124292845052624927' -H 'Content-Type: application/
↪json' -d'{"type":"verify","transport":"SSH","timeout":1000}'
```

#### Example request: modifying commands

Sending PATCH [https://10.0.0.0/api/v2/password\\_changer/9124292845052624933](https://10.0.0.0/api/v2/password_changer/9124292845052624933)

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/password_changer/9124292845052624933' -H 'Content-Type: application/
↪json' -d'{"commands":[{"type":"input","value":"net user \"%%account_login%%\" \"%
↪%account_new_secret%%\"\",\"description\":\"Description.\"}]}'
```

#### Example request: adding variable

Sending PATCH [https://10.0.0.0/api/v2/password\\_changer/9124292845052624933](https://10.0.0.0/api/v2/password_changer/9124292845052624933)

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/password_changer/9124292845052624933' -H 'Content-Type: application/
↪json' -d'{"variables":[{"name":"transport_bind_ip","object_type":"server","object_
↪property":"name","value":{"value_type":"self"}}}]}'
```

#### Response

```
{
  "result": "success"
}
```

## 17.6 Triggering password change for the account

### Request

---

Method

POST

---

Path

/api/v2/account/<id>/trigger\_password\_changer

---

### Example request

Sending POST [https://10.0.0.0/api/v2/account/9124292845052624908/trigger\\_password\\_changer](https://10.0.0.0/api/v2/account/9124292845052624908/trigger_password_changer)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/account/9124292845052624908/trigger_password_changer'
```

### Response

```
{
  "result": "success"
}
```

## 17.7 Deleting password changer

### Request

---

Method

DELETE

---

Path

/api/v2/password\_changer/<id>

---

### Example request

Sending DELETE https://10.0.0.0/api/v2/password\_changer/91242928459124292845052624927052624897

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.214.98/api/v2/password_changer/9124292845052624927
```

### Response

```
{
  "result": "success"
}
```

## API v2: Policies and regular expressions

Policies are patterns definitions facilitating proactive session monitoring. In case a defined pattern is detected, Fudo Enterprise can automatically take respective actions and notify the administrator about the current situation.

## 18.1 Regular expressions

### 18.1.1 Data structures

Table 1: RegExpModel

Attribute	Type	Required	Description
id	string		Read-only, unique regular expression identifier.
name	string	yes	Unique, case-insensitive regular expression name.
type	string {ml, regexp}	yes	Immutable. Policy type.
regexp	string	yes	Regular expression content.
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

#### Request for retrieving available attributes of the RegExpModel

---

Method

GET

---

Path

/api/v2/objspec/regexp

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

### 18.1.2 Retrieving regular expressions list

#### Request

---

Method

GET

---

Path

/api/v2/regexp

---

#### Example request

Sending GET <https://10.0.0.0/api/v2/regexp>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/regexp'
```

#### Response

```
{
  "result": "success",
  "regexp": [
    {
      "id": "9124292845052624897",
      "name": "Reg_ex_1",
      "regexp": "(^[^a-zA-Z])rm[[:space:]]",
      "created_at": "2024-06-14 05:46:25.34634-07",
      "modified_at": "2024-06-14 05:46:25.34634-07"
    }
  ]
}
```

### 18.1.3 Retrieving regular expression by ID

#### Request

---

Method

GET

---

Path

/api/v2/regexp/<id>

---

#### Example request

Sending GET <https://10.0.0.0/api/v2/regexp/9124292845052624897>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/regexp/9124292845052624897'
```

## Response

```
{
  "result": "success",
  "regexp": {
    "id": "9124292845052624897",
    "name": "Reg_ex_1",
    "regexp": "(^[^a-zA-Z])rm[[:space:]]",
    "created_at": "2024-06-14 05:46:25.34634-07",
    "modified_at": "2024-06-14 05:46:25.34634-07"
  }
}
```

### 18.1.4 Defining regular expression

#### Request

Method	POST
Path	/api/v2/regexp
Headers	Content-Type: Application/HTML
Body	RegExpModel

#### Example request

Sending POST <https://10.0.0.0/api/v2/regexp>

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/regexp -H 'Content-Type: application/json' -d '{"name": "Reg_ex_2",
↪"regexp": "(^[^a-zA-Z])rm[[:space:]]"}'
```

## Response

```
{
  "result": "success",
  "regexp": {
    "id": "9124292845052624900"
  }
}
```

### 18.1.5 Modifying regular expression

#### Request

---

Method	PATCH
Path	/api/v2/regexp/<id>
Headers	Content-Type: Application/HTML
Body	RegExpModel

---

#### Example request

Sending PATCH <https://10.0.0.0/api/v2/regexp/9124292845052624897>

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/regexp/9124292845052624897 -H 'Content-Type: application/json' -d'{
↪"regexp": "(^|[a-zA-Z])rm[[:space:]]"}
```

#### Response

```
{
  "result": "success"
}
```

### 18.1.6 Deleting regular expression

#### Request

---

Method	DELETE
Path	/api/v2/regexp/<id>

---

#### Example request

Sending DELETE <https://10.0.0.0/api/v2/regexp/9124292845052624897>

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.
↪0.214.98/api/v2/regexp/9124292845052624897
```

#### Response

```
{
  "result": "success"
}
```

## 18.2 Policies

### 18.2.1 Data structures

Table 2: PolicyModel

Attribute	Type	Required	Description
id	string		Read-only, unique policy identifier.
name	string	yes	Unique, case-insensitive policy name.
type	string {ml, regexp}	yes	Immutable. Policy type.
priority	string {critical, high, medium, low}	yes	Expensive to use.
email_send	boolean; default value <b>false</b>	yes	
input_match	boolean; default value <b>false</b>	yes	
snmp_trap	boolean; default value <b>false</b>	yes	
session_pause	boolean; default value <b>false</b>	yes	
session_terminate	boolean; default value <b>false</b>	yes	
user_block	boolean; default value <b>false</b>	yes	
ml_threat_probability	string {avg, max, min}	If <b>type</b> == ml	
ml_threat_threshold	number	If <b>type</b> == ml	
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

#### Request for retrieving available attributes of the PolicyModel

---

Method

GET

---

Path

/api/v2/objspec/policy

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

### 18.2.2 Retrieving policies list

#### Request

---

Method

GET

---

Path

/api/v2/policy

---

#### Example request

Sending GET `https://10.0.0.0/api/v2/policy`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/policy'
```

#### Response

```
{
  "result": "success",
  "policy": [
    {
      "id": "9124292845052624897",
      "name": "PCP",
      "type": "regexp",
      "priority": "medium",
      "email_send": true,
      "input_match": false,
      "snmp_trap": false,
      "session_pause": false,
      "session_terminate": false,
      "user_block": false,
      "created_at": "2024-06-11 22:52:18.44898-07",
      "modified_at": "2024-06-11 22:52:18.44898-07"
    },
    {
```

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```

        "id": "9124292845052624898",
        "name": "AI_Policy_1",
        "type": "regexp",
        "priority": "low",
        "email_send": false,
        "input_match": false,
        "snmp_trap": false,
        "session_pause": false,
        "session_terminate": false,
        "user_block": false,
        "created_at": "2024-06-14 15:15:58.534771-07",
        "modified_at": "2024-06-14 15:15:58.534771-07"
    }
]
}

```

### 18.2.3 Retrieving policy by ID

#### Request

---

Method

GET

---

Path

/api/v2/policy/<id>

---

#### Example request

Sending GET <https://10.0.0.0/api/v2/policy/9124292845052624897>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/policy/9124292845052624897'
```

#### Response

```

{
  "result": "success",
  "policy": {
    "id": "9124292845052624897",
    "name": "PCP",
    "type": "regexp",
    "priority": "medium",
    "email_send": true,
    "input_match": false,
    "snmp_trap": false,
    "session_pause": false,
    "session_terminate": false,
    "user_block": false,
    "created_at": "2024-06-11 22:52:18.44898-07",
    "modified_at": "2024-06-11 22:52:18.44898-07"
  }
}

```

## 18.2.4 Defining policy

### Request

Method	POST
Path	/api/v2/policy
Headers	Content-Type: Application/HTML
Body	PolicyModel

### Example request

Sending POST <https://10.0.0.0/api/v2/policy>

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/policy -H 'Content-Type: application/json' -d '{"name":"Policy_1","type
↪":"regex","priority":"medium","email_send":true,"session_pause":true}'
```

### Response

```
{
  "result": "success",
  "policy": {
    "id": "9124292845052624899"
  }
}
```

## 18.2.5 Modifying policy

### Request

Method	PATCH
Path	/api/v2/policy/<id>
Headers	Content-Type: Application/HTML
Body	PolicyModel

### Example request

Sending PATCH <https://10.0.0.0/api/v2/policy/9124292845052624927>

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/policy/9124292845052624927' -H 'Content-Type: application/json' -d'{
↪"priority": "low", "email_send": false, "user_block": true}'
```

### Response

```
{
  "result": "success"
}
```

## 18.2.6 Deleting policy

### Request

---

Method

DELETE

---

Path

/api/v2/policy/<id>

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/policy/9124292845052624899>

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.
↪0.214.98/api/v2/policy/9124292845052624899
```

### Response

```
{
  "result": "success"
}
```

## 18.3 Managing regular expressions assignment

### 18.3.1 Data structures

Table 3: RegExpPolicyModel

Attribute	Type	Required	Description
id	string		Read-only, unique regular expression policy identifier.
policy_id	string	yes	Immutable policy identifier.
regexp_id	string	yes	Immutable regular expression identifier.
policy_name	string		Read-only, expensive to use.
regexp_name	string		Read-only, expensive to use.
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

#### Request for retrieving available attributes of the RegExpPolicyModel

Method	GET
Path	/api/v2/objspec/regexp_policy

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

### 18.3.2 Retrieving the list of regular expression assignments for policies

#### Request

Method	GET
Path	/api/v2/policy/regexp

#### Example request

Sending GET <https://10.0.0.0/api/v2/policy/regexp>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↳214.98/api/v2/policy/regexp'
```

## Response

```
{
  "result": "success",
  "regexp_policy": [
    {
      "policy_id": "9124292845052624899",
      "regexp_id": "9124292845052624897",
      "policy_name": "Policy_1",
      "regexp_name": "Reg_ex_1",
      "created_at": "2024-06-20 03:34:38.425893-07",
      "modified_at": "2024-06-20 03:34:38.425893-07"
    },
    {
      "policy_id": "9124292845052624897",
      "regexp_id": "9124292845052624900",
      "policy_name": "Policy_2",
      "regexp_name": "Reg_ex_2",
      "created_at": "2024-06-20 06:56:17.452651-07",
      "modified_at": "2024-06-20 06:56:17.452651-07"
    },
    {
      "policy_id": "9124292845052624897",
      "regexp_id": "9124292845052624897",
      "policy_name": "Policy_2",
      "regexp_name": "Reg_ex_1",
      "created_at": "2024-06-20 06:56:17.452652-07",
      "modified_at": "2024-06-20 06:56:17.452652-07"
    },
    {
      "policy_id": "9124292845052624900",
      "regexp_id": "9124292845052624900",
      "policy_name": "Policy_3",
      "regexp_name": "Reg_ex_2",
      "created_at": "2024-06-20 06:56:35.335851-07",
      "modified_at": "2024-06-20 06:56:35.335851-07"
    }
  ]
}
```

### 18.3.3 Assigning regular expression to a policy

#### Request

## Method

POST

## Path

/api/v2/policy/regexp

## Headers

Content-Type: Application/HTML

## Body

RegExpPolicyModel

**Example request**

Sending POST https://10.0.0.0/api/v2/policy/regexp

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/policy/regexp -H 'Content-Type: application/json' -d '{"policy_id":
↪"9124292845052624899","regexp_id":"9124292845052624900"}'
```

**Response**

```
{
  "result": "success"
}
```

**18.3.4 Checking regular expression assignment with a policy****Request**

## Method

GET

## Path

/api/v2/policy/&lt;policy\_id&gt;/regexp/&lt;regexp\_id&gt;

## Headers

Content-Type: Application/HTML

## Body

PolicyModel

**Example request**

Sending GET https://10.0.0.0/api/v2/policy/9124292845052624899/regexp/9124292845052624897

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.214.98/api/v2/policy/9124292845052624899/regexp/9124292845052624897
```

### Response

```
{
  "result": "success",
  "regexp_policy": {
    "policy_id": "9124292845052624899",
    "regexp_id": "9124292845052624897",
    "policy_name": "Policy_1",
    "regexp_name": "Reg_ex_1",
    "created_at": "2024-06-20 03:16:15.126665-07",
    "modified_at": "2024-06-20 03:16:15.126665-07"
  }
}
```

## 18.3.5 Deleting regular expression assignment to a policy

### Request

---

Method

DELETE

---

Path

/api/v2/policy/<policy\_id>/regexp/<regexp\_id>

---

### Example request

Sending DELETE https://10.0.0.0/api/v2/policy/9124292845052624899/regexp/9124292845052624897

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.214.98/api/v2/policy/9124292845052624899/regexp/9124292845052624897
```

### Response

```
{
  "result": "success"
}
```

The Fudo Enterprise allows for tracking the conversion progress of session recordings and files transferred during SFTP sessions, previously selected for download.

**Note:** The Files section is designated for managing the downloads of large files that originate from recorded sessions via the SFTP protocol. If the selected file exceeds the 50 MB threshold, it undergoes an encoding process and subsequently appears in the Files tab, ready for download. Files smaller than 50 MB are directly downloaded through the browser without encoding.

## 19.1 Data structures

Table 1: `SessionFileModel`

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
session_id	string		Read-only. ID of the session to download.
encode_on	string		Read-only. Node on which file was encoded.
handle	number		Read-only.
delta	number		Read-only.
from_server	boolean		Read-only.
error	string		Read-only. Error when file is not ready for download.
size	number		Read-only. Size of downloaded session file in bytes.
session_user	string		Read-only. Expensive. Session user name.
session_user_id	string		Read-only. Expensive. Session user id.
session_server	string		Read-only. Expensive. Session server name.
session_server_id	string		Read-only. Expensive. Session server id.

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Table 1 – continued from previous page

Attribute	Type	Required	Description
session_started	string		Read-only. Expensive. Timestamp. Time when session started.
is_converted	boolean		Read-only. Expensive. Encoding is complete and file is ready to download.
progress	number		Read-only. Expensive. Progress of session conversion in percentage.
encode_on_name	string		Read-only. Expensive. Node name on which session was encoded.

### Request for retrieving available attributes of the SessionFileModel

Method	GET
Path	/api/v2/objspec/session_file

Table 2: SessionMovieModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
session_id	string		Read-only. ID of the session to download.
encode_on	string		Read-only. Node on which session was encoded.
video_resolution	string {auto, hd480, hd720, hd1080}		Read-only.
video_format	string {divx5, fbsdir, flv, mjpeg, mpeg2, pcap, text, webm, xvid}		Read-only.
size	number		Read-only. Size of downloaded session file in bytes.
session_user	string		Read-only. Expensive. Session user name.
session_user_id	string		Read-only. Expensive. Session user id.
session_server	string		Read-only. Expensive. Session server name.
session_server_id	string		Read-only. Expensive. Session server id.
session_started	string		Read-only. Expensive. Timestamp. Time when session started.

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Table 2 – continued from previous page

Attribute	Type	Required	Description
is_converted	boolean		Read-only. Expensive. Encoding is complete and file is ready to download.
progress	number		Read-only. Expensive. Progress of session conversion in percentage.
encode_on_name	string		Read-only. Expensive. Node name on which session was encoded.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the SessionMovieModel

Method	GET
Path	/api/v2/objspec/session_movie

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

## 19.2 Retrieving session files list

### Request

Method	GET
Path	/api/v2/session_file

### Example request

Sending GET [https://10.0.0.0/api/v2/session\\_file](https://10.0.0.0/api/v2/session_file)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↳214.98/api/v2/session_file'
```

### Response

```
{
  "result": "success",
  "session_file": [
    {
      "id": "1",
      "session_id": "5620492334958379016",
      "encode_on": "82984746",
      "handle": 1,
      "from_server": true,
      "size": 56622199,
      "session_user": "User_1",
      "session_user_id": "5620492334958379010",
      "session_server": "SSH_FTP",
      "session_server_id": "5620492334958379018",
      "session_started": "2024-06-25 02:43:38.152033-07",
      "is_converted": true,
      "progress": 100
    }
  ]
}
```

## 19.3 Retrieving session recordings list

### Request

---

Method

GET

---

Path

/api/v2/session\_movie

---

### Example request

Sending GET https://10.0.0.0/api/v2/session\_movie

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↳214.98/api/v2/session_movie'
```

### Response

```
{
  "result": "success",
  "session_movie": [
    {
      "id": "5620492334958379009",
      "session_id": "5620492334958379015",
```

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```

    "encode_on": "82984746",
    "video_resolution": "auto",
    "video_format": "fbmdir",
    "size": 2399446,
    "session_user": "User_1",
    "session_user_id": "5620492334958379010",
    "session_server": "SSH_FTP",
    "session_server_id": "5620492334958379018",
    "session_started": "2024-06-25 02:25:26.670768-07",
    "is_converted": true,
    "progress": 100,
    "created_at": "2024-06-25 02:41:07.835711-07",
    "modified_at": "2024-06-25 02:41:08.047049-07"
  },
  {
    "id": "5620492334958379010",
    "session_id": "5620492334958379017",
    "encode_on": "82984746",
    "video_resolution": "auto",
    "video_format": "divx5",
    "size": 3108346,
    "session_user": "User_1",
    "session_user_id": "5620492334958379010",
    "session_server": "RDP_SERVER",
    "session_server_id": "5620492334958379011",
    "session_started": "2024-06-25 03:03:46.780874-07",
    "is_converted": true,
    "progress": 100,
    "created_at": "2024-06-25 03:04:10.370597-07",
    "modified_at": "2024-06-25 03:04:17.472475-07"
  }
]
}

```

## 19.4 Downloading session files

### Request

---

Method

GET

---

Path

/api/v2/download/session\_file/&lt;id&gt;

### Example request

Sending GET [https://10.0.0.0/api/v2/download/session\\_file/1](https://10.0.0.0/api/v2/download/session_file/1)

```
curl -s -k -X GET -H 'Authorization: sgf6ea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/download/session_file/1'
```

## Response

File download is starting.

## 19.5 Downloading session recordings

### Request

---

Method

GET

---

Path

/api/v2/download/session\_movie/<id>

---

### Example request

Sending GET [https://10.0.0.0/api/v2/download/session\\_movie/1](https://10.0.0.0/api/v2/download/session_movie/1)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.214.98/api/v2/download/session_movie/1'
```

### Response

Session recording download is starting.

## 19.6 Deleting session file

### Request

---

Method

DELETE

---

Path

/api/v2/session\_file/<id>

---

### Example request

Sending DELETE [https://10.0.0.0/api/v2/session\\_file/1](https://10.0.0.0/api/v2/session_file/1)

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.214.98/api/v2/session_file/1
```

### Response

```
{
  "result": "success"
}
```

## 19.7 Deleting session recording

### Request

---

Method

DELETE

---

Path

/api/v2/session\_movie/<id>

---

### Example request

Sending DELETE [https://10.0.0.0/api/v2/session\\_movie/1](https://10.0.0.0/api/v2/session_movie/1)

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.214.98/api/v2/session_movie/1
```

### Response

```
{
  "result": "success"
}
```

Fudo Enterprise enables direct connection over the RDP protocol to a remote application using Remote Applications feature.

## 20.1 Data structures

Table 1: RemoteApplicationsModel

Attribute	Type	Required	Description
id	string		Read-only unique object Identifier
name	string	yes	Unique, case insensitive application name
password_changer_id	string	yes	Password changer unique identifier assigned to remote app
path	string	yes	Path to application executable file
arguments	string		Definitions of which object and what property of object to use
created_at	string		Read-only
modified_at	string		Read-only
removed	boolean		Read-only

### Request for retrieving available attributes of the RemoteApplicationsModel

Method

GET

Path

/api/v2/objspec/remote\_app

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 20.2 Retrieving remote applications definitions list

### Request

---

Method

GET

---

Path

/api/v2/remote\_app

---

### Example request

Sending GET [https://10.0.0.0/api/v2/remote\\_app](https://10.0.0.0/api/v2/remote_app)

```
"result": "success",
"remote_app": [
  {
    "id": "1936547839769313283",
    "name": "RemoteApp1",
    "path": "/foldername/application1_executable_file",
    "created_at": "2022-12-13 02:53:32.427697-08",
    "modified_at": "2022-12-13 02:53:32.427697-08"
  },
  {
    "id": "1936547839769313284",
    "name": "RemoteApp2",
    "path": "/foldername/application2_executable_file",
    "created_at": "2022-12-13 02:53:44.722701-08",
    "modified_at": "2022-12-13 02:53:44.722701-08" } ]
```

## 20.3 Deleting a remote application definition

### Request

---

Method

DELETE

---

Path

/api/v2/remote\_app/<id>

---



## 21.1 Data structures

**Note:** The following data structure contains **read-only** fields for retrieving session data.

Table 1: SessionsModel

Attribute	Type	Description
id	string	Object Identifier
leader_session_id	string	Object Identifier
account_id	string	Account's Identifier, which was used for connection
listener_id	string	Listener's Identifier, which was used for connection
safe_id	string	Safe's Identifier, which was used for connection
server_id	string	Server's Identifier, which was used for connection
user_id	string	User's Identifier, which was used for connection
started_at	string	Datetime of the session's start
finished_at	string	Datetime of the session's end
handled_by	string	Object Identifier
marked_safe_by	string	
terminate_at	string	Datetime of the session's termination
dump_mode	string {all, none, raw, noraw}	Session recording options

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Table 1 – continued from previous page

Attribute	Type	Description
protocol	string{http, modbus, mysql, rdp, ssh, system, tcp, tds, telnet, tn3270, tn5250, vnc}	Used protocol for connection
source_ip	string	Source IP address
source_port	number	Port of the source IP address
destination_ip	string	Destination IP address
destination_port	number	Port of the destination IP address
destination_address	string	Expensive. Concatenated destination IP and port.
paused	boolean	
retention_locked	boolean	
indexed	number	Session indexing status. Values: 0 = Waiting, 1 = Error, 2 = Indexed. Session is indexed when value is 2.
trusted_timestamp	string	
size	number	
reason	string	Reason of the session's termination or rejection
status	string {approved, disconnected, expired, rejected, terminated, waiting}	
active_time	number	
ml (Machine Learning)	SessionsMLModel	
pending_delete	boolean	
password_change	boolean	
checkout_forced	boolean	
created_at	datetime	Datetime of the record creation
modified_at	datetime	Datetime of the record modification
removed	boolean	
login_reason	string	Reason for user's connection
bits_per_pixel	string	Resolution options
height	string	Resolution options
width	string	Resolution options
command	string	Given command during a session
type	string	Session's type
subsystem	string	For example, <code>sftp</code>
user_name	string	Expensive. User name who created session.
user_removed	boolean	Expensive. User is removed.
user_organization	string	Expensive. User organization who created session.
account_name	string	Expensive. Account name.
account_removed	boolean	Expensive. Account is removed.
server_name	string	Expensive. Server name.
server_removed	boolean	Expensive. Server is removed.
safe_name	string	Expensive. Safe name.

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Description
safe_removed	boolean	Expensive. Safe is removed.
listener_name	string	Expensive. Listener name.
listener_removed	boolean	Expensive. Listener is removed.
secret_exposure_state	string {user_blocked, user_removed, user_lost_access, seen}	Expensive. State of user who checked out the current account password. Value 'seen' means that user has seen password and have access to it.
ocred	boolean	Expensive. Session texts were ocred.
availability	string {archived, available, downloading, missing, unknown}	Expensive. Session availability.
created_on	string	Expensive. The serial number of the node where the session was created.
replicated_on_nodes	string	Expensive. Session has been replicated on nodes (serial numbers).
duration	number	Expensive. Session duration in seconds.
activity	number	Expensive. Session active time in percents.
time_limit	number	Expensive. Time in seconds remaining until the session is terminated. Value is available only when terminate_at defined. Value 0 means session is finished or terminated.

Table 2: SessionsMLModel

Attribute	Type	Description
ml_threat_level	number	Detected threat level
ml_threat_level_min	number	Min threat level value
ml_threat_level_max	number	Max threat level value
ml_converted_at	string	Datetime of the session's processing
ml_finished_at	string	End datetime of the session's processing

### Request for retrieving available attributes of the SessionsModel

Method	GET
Path	/api/v2/objspec/session

Table 3: SessionBackupAssignmentModel

Attribute	Type	Description
session_id	string	ID of the session to backup. Requires backup_id: {} or backup_name: {}.
session_ids	string-array	IDs of the sessions to backup. Requires backup_id: {} or backup_name: {}.
backup_id	string	ID of the backup target. Requires session_id: {} or session_ids: {}.
backup_name	string	Name of the backup target. Requires session_id: {} or session_ids: {}.

### Request for retrieving available attributes of the SessionBackupAssignmentModel

Method	GET
Path	/api/v2/objspec/session_backup

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Sessions objects.

## 21.2 Retrieving sessions list

### Request

Method	GET
Path	/api/v2/session

## 21.3 Retrieving a session by ID

### Request

---

Method

GET

---

Path

/api/v2/session/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/session/41234678819172646916>

```
{
  "result": "success",
  "session": {
    "id": "3927138875067084301",
    "leader_session_id": "3927138875067084301",
    "listener_id": "3927138875067073099",
    "user_id": "3927138875067072685",
    "safe_id": "3927138875067072584",
    "account_id": "3927138875067088645",
    "server_id": "3927138875067072586",
    "started_at": "2022-04-05 16:06:07.313862+02",
    "finished_at": "2022-04-05 16:07:58.65701+02",
    "dump_mode": "all",
    "protocol": "vnc",
    "source_ip": "10.2.0.0",
    "source_port": 65331,
    "destination_ip": "10.0.0.1",
    "destination_port": 5900,
    "paused": false,
    "retention_locked": false,
    "indexed": 2,
    "size": 371712,
    "status": "approved",
    "active_time": 60,
    "password_change": false,
    "checkout_forced": false,
    "created_at": "2022-04-05 16:06:07.316523+02",
    "modified_at": "2022-04-08 08:16:02.009606+02",
    "height": "768",
    "width": "1024"
  }
}
```

## 21.4 Modifying a session

### Request

---

Method

PATCH

---

Path

/api/v2/session/<id>

---

## 21.5 Mark existing session for back up

### Request

---

Method

POST

---

Path

/api/v2/session/<session\_id>/backup/<backup\_id>

---

### Example request

Sending POST https://10.0.0.0/api/v2/session/2345678901234567890/backup/12345617890123456789

### Request

---

Method

POST

---

Path

/api/v2/session\_backup

---

Headers

Content-Type: Application/JSON

---

Body

SessionBackupAssignmentModel

---

### Example request

Sending POST https://10.0.0.0/api/v2/session\_backup

```
{
  "backup_name": "Backup_Target_Name",
  "session_ids": [
    "2345678901234567890",
    "2345678901234567891"
  ]
}
```

### Response

```
{
  "result": "success",
  "session_ids": [
    "2345678901234567890",
    "2345678901234567891"
  ]
}
```

## 21.6 Deleting session

### Request

---

Method

DELETE

---

Path

/api/v2/session/<id>

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/session/9124292845052624897>

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.214.98/api/v2/session/9124292845052624897
```

### Response

```
{
  "result": "success"
}
```

## 22.1 Data structures

Table 1: AccessRequestModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
activated	boolean		Read-only
immediate_interval	number {1-24}	if type == immediate	The amount of time the user will have access to the account, expressed in hours and counted from the moment the session is initiated.
starts_at	string	if type == scheduled	The time from which the access period starts.
expires_at	string	if type == scheduled	The time at which the access expires.
reason	string	yes	
revoke_reason	string	yes	
required_votes	number		Read-only. Number of votes required to acquire access to the account.
status	string {expired, granted, pending, rejected, revoked}		Read-only; expensive to use.
type	string {im- mediate, scheduled}	yes	

Continued on next page



Table 1 – continued from previous page

Attribute	Type	Required	Description
account_id	string		Read-only; expensive to use.
account_name	string		Read-only; expensive to use.
safe_id	string		Read-only; expensive to use.
safe_name	string		Read-only; expensive to use.
pool_id	string		Read-only; expensive to use.
pool_name	string		Read-only; expensive to use.
protocol	string		Read-only; expensive to use.
server_id	string		Read-only; expensive to use.
server_name	string		Read-only; expensive to use.
listeners	object-array		Read-only; expensive to use. JSON object array containing id, mode, name, hidden status, builtin status, and protocol of assigned listeners.
listener_ids	string-array		Read-only; expensive to use.
listener_names	string-array		Read-only; expensive to use.
user_id	string	yes	Immutable; read-only; expensive to use.
user_domain	string		Read-only; expensive to use.
user_name	string		Read-only; expensive to use.
votes	object-array		Read-only; expensive to use. JSON object array containing reason, user_id, acceptance status, user_name, user_role, and user_domain of the voting user.
webclient	boolean		Read-only; expensive to use. Indicates if access is available via the web client.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the AccessRequestModel

Method	GET
Path	/api/v2/objspec/access_request

Table 2: AccessRequestVoteModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
access_request_id	string	yes	Immutable. Uniqueness is required in the combination of attribute access_request_id with attribute user_id.
accepted	boolean	yes	

Continued on next page

Table 2 – continued from previous page

Attribute	Type	Required	Description
reason	string	if accepted == false	
user_id	string	yes	Immutable; protected; read-only; expensive to use. Uniqueness is required in the combination of attribute <code>user_id</code> with attribute <code>access_request_id</code> .
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only.

### Request for retrieving available attributes of the `AccessRequestVoteModel`

Method	GET
Path	<code>/api/v2/objspec/access_request_vote</code>

Table 3: `AccessRequestRevokeModel`

Attribute	Type	Required	Description
access_request_id	string		
revoke_reason	string		

### Request for retrieving available attributes of the `AccessRequestRevokeModel`

Method	GET
Path	<code>/api/v2/objspec/access_request_revoke</code>

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

## 22.2 Retrieving access requests list

### Request

---

Method

GET

---

Path

/api/v2/access\_request

---

### Example request

Sending GET [https://10.0.0.0/api/v2/access\\_request](https://10.0.0.0/api/v2/access_request)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/access_request'
```

## 22.3 Revoking access requests

### Request

---

Method

POST

---

Path

/api/v2/access\_request/<access\_request\_id>/revoke

---

Headers

Content-Type: Application/JSON

---

Body

AccessRequestRevokeModel

---

### Example request

Sending POST [https://10.0.0.0/api/v2/access\\_request/5620492334958379009/revoke](https://10.0.0.0/api/v2/access_request/5620492334958379009/revoke)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.0.214.98/api/v2/access_request/5620492334958379010/revoke -H 'Content-Type: application/json' -d '{"revoke_reason": "AD maintenance."}'
```

### Response

```
{
  "result": "success"
}
```

## 22.4 Responding to a pending access request

### Request

---

Method

POST

---

Path

/api/v2/access\_request/<access\_request\_id>/vote

---

Headers

Content-Type: Application/JSON

---

Body

AccessRequestVoteModel

---

### Example request

Sending POST [https://10.0.0.0/api/v2/access\\_request/5620492334958379009/vote](https://10.0.0.0/api/v2/access_request/5620492334958379009/vote)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪215.14/api/v2/access_request/5620492334958379011/vote -H 'Content-Type: application/
↪json' -d '{"accepted":true}'
```

### Response

```
{
  "result": "success"
}
```

## 23.1 Data structures

Table 1: DefinedReportSubscriptionModel

Attribute	Type	Required	Description
id	string		Unique and read-only report subscription identifier
defined_report_id	string		Defined report identifier.
user_id	string		Identifier of the user who created the report.
period	string {day, week, month, quarter, year}		Period of generating reports.
created_by	string		Identifier of the user who created the report.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only

### Request for retrieving available attributes of the DefinedReportSubscriptionModel

Method

GET

Path

/api/v2/objspec/defined\_report\_subscription

Table 2: ReportModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
title	string		Report title.
defined_report_id	string		Defined report identifier.
generated_at	string		Read-only. Report generated timestamp.
created_by	string		Identifier of the user who created the report.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only

### Request for retrieving available attributes of the ReportModel

Method	GET
Path	/api/v2/objspec/report

Table 3: DefinedReportModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
title	string		Defined report title.
type	string		Defined report type.
created_by	string		Identifier of the user who created the report.
created_at	string		Read-only. Timestamp of creation.
modified_at	string		Read-only. Timestamp of modification.
removed	boolean		Read-only

### Request for retrieving available attributes of the DefinedReportModel

Method	GET
Path	/api/v2/objspec/defined_report

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

## 23.2 Retrieving existing reports list

### Request

---

Method

GET

---

Path

/api/v2/report

---

### Example request

Sending GET https://10.0.0.0/api/v2/report

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/report'
```

## 23.3 Retrieving defined reports list

### Request

---

Method

GET

---

Path

/api/v2/report

---

### Example request

Sending GET https://10.0.0.0/api/v2/report/defined

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/report/defined'
```

## 23.4 Retrieving defined report subscriptions list

### Request

---

Method

GET

---

Path

/api/v2/report/subscription

---

### Example request

Sending GET <https://10.0.0.0/api/v2/report/subscription>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/report/subscription'
```

## 23.5 Retrieving or downloading report file

### Request

Method	GET
Path	<code>/api/v2/report/&lt;id&gt;/&lt;ext&gt;</code>
Path	<code>/api/v2/report/download/&lt;id&gt;/&lt;ext&gt;</code>

You can use one of three available extensions: csv, pdf, or html.

### Example request

Sending GET <https://10.0.0.0/api/v2/report/9124292845052624897/html>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/report/9124292845052624897html'
```

### Response

Report in HTML.

## 23.6 Defining report subscription

### Request



Method	POST
Path	/api/v2/report/subscription
Headers	Content-Type: Application/HTML
Body	DefinedReportSubscriptionModel

In the table below are the `defined_report_id` values and their corresponding titles required to define the subscription report.

Table 4: ReportModel

Value of <code>defined_report_id</code>	Title
5	System report
6	Account access report
7	Safe access report
8	Server access report
9	Session approvals by user
10	Session sharing invites by user
11	Session summary
12	Sessions by server report
13	User access report
14	User activity report
15	User privilege report
16	User report

### Example request

Sending POST `https://10.0.0.0/api/v2/report/subscription`

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/report/subscription' -H 'Content-Type: application/json' -d '{"period":
↪"day", "defined_report_id": "6"}'
```

### Response

```
{
  "defined_report_subscription": {
    "id": "9124292845052624899"
  },
  "result": "success"
}
```

## 23.7 Generating reports on demand

### Request

Method	POST
Path	/api/v2/report
Headers	Content-Type: Application/HTML
Body	ReportModel

### Example request

Sending POST <https://10.0.0.0/api/v2/report>

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/report' -H 'Content-Type: application/json' -d '{"criteria":[{"field":
↪"protocol","value":"ssh"},{"field":"user","value":"5620492334958379010"}]}
```

### Response

```
{
  "report": {
    "id": "5620492334958379016"
  },
  "result": "success"
}
```

## 23.8 Deleting report

### Request

Method	DELETE
Path	/api/v2/report/<id>

### Example request

Sending DELETE <https://10.0.0.0/api/v2/report/9124292845052624902>

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.214.98/api/v2/report/9124292845052624902
```

### Response

```
{
  "result": "success"
}
```

## 23.9 Deleting defined report subscription

### Request

---

Method

DELETE

---

Path

/api/v2/report/subscription/<id>

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/report/subscription/9124292845052624902>

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.214.98/api/v2/report/subscription/9124292845052624902
```

### Response

```
{
  "result": "success"
}
```

Listener determines server connection mode (proxy, gateway, transparent, bastion) as well as its specifics.

## 24.1 Data structures

Table 1: ListenerModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
name	string	yes	Unique listener's name
blocked	boolean; default value <b>false</b>	yes	
reason	string	if <code>blocked == true</code>	
announcement	string	no	
ignore_case	boolean; default value <b>false</b>	If <code>protocol == vnc    ssh</code>	
legacy_crypto	boolean; default value <b>false</b>	If <code>protocol == ssh    http    rdp &amp; tls_enabled == true</code>	Enabling legacy cryptographic protocols and settings
protocol	string {http, modbus, mysql, rdp, ssh, system, tcp, tds, telnet, tn3270, tn5250, vnc}	yes	Immutable, case insensitive
mode	string {bastion, gateway, proxy, transparent}	yes	Case insensitive

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
listen_interface	string	If mode == gateway    transparent	Network interface for user connections
listen_ip	string; default value 0.0.0.0	If mode == bastion    proxy	IP address for user connections
listen_port	number; value range from 1 to 60000	If mode == bastion    proxy	Port number for user connections
external_address	string	with external_port	Listener address to present in Access Gateway
external_port	number; value range from 1 to 65535	with external_address	Listener port to present in Access Gateway
http_render	boolean; default value true	If protocol == http	Is graphical representation for HTTP(S) sessions enabled?
private_key_passphrase	string	with rdp_private_key or ssh_private_key or tls_private_key	Passphrase to use to decrypt private key. Protected.
rdp	ListenerRDPAttributes	If protocol == rdp	RDP protocol properties
ssh	ListenerSSHAttributes	If protocol == ssh	SSH protocol properties
tls	ListenerTLSAttributes	If protocol == http    rdp	TLS protocol properties
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
builtin	boolean		Read-only; Expensive to use; If true, the object is not editable.
hidden	boolean		Read-only; Expensive to use; If true, the object is hidden in UI.

Table 2: ListenerRDPAttributes

Attribute	Type	Required	Description
rdp_private_key	string	If protocol == rdp & tls_enabled == false	RDP private key
rdp_public_key	string	If protocol == rdp & tls_enabled == false	RDP public key

Table 3: ListenerSSHAttributes

Attribute	Type	Required	Description
ssh_private_key	string	yes	SSH private key
ssh_proxyjump	boolean; default value <code>false</code>	yes	Is SSH ProxyJump function enabled?
ssh_public_key	string	yes	Read-only SSH public key
ssh_fingerprint_sha256	string	If <code>protocol == ssh</code>	Read-only, expensive to use, SSH key SHA256 fingerprint

Table 4: ListenerTLSAttributes

Attribute	Type	Required	Description
tls_enabled	boolean; default value <code>true</code>	If <code>protocol == http    rdp</code>	Enabling the TLS protocol
tls_private_key	string	If <code>protocol == http    rdp &amp; tls_enabled == true</code>	TLS private key
tls_certificate	string	If <code>protocol == http    rdp &amp; tls_enabled == true</code>	TLS certificate
tls_certificate_commonName	string	If <code>protocol == http    rdp &amp; tls_enabled == true</code>	Read-only, expensive to use, TLS certificate <code>commonName</code>
tls_certificate_fingerprint_sha1	string	If <code>protocol == http    rdp &amp; tls_enabled == true</code>	Read-only, expensive to use, TLS certificate SHA1 fingerprint
tls_certificate_fingerprint_sha256	string	If <code>protocol == http    rdp &amp; tls_enabled == true</code>	Read-only, expensive to use, TLS certificate SHA256 fingerprint

### Request for retrieving available attributes of the ListenerModel

Method	GET
Path	<code>/api/v2/objspec/listener</code>

Table 5: AccountSafeListenerAssignmentModel

Attribute	Type	Required	Description
id	string	yes	Read-only object Identifier
account_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>account_id</code> with attributes <code>safe_id</code> and <code>listener_id</code> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attributes <code>account_id</code> and <code>listener_id</code> .
listener_id	string	no	Immutable. Uniqueness is required in the combination of attribute <code>listener_id</code> with attributes <code>account_id</code> and <code>safe_id</code> .
account_name	string		Read-only; expensive to use
account_type	string		Read-only; expensive to use
protocol	string		Read-only; expensive to use
server_id	string		Read-only; expensive to use; null if pool is assigned.
server_name	string		Read-only; expensive to use; null if pool is assigned.
pool_id	string		Read-only; expensive to use; null if server is assigned.
pool_name	string		Read-only; expensive to use; null if server is assigned.
safe_name	string		Read-only; expensive to use
listener_name	string		Read-only; expensive to use
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

### Request for retrieving available attributes of the AccountSafeListenerAssignment-Model

---

Method

GET

---

Path

/api/v2/objspec/account\_safe\_listener

---

Table 6: ListenerGrantAssignmentModel

Attribute	Type	Required	Description
id	string		Read-only, protected object Identifier
to_user_id	string	yes	Immutable. Expects unique for_listener_id
for_listener_id	string	yes	Immutable. Expects unique to_user_id
for_listener_name	string		Read-only, expensive to use
to_user_name	string		Read-only, expensive to use
to_user_role	string		Read-only, expensive to use
created_at	string		Read-only
modified_at	string		Read-only
removed	boolean		Read-only

### Request for retrieving available attributes of the ListenerGrantAssignmentModel

---

Method

GET

---

Path

/api/v2/objspec/listener\_grant

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

Refer to the *Batch operations* topic to create nested requests for operating on the Listener objects.

## 24.2 Retrieving listeners list

### Request

---

Method

GET

---

Path

/api/v2/listener

---

### Example request

Sending GET `https://10.0.0.0/api/v2/listener`



```

    "result": "success",
    "listener": [
      {
        "id": "1234138875067073217",
        "name": "rdp_list_fd_10647",
        "protocol": "rdp",
        "mode": "bastion",
        "listen_ip": "0.0.0.0",
        "listen_port": 3388,
        "blocked": false,
        "created_at": "2022-10-15 14:52:30.980597+02",
        "modified_at": "2022-10-15 14:52:30.980597+02",
        "legacy_crypto": false,
        "tls_enabled": true,
        "tls_certificate": "-----BEGIN CERTIFICATE-----\nMIIEODCCArigAwIBAgIUSGWBY/C..
↪.Ow/BXGR\n-----END CERTIFICATE-----"
      },
      {
        "id": "1234138875067073219",
        "name": "telnet_proxy_3",
        "protocol": "telnet",
        "mode": "proxy",
        "listen_ip": "0.0.0.0",
        "listen_port": 2236,
        "blocked": false,
        "created_at": "2022-10-17 09:34:32.582169+02",
        "modified_at": "2022-10-17 09:34:32.582169+02"
      },
      {
        "id": "12348875067073220",
        "name": "mssql_proxy",
        "protocol": "tds",
        "mode": "proxy",
        "listen_ip": "0.0.0.0",
        "listen_port": 8874,
        "blocked": false,
        "created_at": "2022-10-17 10:50:53.209773+02",
        "modified_at": "2022-10-17 10:50:53.209773+02" }]

```

## 24.3 Creating a listener

### Request

---

Method

POST

---

Path

/api/v2/listener

---

Headers

Content-Type: Application/JSON

---

Body

ListenerModel

---

## 24.4 Retrieving a listener

### Request

---

Method

GET

---

Path

/api/v2/listener/<id>

---

## 24.5 Modifying a listener

### Request

---

Method

PATCH

---

Path

/api/v2/listener/<id>

---

Headers

Content-Type: Application/JSON

---

Body

ListenerModel

---

### Example request: Changing the listener's address

Sending PATCH <https://10.0.0.0/api/v2/listener/12345678819172646915>

```
{ "listen_ip": "10.0.2.0" }
```

**Response**

```
{ "result": "success" }
```

## 24.6 Retrieving users allowed to manage given listener

**Request**

---

Method

GET

---

Path

/api/v2/grant/listener

---

## 24.7 Granting management privileges

**Request**

---

Method

POST

---

Path

/api/v2/grant/listener

---

Body

```
{  
  to_user_id: 1234567890,  
  for_listener_id: 1234567891  
}
```

---

## 24.8 Creating an account-safe-listener assignments

**Request**

---

Method

POST

---

Path

/api/v2/account/safe/listener

---

Headers

Content-Type: Application/JSON

---

Body

AccountSafeListenerAssignmentModel

---

### Example request

Sending POST <https://10.0.0.0/api/v2/account/safe/listener>

```
{ "account_id": 1232678819172646919,  
  "safe_id": 1232678819172646913,  
  "listener_id": 1232678819172646914 }
```

### Response

```
{ "result": "success",  
  "account_safe_listener": {} }
```

## 24.9 Deleting an account-safe-listener assignment

### Request

---

Method

DELETE

---

Path

/api/v2/account/<account\_id>/safe/<safe\_id>/listener/<listener\_id>

---

## 24.10 Deleting a listener

### Request

---

Method

DELETE

---

Path

/api/v2/listener/<id>

---

## API v2: Batch requests

Fudo Enterprise allows using its API for sending a batch request by which an administrator can perform nested operations with different methods. Creating an account and assigning an authentication method to it or defining 100 servers in one request is possible with an endpoint `/batch`.

**Note:** The `/batch` endpoint is available to use on objects of API v2 only.

## 25.1 Data structures

Table 1: BatchModel

Batch operation element	Possible values / Request variant	Description
<code>atomic</code>	<code>true, false</code>	Set a global value <code>atomic=true</code> to ensure that all requests within a batch operation are executed. In case of failure of any request, the entire operation will be reverted.
<code>variables</code>		Define variables to facilitate future referencing of responses.
<code>requests:</code>		Remember to give your request a unique ID that consist of characters matching any single character from the following set: lowercase letters (a-z), uppercase letters (A-Z), digits (0-9), hyphens (-), colons (:), or underscores (_).
	<code>method</code>	Use one of the available methods per request.
	<code>endpoint</code>	Use one of the available endpoints per request.
	<code>params</code>	Include optional URL parameters.

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Table 1 – continued from previous page

Batch operation element	Possible values / Request variant	Description
	data	Include optional attributes values or variables for the future responses of the previous requests.
	atomic	Override global <code>atomic=true</code> with a local <code>atomic=false</code> .

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

## 25.2 Creating a batch operation

### Request

Method	POST
Path	/api/v2/batch
Headers	Content-Type: Application/JSON
Body	BatchModel

Example of a batch operation that contains four requests:

- `request0` returns a list of users' IDs and names, where the user's `name == test`,
- `request1` deletes the first user that was on the list of the `request0`'s response,
- `request2` creates a new user with `name` of the first user from the `request0`'s response and assigns a role `user` to it,
- `request3` assigns `password` as an authentication method for the user that was created in the `request2`

### Example request

```
{
  "requests": {
    "request0": {
      "method": "GET",
      "endpoint": "/user",
      "params": {
        "filter": "name.eq(test)",
        "fields": "id,name"
      }
    }
  }
}
```

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```

    }
  },
  "request1": {
    "method": "DELETE",
    "endpoint": "/user/{responses.request0.user[0].id}"
  },
  "request2": {
    "method": "POST",
    "endpoint": "/user",
    "data": {
      "name": "{responses.request0.user[0].name}",
      "role": "user"
    }
  },
  "request3": {
    "method": "POST",
    "endpoint": "/user/{responses.request2.user.id}/authentication",
    "data": {
      "type": "password",
      "position": 0,
      "secret": "abcd.8"
    }
  }
}
}

```

## Response

```

{
  "result": "success",
  "responses": {
    "request0": {
      "result": "success",
      "status-code": 200,
      "user": [
        {
          "id": "8511803295730237462",
          "name": "test"
        }
      ]
    },
    "request1": {
      "result": "success",
      "status-code": 200
    },
    "request2": {
      "result": "success",
      "status-code": 201,
      "user": {
        "id": "8511803295730237463"
      }
    },
    "request3": {
      "result": "success",
      "status-code": 201,
      "user_authentication_method": {

```

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```

        "id": "8511803295730237489"
      }
    }
  }
}

```

### 25.3 Creating a batch operation using variable

The example below demonstrates a batch operation with "username": "jdoe" variable defined. This variable was used to dynamically populate the name field in the user\_1 request. Next, the user\_auth request includes {responses.user\_1.user.id} ({responses.<response-id>.user.id}), which is a placeholder that will be replaced with the actual id value generated from the response of the user\_1 request.

#### Request

```

{
  "variables": {
    "username": "jdoe"
  },
  "requests": {
    "user_1": {
      "method": "POST",
      "endpoint": "/user",
      "data": {
        "name": "{variables.username}"
      }
    },
    "user_auth": {
      "method": "POST",
      "endpoint": "/user/{responses.user_1.user.id}/authentication",
      "data": {
        "type": "password",
        "position": 0,
        "secret": "test123"
      }
    }
  }
}

```

#### Response

```

{
  "result": "success",
  "responses": {
    "user_1": {
      "result": "success",
      "status-code": 201,
      "user": {
        "id": "8511803295730237446"
      }
    },
    "user_auth": {

```

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```

        "result": "success",
        "status-code": 201,
        "user_authentication_method": {
            "id": "8511803295730237442"
        }
    }
}

```

## 25.4 Atomic functionality

The example below demonstrates a batch operation that includes two requests (`user0` and `user1`) for creating two users, where `user0` request has invalid value (`not_defined`) set for the `role` attribute. While the global `atomic` function is enabled for the batch operation, it is disabled solely for the `user0` request. As a result, only user from the `user1` request will be created.

### Example request

```

{
  "atomic": true,
  "variables": {
    "user_name_0": "jdoe",
    "user_name_1": "jsmith"
  },
  "requests": {
    "user0": {
      "method": "POST",
      "endpoint": "/user",
      "atomic": false,
      "data": {
        "name": "{variables.user_name_0}",
        "role": "not_defined"
      }
    },
    "user1": {
      "method": "POST",
      "endpoint": "/user",
      "data": {
        "name": "{variables.user_name_1}",
        "role": "operator"
      }
    }
  }
}

```

### Response

```

{
  "result": "success",
  "responses": {
    "user0": {
      "result": "failure",
      "status-code": 400,

```

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```
    "message": "Invalid value of attribute role: 'not_defined'
               (expected values=[ 'admin', 'operator', 'service', 'superadmin', 'user
↔' ]).",
    "failing_attributes": [
        "role"
    ]
},
"user1": {
    "result": "success",
    "status-code": 201,
    "user": {
        "id": "8511803295730237444"
    }
}
}
```

## 26.1 Data structures

Table 1: NotificationFilterModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
user_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>user_id</code> with attributes <code>event_name</code> , <code>event_transport</code> and <code>safe_id</code> .
safe_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>safe_id</code> with attributes <code>event_name</code> , <code>event_transport</code> and <code>user_id</code> .

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Table 1 – continued from previous page

Attribute	Type	Required	Description
event_name	string {safe_add_server, safe_add_user, safe_blocked, safe_create, safe_remove, safe_unblocked, server_blocked, server_create, server_remove, server_unblocked, user_blocked, user_create, user_remove, user_unblocked, session_finish, session_ml, session_ml, session_regexp, session_regexp, session_start, session_start, session_waiting, session_waiting, session_inject_close, session_inject_open, disk_failure, filesystem_full, access_request_pending, access_request_accepted, access_request_rejected}	yes	Case-insensitive. Immutable. Uniqueness is required in the combination of attribute <code>event_name</code> with attributes <code>event_transport</code> , <code>safe_id</code> and <code>user_id</code> .
event_transport	string {mail, push, slack}	yes	Case-insensitive. Uniqueness is required in the combination of attribute <code>event_transport</code> with attributes <code>event_name</code> , <code>safe_id</code> and <code>user_id</code> .
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only

### Request for retrieving available attributes of the NotificationFilterModel

---

Method

GET

---

Path

/api/v2/objspec/notification\_filter

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 26.2 Retrieving notifications list

### Request

---

Method

GET

---

Path

/api/v2/notification\_filter

---

### Example request

Sending GET [https://10.0.0.0/api/v2/notification\\_filter](https://10.0.0.0/api/v2/notification_filter)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/notification_filter'
```

### Response

```
{
  "result": "success",
  "notification_filter": {
    "id": "9124292845052624897",
    "user_id": "9124292845052624898",
    "safe_id": "9124292845052624898",
    "event_name": "access_request_accepted",
    "event_transport": "mail",
    "created_at": "2024-06-11 22:21:15.750371-07",
    "modified_at": "2024-06-11 22:21:15.750371-07"
  }
}
```

## 26.3 Retrieving notification filter by ID

### Request

---

Method

GET

---

Path

/api/v2/notification\_filter/<id>

---

### Example request

Sending GET [https://10.0.0.0/api/v2/notification\\_filter/9124292845052624897](https://10.0.0.0/api/v2/notification_filter/9124292845052624897)

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/notification_filter/9124292845052624897'
```

### Response

```
{
  "result": "success",
  "notification_filter": {
    "id": "9124292845052624897",
    "user_id": "9124292845052624898",
    "safe_id": "9124292845052624898",
    "event_name": "access_request_accepted",
    "event_transport": "mail",
    "created_at": "2024-06-11 22:21:15.750371-07",
    "modified_at": "2024-06-11 22:21:15.750371-07"
  }
}
```

## 26.4 Creating notification filter

### Request

Method	POST
Path	/api/v2/notification_filter
Headers	Content-Type: Application/HTML
Body	NotificationFilterModel

### Example request

Sending POST [https://10.0.0.0/api/v2/notification\\_filter](https://10.0.0.0/api/v2/notification_filter)

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.0.
↪214.98/api/v2/notification_filter -H 'Content-Type: application/json' -d '{"safe_id":
↪"9124292845052624898","user_id":"9124292845052624903","event_name":"safe_add_server
↪","event_transport":"mail"}'
```

### Response

```
{
  "result": "success",
```

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```
"notification_filter": {  
  "id": "9124292845052624914"  
}  
}
```

## 26.5 Deleting notification filter

### Request

---

Method

DELETE

---

Path

/api/v2/notification\_filter/<id>

---

### Example request

Sending DELETE [https://10.0.0.0/api/v2/notification\\_filter/9124292845052624897](https://10.0.0.0/api/v2/notification_filter/9124292845052624897)

```
curl -s -k -X DELETE -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' https://10.  
↪0.214.98/api/v2/notification_filter/9124292845052624897
```

### Response

```
{  
  "result": "success"  
}
```

---

API v2: OpenID Connect Configuration

---

OpenID Connect related endpoints help to create, modify, list and delete OpenID Connect configurations.

## 27.1 Data structures

Table 1: OpenIDModel

Attribute	Type	Required	Description
id	string		Read-only, unique object Identifier.
name	string	yes	Case-insensitive, unique name of the configuration.
enabled	boolean	yes	Enabling configuration.
bind_to	string		Bind address.
configuration_url	string	yes	This URL is specific for every Identity Provider and allows identifying one for correct configuration.
client_id	string	yes	Client id available after the registration on selected provider.
client_secret	string	yes	Client secret available after the registration on selected provider. Protected.
username_mapping	string		Username mapping is useful when users name has different naming convention.
email_mapping	string		Email mapping is useful when users name has different naming convention.
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.

**Request for retrieving available attributes of the OpenIDModel**



---

Method

GET

---

Path

/api/v2/objspec/oidc

---

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 27.2 Retrieving existing OpenID Connect configurations list

### Request

---

Method

GET

---

Path

/api/v2/oidc

---

### Example request

Sending GET `https://10.0.0.0/api/v2/oidc`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.0/api/v2/oidc'
```

### Response

```
{
  "result": "success",
  "oidc": [
    {
      "id": "9124292845052624897",
      "name": "OKTA",
      "enabled": true,
      "bind_to": "0.0.0.0",
      "configuration_url": "https://okta.com",
      "client_id": "1234567",
      "created_at": "2024-06-19 07:51:42.988336-07",
      "modified_at": "2024-06-19 07:51:42.988336-07"
    }
  ]
}
```

## 27.3 Retrieving existing OpenID Connect configuration by ID

### Request

---

Method

GET

---

Path

/api/v2/oidc/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/oidc/9124292845052624897>

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/oidc/9124292845052624897'
```

### Response

```
{
  "result": "success",
  "oidc": [
    {
      "id": "9124292845052624897",
      "name": "OKTA",
      "enabled": true,
      "bind_to": "0.0.0.0",
      "configuration_url": "https:\\\\okta.com",
      "client_id": "1234567",
      "created_at": "2024-06-19 07:51:42.988336-07",
      "modified_at": "2024-06-19 07:51:42.988336-07"
    }
  ]
}
```

## 27.4 Defining OpenID Connect configuration

### Request

---

**Method**

POST

---

**Path**

/api/v2/oidc

---

**Headers**

Content-Type: Application/HTML

---

**Body**

OpenIDModel

---

**Example request**

Sending POST https://10.0.0.0/api/v2/oidc

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/oidc' -H 'Content-Type: application/json' -d '{"name": "OKTA","enabled
↪": true,"configuration_url":"https://\okta.com","client_id":"1234567","client_
↪secret":"Secret"}'
```

**Response**

```
{
  "result": "success",
  "oidc": {
    "id": "9124292845052624898"
  }
}
```

## 27.5 Modifying OpenID Connect configuration

**Request**

---

**Method**

PATCH

---

**Path**

/api/v2/oidc/&lt;id&gt;

---

**Headers**

Content-Type: Application/HTML

---

**Body**

OpenIDModel

---

**Example request**

Sending PATCH <https://10.0.0.0/api/v2/oidc/9124292845052624898>

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/oidc/9124292845052624898' -H 'Content-Type: application/json' -d'{
↪"client_id":"1234567","client_secret":"Secret"}'
```

### Response

```
{
  "result": "success",
  "oidc": {
    "id": "9124292845052624898"
  }
}
```

## 27.6 Deleting OpenID Connect configuration

### Request

---

Method

DELETE

---

Path

[/api/v2/oidc/<id>](#)

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/oidc/9124292845052624897>

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.
↪0.214.98/api/v2/oidc/9124292845052624897
```

### Response

```
{
  "result": "success"
}
```

---

 API v2: OpenID Connect Users Assignment
 

---

User related OpenID Connect endpoints help to create, modify, list and delete OpenID Connect configurations assignment to Users.

## 28.1 Data structures

Table 1: UserOpenIDModel

Attribute	Type	Required	Description
id	string		Read-only. Protected. Unique identifier.
user_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>user_id</code> with attribute <code>oidc_id</code> .
oidc_id	string	yes	Immutable. Uniqueness is required in the combination of attribute <code>oidc_id</code> with attribute <code>user_id</code> .
oidc_sub	string	yes	OpenID Connect sub claim.
user_name	string		Read-only. Expensive to use.
user_domain	string		Read-only. Expensive to use.
user_email	string		Read-only. Expensive to use.
user_organization	string		Read-only. Expensive to use.
user_role	string		Read-only. Expensive to use.
oidc_name	string		Read-only. Expensive to use.
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only.
builtin	boolean		Read-only; expensive to use; if <code>true</code> , the object is not editable.
hidden	boolean		Read-only; expensive to use; if <code>true</code> , the object is hidden in UI.

## Request for retrieving available attributes of the UserOpenIDModel

---

Method

GET

---

Path

/api/v2/objspec/user\_oidc

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 28.2 Retrieving the list of existing OpenID Connect configuration assignments to Users

### Request

---

Method

GET

---

Path

/api/v2/user/oidc

---

### Example request

Sending GET `https://10.0.0.0/api/v2/user/oidc`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.0.214.98/api/v2/user/oidc'
```

### Response

```
{
  "result": "success",
  "user_oidc": [
    {
      "user_id": "9124292845052624898",
      "oidc_id": "9124292845052624898",
      "oidc_sub": "John",
      "user_name": "User_1",
      "user_domain": "zw.local",
      "user_email": "user@fudosecurity.com",
      "user_role": "operator",
      "oidc_name": "OKTA2",
      "created_at": "2024-06-19 08:39:55.351137-07",
      "modified_at": "2024-06-19 08:39:55.351137-07",
    }
  ]
}
```

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```
    "builtin": false,  
    "hidden": false  
  }  
]  
}
```

## 28.3 Retrieving existing OpenID Connect configuration assigned to User

### Request

---

Method

GET

---

Path

/api/v2/user/<user\_id>/oidc/<oidc\_id>

---

### Example request

Sending GET https://10.0.0.0/api/v2/user/9124292845052624898/oidc/9124292845052624898

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.  
↪214.98/api/v2/user/9124292845052624898/oidc/9124292845052624898'
```

### Response

```
{  
  "result": "success",  
  "user_oidc": [  
    {  
      "user_id": "9124292845052624898",  
      "oidc_id": "9124292845052624898",  
      "oidc_sub": "John",  
      "user_name": "User_1",  
      "user_domain": "zw.local",  
      "user_email": "user@fudosecurity.com",  
      "user_role": "operator",  
      "oidc_name": "OKTA2",  
      "created_at": "2024-06-19 08:39:55.351137-07",  
      "modified_at": "2024-06-19 08:39:55.351137-07",  
      "builtin": false,  
      "hidden": false  
    }  
  ]  
}
```

## 28.4 Defining OpenID Connect configuration assignment to User

### Request

Method	POST
Path	/api/v2/user/oidc
Headers	Content-Type: Application/HTML
Body	UserOpenIDModel

### Example request

Sending POST <https://10.0.0.0/api/v2/user/oidc>

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/user/oidc' -H 'Content-Type: application/json' -d '{"user_id":
↪"9124292845052624898","oidc_id":"9124292845052624898","oidc_sub":"John"}'
```

### Response

```
{
  "result": "success"
}
```

## 28.5 Modifying OpenID Connect configuration assignment to User

### Request

Method	PATCH
Path	/api/v2/user/<user_id>/oidc/<oidc_id>
Headers	Content-Type: Application/HTML
Body	UserOpenIDModel

### Example request



Sending PATCH https://10.0.0.0/api/v2/user/9124292845052624800/oidc/9124292845052624898

```
curl -s -k -X PATCH -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.
↪0.214.98/api/v2/user/9124292845052624898/oidc/9124292845052624898' -H 'Content-
↪Type: application/json' -d '{"oidc_sub":"JohnD"}'
```

### Response

```
{
  "result": "success"
}
```

## 28.6 Deleting OpenID Connect configuration assignment to User

### Request

---

Method

DELETE

---

Path

/api/v2/user/<user\_id>/oidc/<oidc\_id>

---

### Example request

Sending DELETE https://10.0.0.0/api/v2/user/9124292845052624800/oidc/9124292845052624897

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.
↪0.214.98/api/v2/user/9124292845052624800/oidc/9124292845052624897
```

### Response

```
{
  "result": "success"
}
```

## API v2: External password repository

Fudo Enterprise supports external passwords repositories for managing passwords to monitored servers.

## 29.1 Data structures

Table 1: PasssvnModel

Attribute	Type	Required	Description
id	string		Unique, read-only object Identifier
name	string	yes	Unique, case insensitive object name
url	string	yes	URL to the passwords server's API
type	string {cyberark, laps, thycotic}	yes	Immutable
login	string	If type == laps    thycotic	
secret	string	If type == laps    thycotic	Protected
tls_certificate	string		
cyberark_application_id	string	If type == cyberark	
cyberark_safe	string	If type == cyberark	
thycotic_secret_fmt	string	If type == thycotic	

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
base_dn	string	If type == laps	
identity_cert	string		
identity_key	string		Protected
created_at	string		Read-only
modified_at	string		Read-only
removed	string		Read-only

### Request for retrieving available attributes of the PassvnModel

Method	GET
Path	/api/v2/objspec/passvn

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

The next chapter describes procedures for creating separate requests.

## 29.2 Creating external password repository

### Request

Method	POST
Path	/api/v2/passvn
Headers	Content-Type: Application/JSON
Body	PassvnModel

### Example request

Sending POST <https://10.0.0.0/api/v2/passvn>

```
{
  "type": "laps",
  "name": "LAPS Test Name 2",
  "url": "ldaps://10.2.0.1:8636/",
  "login": "cn=admin,dc=fudosecurity,dc=lab",
  "secret": "passwordExample",
  "base_dn": "dc=fudosecurity,dc=lab"
}
```

### Response

```
{
  "result": "success",
  "passvn": {
    "id": "123456789012345678"
  }
}
```

## 29.3 Retrieving external password repositories list

### Request

---

Method

GET

---

Path

/api/v2/passvn

---

### Example request

Sending GET <https://10.0.0.0/api/v2/passvn>

### Response

```
"result": "success",
"passvn": [
  {
    "id": "123456789012345679",
    "name": "LDAP Test Name",
    "url": "ldaps://10.2.0.100:8636/",
    "type": "laps",
    "login": "cn=admin,dc=fudosecurity,dc=lab",
    "base_dn": "dc=fudosecurity,dc=lab",
    "created_at": "2023-06-16 02:53:08.930597-07",
    "modified_at": "2023-06-16 02:53:08.930597-07"
  }
]
```

## 29.4 Retrieving information about external password repository by ID

### Request

---

Method

GET

---

Path

/api/v2/passvn/<id>

---

### Example request

Sending GET <https://10.0.0.0/api/v2/passvn/123456789012345679>

### Response

```
"result": "success",
"passvn": [
  {
    "id": "123456789012345679",
    "name": "LDAP Test Name",
    "url": "ldaps://10.2.0.100:8636/",
    "type": "laps",
    "login": "cn=admin,dc=fudosecurity,dc=lab",
    "base_dn": "dc=fudosecurity,dc=lab",
    "created_at": "2023-06-16 02:53:08.930597-07",
    "modified_at": "2023-06-16 02:53:08.930597-07"
  }
]
```

## 29.5 Deleting an external password repository definition

### Request

---

Method

DELETE

---

Path

/api/v2/passvn/<id>

---

## 29.6 Changing external password repository configuration

### Request

---

Method

PATCH

---

Path

/api/v2/passvn/<id>

---

Headers

Content-Type: Application/JSON

---

Body

PassvnModel

---

### Example request

Sending PATCH <https://10.0.0.0/api/v2/passvn/123456789012345679>

```
{
  "login": "cn=admin,dc=fudosecurity,dc=com",
  "base_dn": "dc=fudosecurity,dc=com"
}
```

### Response

```
{
  "result": "success"
}
```

Fudo allows configuring multiple backup target destinations, where data can be stored. Each backup target can have S3, Backblaze, FTP, or SFTP as a destination place.

### 30.1 Data structures

Table 1: BackupModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
name	string	yes	Unique, case insensitive object name
type	string {backblaze, ftp, s3, sftp}	yes	Immutable, case insensitive
path	string		
configuration	string	yes	Protected
created_at	datetime		Read-only
modified_at	datetime		Read-only
removed	boolean		Read-only

#### Request for retrieving available attributes of the BackupModel

Method

GET

Path

/api/v2/objspec/backup

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 30.2 Creating a backup target

### Request

---

Method	POST
Path	/api/v2/backup
Headers	Content-Type: Application/JSON
Body	BackupModel

---

### Example request

Sending POST `https://10.0.0.0/api/v2/backup`

```
curl -s -k -X POST -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/backup' -H 'Content-Type: application/json' -d '{"name": "FTP_Backup",
↪"type": "ftp","ftp_address": "10.0.130.100"}'
```

### Response

```
{
  "result": "success",
  "backup": {
    "id": "801640733671948290"
  }
}
```

## 30.3 Retrieving backup definitions list

### Request



---

Method

GET

---

Path

/api/v2/backup

---

### Example request

Sending GET <https://10.0.0.0/api/v2/backup>

```
"result": "success",
"backup": [
  {
    "id": "9124292845052624897",
    "name": "FTP_Backup",
    "type": "ftp",
    "path": "",
    "created_at": "2024-06-16 13:50:42.355762-07",
    "modified_at": "2024-06-16 14:29:47.217872-07"
  },
  {
    "id": "9124292845052624898",
    "name": "Backblaze_Backup",
    "type": "backblaze",
    "path": "myBucket\\/",
    "created_at": "2024-06-16 14:29:47.226305-07",
    "modified_at": "2024-06-16 14:29:47.226305-07"
  }
]
```

## 30.4 Retrieving a backup definition by ID

### Request

---

Method

GET

---

Path

/api/v2/backup/<id>

---

## 30.5 Assigning a backup definition to a session

### Request

---

Method

POST

---

Path

`/api/v2/session/<session_id>/backup/<backup_id>`

---

## 30.6 Deleting backup definition

### Request

---

Method

DELETE

---

Path

`/api/v2/backup/<id>`

---

Fudo Enterprise allows retrieving network settings within its API.

**Note:** Network settings are accessible for the users with `superadmin` privileges.

### 31.1 Data structures

Table 1: NetworkModel

Attribute	Type	Description
hostname	string	
dns	address	DNS address(es)
search	string	Domain search path
management	address	Admin Panel's address
access_gateway	address	Access Gateway's address
labels	string	Global configuration parameters
interfaces		Network interfaces configuration
	name	
	ether	
	active {true, false}	
	use_dhcp {true, false}	
	routing_table	
	inet	
routing		Routing configuration
	tables_max_count	Max number of the routing tables is 8
	tables {table[id]}	ID of the routing table
	routes {network, gateway}	Network and gateway addresses

## 31.2 Retrieving network settings

### Request

---

Method

GET

---

Path

`/api/v2/network`

---

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

Diagnostics endpoints allow downloading service data files, retrieving the list of generated diagnostics, and deleting diagnostics definitions.

## 32.1 Data structures

Table 1: `DiagnosticsModel`

Attribute	Type	Required	Description
<code>id</code>	string		Unique and read-only diagnostic identifier
<code>file</code>	string		System file name to tarball diagnostic. Read-only.
<code>error</code>	string		Error information when generating failed. Read-only.
<code>created_at</code>	datetime		Timestamp of fenerated diagnostic tarball. Read-only.
<code>owner</code>	string		Node on which diagnostic where generated. Read-only.
<code>size</code>	number		Size in bytes of diagnostic tarball. Read-only.

### Request for retrieving available attributes of the `DiagnosticsModel`

Method

GET

Path

`/api/v2/objspec/diagnostics`

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 32.2 Downloading service data

### Request

---

Method	POST
Path	/api/v2/diagnostics
Headers	Content-Type: Application/JSON
Body	DiagnosticsModel

---

### Example request

Sending POST `https://10.0.0.0/api/v2/diagnostics`

```
curl -s -k -X POST -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.
↪214.98/api/v2/diagnostics -H 'Content-Type: application/json' -d '{"diagnostic_files
↪": "all"}'
```

### Response

```
"diagnostics": {
  "id": "9124292845052624898"
},
"result": "success"
```

## 32.3 Retrieving generated diagnostics list

### Request

---

Method	GET
Path	/api/v2/diagnostics

---

### Example request

Sending GET <https://10.0.0.0/api/v2/diagnostics>

```
curl -s -k -X GET -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.0.214.98/api/v2/diagnostics
```

### Response

```
"result": "success",
"diagnostics": [
  {
    "id": "9124292845052624897",
    "file": "service_data-87074336-2024-06-19T05_12_11.420631817.tgz",
    "created_at": "2024-06-18 22:12:13.339584-07",
    "owner": "87074336",
    "size": 2505831
  },
  {
    "id": "9124292845052624898",
    "file": "service_data-87074336-2024-06-19T05_16_58.870647504.tgz",
    "created_at": "2024-06-18 22:17:00.132129-07",
    "owner": "87074336",
    "size": 2506749
  }
]
```

## 32.4 Deleting diagnostics definition

### Request

---

Method

DELETE

---

Path

/api/v2/diagnostics/<id>

---

### Example request

Sending DELETE <https://10.0.0.0/api/v2/diagnostics/9124292845052624897>

```
curl -s -k -X DELETE -H 'Authorization: vg1ei6rgo58fsbobr7octp0w3afd9vsm' https://10.0.214.98/api/v2/diagnostics/9124292845052624897
```

### Response

```
{
  "result": "success"
}
```

---

## API v2: Healthcheck

---

By using *healthcheck*, you can check the overall Fudo Enterprise health and verify its proper functioning. This method is accessible without authentication.

---

**Note:**

- *Healthcheck* is disabled by default. Please go to *Settings > System*, and enable the *API health check* option on the *General* tab, under the *Maintenance and supervision* section.
- 

### 33.1 Retrieving healthcheck status

#### Request

---

Method

GET

---

Path

/api/v2/healthcheck

---

#### Example request

Sending GET `https://10.0.0.0/api/v2/healthcheck`

#### Response - positive

```
{
  "result": "success",
  "status": "ok"
}
```



### Response - negative

```
{
  "result": "success",
  "status": "error"
}
```

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The *Status* method allows retrieving detailed information about the Fudo Enterprise status including:

- Cluster status.
- The temperature of CPU cores in degrees Celsius.
- Database server status.
- Disks status.
- Fudo unique identifier.
- System load.
- Device memory utilization.
- Power supply units status.
- Device serial number.
- Number and list of currently active sessions.
- Status of last system shutdown or reboot.
- SMART attributes of disks.
- Device storage utilization.
- Status of last attempted firmware upgrade.
- System uptime.
- Firmware version.

---

**Note:**

- The *Status* method requires authentication.
- It is accessible for every user role.

## 34.1 Retrieving status information

### Request

---

Method

GET

---

Path

`/api/v2/status`

---

### Example request

Sending GET `https://10.0.0.0/api/v2/status`

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

System log is an internal registry of users activities which influence system state (login information, administrative actions, etc.).

### 35.1 Data structures

Table 1: LogModel

Attribute	Type	Required	Description
id	string		Unique and read-only object Identifier
facility_name	string	yes	Unique, read-only, and case-insensitive facility name.
severity_id	string {2 = Critical, 3 = Error, 4 = Warning, 6 = Info, 7 = Debug}	yes	Read-only
type_name	string	yes	Read-only
debuglevel	string	yes	Read-only
message	string	yes	Read-only
account_id	string		Read-only
account_name	string		Read-only
account_removed	boolean		Read-only. Account removed status.
account_secret_id	string		Read-only
account_secret_removed	boolean		Read-only. Account secret removed status.
listener_id	string		Read-only
listener_name	string		Read-only

Continued on next page

Table 1 – continued from previous page

Attribute	Type	Required	Description
listener_removed	boolean		Read-only. Listener removed status.
pool_id	string		Read-only
pool_name	string		Read-only
pool_removed	boolean		Read-only. Pool removed status.
safe_id	string		Read-only
safe_name	string		Read-only
safe_removed	boolean		Read-only. Safe removed status.
session_id	string		Read-only
server_id	string		Read-only
server_name	string		Read-only
server_removed	boolean		Read-only. Server removed status.
subject_id	string		Read-only. ID of the object that is the subject of this log, e.g. superadmin giving operator access to user.
subject_name	string		Read-only
subject_removed	boolean		Read-only. Subject removed status.
user_id	string		Read-only
user_name	string		Read-only
user_removed	boolean		Read-only. User removed status.
user_extra_id	string		Read-only. E.g., ID of the user whose specifications another user was granted access to.
user_extra_name	string		Read-only
user_extra_removed	boolean		Read-only. User extra removed status.
node_serial	string		Read-only
node_name	string		Read-only
created_at	datetime		Read-only. Timestamp of creation.
modified_at	datetime		Read-only. Timestamp of modification.
removed	boolean		Read-only

### Request for retrieving available attributes of the LogModel

---

Method

GET

---

Path

/api/v2/objspec/log

---

---

**Note:** To check allowed methods, available URL parameters and possible responses please refer to the *API overview* section.

---

The next chapter describes procedures for creating separate requests.

## 35.2 Retrieving log list

### Example request

Sending GET `https://10.0.0.0/api/v2/log`

```
curl -s -k -X GET -H 'Authorization: sgfeea6jsaz4mum9su8w61877n1g06sk' 'https://10.0.
↪214.98/api/v2/log'
```