



# BeyondTrust

## **Privileged Remote Access 1.22.2 API Programmer's Guide**

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# BeyondTrust Privileged Remote Access API Programmer's Guide

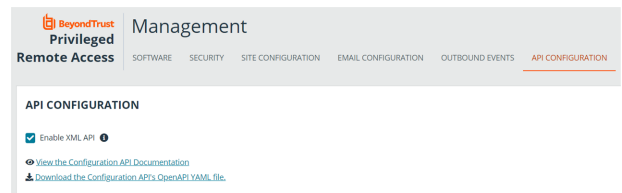
## Version 1.22.2 (for BeyondTrust PRA 23.2.x)

Front-end integration of the BeyondTrust API enables customers to correlate BeyondTrust sessions with third-party or in-house developed applications to pull report data, issue commands, or automatically save a backup of the B Series Appliance's software configuration on a recurring basis.

One common example of API integration would be linking a customer relationship management ticketing system to BeyondTrust sessions.

You could also add a feature to an application to enable the user to start a session from directly within that program instead of the BeyondTrust access console.

To use the BeyondTrust API, ensure that the **Enable XML API** option is checked on the **Management > API Configuration** page of the **/login** administrative interface.



For the examples in the following pages, a sample URL of **access.example.com** is used. Please replace this URL with your B Series Appliance's public site URL.

The command and reporting APIs return XML responses that declare a namespace. If you are parsing these responses with a namespace-aware parser, you will need to set the namespace appropriately or ignore the namespace while parsing the XML.

- Reporting API: <https://www.beyondtrust.com/namespaces/API/reporting>
- Command API: <https://www.beyondtrust.com/namespaces/API/command>



**Note:** The above namespaces are returned XML data and are not functional URLs.

## CLI Tool

A Command Line Interface (CLI) tool can be downloaded from the administrative interface. The CLI tool makes it easier to use and configure APIs and automation scripts, and integrate them with your BeyondTrust Privileged Remote Access installation.

A CLI tool can also be installed from the access console, and used to initiate and manage access session.



For more information, please see the following:

- For downloading and installing the CLI Tool, [API Configuration](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm) in the *BeyondTrust Privileged Remote Access Admin Guide* at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm>.



- *For installing the access console CLI Tool, [Change Settings and Preferences in the Access Console](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/access-console/settings.htm) at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/access-console/settings.htm>.*
- *Use the CLI for the Access Console at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/access-console/cli.htm>.*

## Authenticate to the Privileged Remote Access API

API requests are executed by sending an HTTP request to the B Series Appliance. Send the request using any HTTPS-capable socket library or scripting language module, URL fetcher such as cURL, or an OAuth library specific to your platform. BeyondTrust's web APIs use OAuth as the authentication method.

To authenticate to the API, you must create an API account on the **/login > Management > API Configuration** page. The account must have permission to access the necessary APIs. API requests require a token to first be created and then be submitted with each API request.



For more information, please see the following:

- For creating an API account, [API Configuration: Enable the XML API and Configure Custom Fields at https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm)
- Example API request at "[Test Scenario](#)" on page 68

### Create a Token

Create a token by POSTing to the URL of your BeyondTrust site followed by **/oauth2/token**:

```
https://access.example.com/oauth2/token
```

The OAuth client ID and client secret associated with the API account should be Base64 encoded and included in an HTTP basic authorization header:

```
Authorization: Basic <base64-encoded "client_id:secret">
```

Include the following POST body in the request:

```
grant_type=client_credentials
```

If the request is processed without error, you will receive an access token JSON response:

```
{
  "access_token": "<token>"
  "token_type": "Bearer"
  "expires_in": 3600
}
```



**Note:** This token expires after one hour. Any calls to the API afterward must have a new token. Each API account can have a maximum of 30 valid tokens. If an API account attempts to generate more than 30 tokens, then the oldest token is invalidated before a new one is generated.



**Note:** The client secret cannot be modified, but it can be regenerated on the `/login > Management > API Configuration` page. Regenerating a client secret and then saving the account immediately invalidates any OAuth tokens associated with the account. Any API calls using those tokens are unable to access the API. A new token must be generated using the new client secret.

## Request an API Resource

Now that you have an access token, you can make GET/POST requests via HTTPS to the web API:

```
https://access.example.com/api/command
```

The obtained token is used for HTTP authentication and must be included in an HTTP authorization header with each request:

```
Authorization: Bearer <token>
```

If the token is valid, you gain access to the requested URL.

## Authentication Errors

Requests made to the web API with expired or invalid tokens result in a JSON error response:

```
{
  "error": "access_denied"
  "message": "The resource owner or authorization server denied the request."
}
```



### IMPORTANT!

*When making consecutive API calls, you must close the connection after each API call.*

## Request Rate Limits

Requests are limited to 20 per second and 15,000 per hour.

This limit applies to all API endpoints, and is per API account.

Responses include headers with the rate limit information:



### Example:

```
X-RateLimit-Limit      15000
X-RateLimit-Remaining  14996
```

## API Use Cases

### CLI Tool

A Command Line Interface (CLI) tool can be downloaded from the administrative interface. The CLI tool makes it easier to use and configure APIs and automation scripts, and integrate them with your BeyondTrust Privileged Remote Access installation.

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- [Use the CLI for the Access Console](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/access-console/cli.htm) at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/access-console/cli.htm>.

### AWS Registration

Registration of an asset is performed in a user data script. We provide an example script that works with the standard AWS Linux AMI (though it should work for any Linux AMI).

#### Setup in /login

We configure the endpoints that come online so that all go into the same Jump Group and are accessed via the same Jumpoint. For this example, we use Jumpoint with ID 1 and a shared Jump Group with ID 1. These are referenced in the script below as JUMPOINT\_ID and JUMP\_GROUP\_ID. Configure access to this Jumpoint and Jump Group as needed.

Generate an API account for your AWS scripts to use, and note the CLIENT\_ID and CLIENT\_SECRET for use in the script below.

The API Account created does not need access to Vault in this example.

#### Setup SSH Credentials in Vault

If you already have a key pair in AWS you want to use, make sure you have the private key available. If not, open the EC2 section and navigate to **Network and Security > Key Pairs** in the AWS console. Generate a new key pair and save the private key.

In /login, navigate to **Vault > Accounts** and add a new generic account. Set the type to **SSH** and add the username you are using on the AMI (AWS defaults this to **ec2-user**) as well as the private key. This username is the TARGET\_USER in the script below.

At the bottom of the account configuration, associate this account with the Jump Group from above by selecting **Jump Items Matching Criteria** and selecting the desired Jump Group.

Save the new account.

Once the account is saved, configure a Group Policy to grant users permission to inject it.



## Deploy the Instances in EC2

EC2 instance initialization is performed with user data scripts. The script below registers a Linux AMI as a Shell Jump with the Jumpoint and Jump Group configured.

Prepare and deploy a Linux AMI in EC2. In the user data field, paste this script:

```
#!/bin/bash

# SRA API Credentials
export BT_CLIENT_ID=XXX
export BT_CLIENT_SECRET=XXX
export BT_API_HOST=XXX

# The Jump Group and Jumpoint to use for the Jump Item we create
JUMP_GROUP_ID=1
JUMP_GROUP_TYPE=shared
JUMPOINT_ID=1

TARGET_USER=ec2-user
# Query the AWS Meta-data service for information about this instance to use
# when creating the Jump Item
INSTANCE_ID=`curl http://169.254.169.254/latest/meta-data/instance-id`
INSTANCE_IP=`curl http://169.254.169.254/latest/meta-data/public-ipv4`
INSTANCE_NAME=$INSTANCE_IP
http_response=$(curl -s -o name.txt -w "%{http_code}" http://169.254.169.254/latest/meta-
data/tags/instance/Name)
if [ "$http_response" == "200" ]; then
    INSTANCE_NAME=$(cat name.txt)
fi

apt update
apt install -y unzip
curl -o btapi.zip -L https://$BT_API_HOST/api/config/v1/cli/linux
unzip btapi.zip

echo "
name=\"${INSTANCE_NAME:-$INSTANCE_IP}\"
hostname=$INSTANCE_IP
jump_group_id=$JUMP_GROUP_ID
jump_group_type=$JUMP_GROUP_TYPE
username=$TARGET_USER
protocol=ssh
port=22
terminal=xterm
jumpoint_id=$JUMPOINT_ID
tag=$INSTANCE_ID
" | ./btapi -k add jump-item/shell-jump

rm name.txt
rm btapi
rm btapi.zip
```

- Add the client credentials as BT\_CLIENT\_ID and BT\_CLIENT\_SECRET.
- Add the site's hostname as BT\_API\_HOST (just the hostname, no HTTPS).
- Make sure that TARGET\_USER, JUMPOINT\_ID, and JUMP\_GROUP\_ID (and type) are the values configured above.

This script downloads the **btapi** command line tool and pipes the instance's data to create a new Shell Jump item. The Jump Item is available for immediate use once the instance shows online.

This script uses the **InstanceId** as the item's tag so that you may easily filter it later when performing cleanup. It also attempts to read the instance's **Name** tag to use as the Jump Item's name field for easy identification later. In order for this to work, you must set **Allow tags in metadata** to **Enable** when launching the instance in AWS. If the **Name** is not available, the instance's IP address is used instead.

## AWS Cleanup

Cleaning up terminated AWS Jump Items may be automated in multiple ways, depending on the desired behavior. Here, we show two different methods: a script that may be run on-demand to clean up terminated instances, and an AWS Lambda function and EventBridge rule that is triggered automatically.

### On-Demand Script

If you want to clean up Jump Items on demand, the following script can be run as needed or scheduled to run as needed with a tool like **chron**.

```
#!/bin/bash

export BT_CLIENT_ID=XXX
export BT_CLIENT_SECRET=XXX
export BT_API_HOST=XXX

export AWS_ACCESS_KEY_ID=XXX
export AWS_SECRET_ACCESS_KEY=XXX

# Note this requires the AWS CLI tool to be installed
INSTANCE_IDS=$(aws ec2 describe-instances --query 'Reservations[*].Instances[*].[InstanceId]' --filters 'Name=instance-state-name,Values=[terminated]' --output text)

if [[ -z "$INSTANCE_IDS" ]]; then
    exit
fi

for inst in "${INSTANCE_IDS[@]}"; do
    ID=$(echo "tag=$inst" | btapi --env-file=~/.config/aws-api -kK list jump-item/shell-jump | perl -ne '/^0__id=(\d+)/ && print $1')
    btapi --env-file=~/.config/aws-api delete jump-item/shell-jump $ID
done
```

## AWS Hooks

Setting up the hooks in AWS requires two pieces in AWS:

- A Lambda function to do the cleanup
- An EventBridge rule to call the Lambda function

The following example is one way to configure these pieces

## Create the Lambda

This example uses Python, but you can use the same logic for any language you prefer.

This example makes use of the `requests`, `requests_oauthlib`, and `oauthlib` python libraries. To use these, you must create and upload a layer with these dependencies to attach to the lambda. This may be performed from a local Linux machine with the same python version installed that the lambda uses, or you may use the AWS Cloud9 service to spin up a compatible environment.

To create the layer, use the following commands:

```
mkdir tmp
cd tmp
virtualenv v-env
source ./v-env/bin/activate
pip install requests oauthlib requests_oauthlib
deactivate

mkdir python
# Using Python 3.9
cp -r ./v-env/lib64/python3.9/site-packages/* python/
zip -r requests_oauthlib_layer.zip python

# Or manually upload the zip under AWS Lambda > Layers
aws lambda publish-layer-version --layer-name requests_oauthlib --zip-file fileb://requests_oauthlib_layer.zip --compatible-runtimes python3.9
```

With the layer added, navigate to AWS Lambda and create a new function. Select **Python** as the runtime with the same version used above. The function requires **Describe\*** permissions for EC2 as well as the general AWS Lambda role.

Once the function is created, replace the contents of the generated `lambda_function.py` file with this script:

```
import boto3
import os
from oauthlib.oauth2 import BackendApplicationClient
from requests_oauthlib import OAuth2Session

ec2 = boto3.client('ec2', region_name=os.environ.get('AWS_REGION'))

BT_CLIENT_ID = os.environ.get('BT_CLIENT_ID')
BT_CLIENT_SECRET = os.environ.get('BT_CLIENT_SECRET')
BT_API_HOST = os.environ.get('BT_API_HOST')

class API:
    def __init__(self) -> None:
        self.client = BackendApplicationClient(client_id=BT_CLIENT_ID)
        self.oauth = OAuth2Session(client=self.client)
        self.token = 'bad'

    def call(self, method, url, headers=None, data=None, **kwargs):
        def reload_token(r, *args, **kwargs):
            if r.status_code == 401:
                self.refreshToken()

        return self.oauth.request(method, url, headers=headers, data=data, **kwargs, hooks={'after': reload_token})
```

```
        return self.call(method, url, headers=headers, data=data, **kwargs)
    elif r.status_code > 400:
        r.raise_for_status()

    d = data if method != 'get' else None
    p = data if method == 'get' else None
    resp = self.oauth.request(
        method,
        f"https://{BT_API_HOST}/api/config/v1/{url}",
        headers=headers, json=d, params=p, hooks={'response': reload_token}, **kwargs)

    resp.raise_for_status()

    return resp

def refreshToken(self) -> None:
    self.token = self.oauth.fetch_token(
        token_url=f"https://{BT_API_HOST}/oauth2/token",
        client_id=BT_CLIENT_ID,
        client_secret=BT_CLIENT_SECRET
    )

client = API()

def lambda_handler(event, context):
    instances = ec2.describe_instances(
        Filters=[
            {'Name': 'instance-state-name', 'Values': ['terminated']}
        ]
    )
    data = []

    for r in instances['Reservations']:
        for inst in r['Instances']:
            print(inst)
            d = {
                'id': inst['InstanceId'],
                'state': inst['State'],
                'ip': inst.get('PublicIpAddress'),
                'name': [x['Value'] for x in inst['Tags'] if x['Key'] == 'Name'],
            }
            response = client.call('get', 'jump-item/shell-jump', data={'tag': inst
['InstanceId']})
            items = response.json()
            if len(items) > 0:
                item = items[0]
                d['data'] = item
                client.call('delete', f'jump-item/shell-jump/{item["id"]}')
            data.append(d)

    return {
        'statusCode': 200,
        'body': data
    }
```

Next, scroll to the bottom of the page to the **Layers** panel. Click **Add a layer** and select the layer that was created above.

This script is designed to read the BT API information from the environment. You must add the BT\_API\_HOST, BT\_CLIENT\_ID, and BT\_CLIENT\_SECRET configuration variables under **Configuration** -> **Environment** variables.

## Configuring EventBridge

Navigate to **Amazon EventBridge > Rules** and click **Create rule**. Name the rule, ensure it is enabled, select **Rule with an event pattern**, and click **Next**.

To build the event pattern, choose the **AWS Events or EventBridge partner events** option in the **Event source** panel, and then scroll down to the **Event pattern** panel. Select the **Custom patterns (JSON Editor)** option, paste the following pattern, and click **Next**.

```
{
  "source": ["aws.ec2"],
  "detail-type": ["EC2 Instance State-change Notification"],
  "detail": {
    "state": ["terminated"]
  }
}
```

For the event target, select **AWS Service**, then pick **Lambda function** from the dropdown. For **function**, select the name of the Lambda created above. Finish creating the rule definition.

## Finished

Once the rule and lambda are in place, the lambda is invoked when any EC2 instance moves or is moving to **terminated** status and is removed from the Jump Item list.

## Scripting a New Setup

The script below runs through a more complicated automated process. This script sets up the given instance to be a Jumpoint for a VPC and creates a new Jump Group and SSH key in Vault for the VPC. It then grants access to these new resources to a given Group Policy.

This script assumes an Ubuntu Server instance.



**Note:** Amazon Linux AMIs are not supported as Jumpoint hosts. Jumpoint hosts require GLIBC 2.27 and the Amazon Linux AMIs support only 2.26.

```
#!/bin/bash
set -euo pipefail
set -x

# SRA API Credentials
export BT_CLIENT_ID=XXX
export BT_CLIENT_SECRET=XXX
export BT_API_HOST=XXX
```

```
# Set to the ID of the Group Policy to tie everything together
GROUP_POLICY_ID=XXX

# Set this to the user account for this instance
TARGET_USER=ubuntu
# Query AWS metadata for this instance to data needed when creating items later
INSTANCE_IP=`curl http://169.254.169.254/latest/meta-data/public-ipv4`
macid=$(curl http://169.254.169.254/latest/meta-data/network/interfaces/macs/)
# Using the VPC ID as the base for all our names
NAME_BASE=$(curl http://169.254.169.254/latest/meta-data/network/interfaces/macs/${macid}/vpc-id)

HOME=${HOME:=/home/${TARGET_USER}}

# For running as a user
JUMPOINT_BASE_DIR="$HOME/.beyondtrust/jumpoint"
SYSTEMD_DIR="$HOME/.config/systemd/user"
SYSTEMD_ARGS="--user"
JUMPOINT_USER=""

if [ "$(whoami)" == "root" ]; then
    # For running as root
    JUMPOINT_BASE_DIR="/opt/beyondtrust/jumpoint"
    SYSTEMD_DIR="/etc/systemd/system"
    SYSTEMD_ARGS=""
    JUMPOINT_USER="--user $TARGET_USER"
fi

# Make the command calls a bit easier to write
ORIG_PATH=$PATH
cwd=$(pwd)
export PATH=$cwd:$PATH

# Ubuntu server does not have unzip by default
sudo apt update
sudo apt install -y unzip

# Download jq into the current directory for ease of parsing JSON responses
curl -L https://github.com/stedolan/jq/releases/download/jq-1.6/jq-linux64 -o jq
chmod +x jq
curl -o btapi.zip -L https://$BT_API_HOST/api/config/v1/cli/linux
unzip btapi.zip

# Create a Jumpoint for this VPC
jpc=$(echo "
name=$NAME_BASE
platform=linux-x86
shell_jump_enabled=True
" | btapi -k add jumpoint)

jpid=$(echo "$jpc" | jq '.id')

echo "Created Jumpoint with id [$jpid]"

# Download and run the Jumpoint installer
```

```
installer=$(btapi download "jumpoint/$jpid/installer" | jq -r '.file')
chmod +x "$installer"
# Make sure the base install directory exists
mkdir -p "$JUMPOINT_BASE_DIR"

# IMPORTANT: Make sure your linux distro has all the packages needed to install
# the Jumpoint. Ubuntu server 22 needs these two
sudo apt install -y libxkbcommon0 fontconfig
sh "$installer" --install-dir "$JUMPOINT_BASE_DIR/$BT_API_HOST" $JUMPOINT_USER

# Make sure the systemd service directory exists (mostly for the user mode directory)
mkdir -p "$SYSTEMD_DIR"

# Create the systemd service file
echo "[Unit]
Description=BeyondTrust Jumpoint Service
Wants=network.target
After=network.target

[Service]
Type=forking
ExecStart=$JUMPOINT_BASE_DIR/$BT_API_HOST/init-script start" > "$SYSTEMD_DIR/jumpoint.$BT_API_
HOST.service"

if [ "$(whoami)" != "$TARGET_USER" ]; then
    echo "User=$TARGET_USER" >> "$SYSTEMD_DIR/jumpoint.$BT_API_HOST.service"
fi

echo "
Restart=no
WorkingDirectory=$JUMPOINT_BASE_DIR/$BT_API_HOST

[Install]
WantedBy=default.target
" >> "$SYSTEMD_DIR/jumpoint.$BT_API_HOST.service"

# Load the Jumpoint service and start it
systemctl $SYSTEMD_ARGS daemon-reload
systemctl $SYSTEMD_ARGS start "jumpoint.$BT_API_HOST.service"

# Cleanup the installer file
rm -f "$installer"

# Create a Jump Group for this VPC
jg=$(echo "
name=\"$NAME_BASE Jump Group\"
" | btapi -k add jump-group)

jgid=$(echo "$jg" | jq '.id')

# Create an SSH Key for this VPC and add the private key to Vault
# NOTE, you will need to manually associate this credential to the
# Jump Group for this VPC in /login
ssh-keygen -f "./key" -P "" -q -t ed25519
touch "$HOME/.ssh/authorized_keys"
```

```
cat ./key.pub >> "/home/$TARGET_USER/.ssh/authorized_keys"
priv=$(cat ./key)

vk=$(echo "
type=ssh
name=\"$NAME_BASE SSH\"
username=$TARGET_USER
private_key=\"$priv\"
" | btapi -k add vault/account)

vkid=$(echo "$vk" | jq '.id')

# Cleanup the key
rm -f ./key
rm -f ./key.pub

# Create an SSH Jump item back to this instance
echo "
name=\"$NAME_BASE Jumpoint\"
hostname=$INSTANCE_IP
jump_group_id=$jgid
jump_group_type=shared
username=$TARGET_USER
protocol=ssh
port=22
terminal=xterm
jumpoint_id=$jpid
" | btapi -k add jump-item/shell-jump

# Modify the Group Policy to grant access to the Jumpoint, Jump Group and Vault Account
echo "jumpoint_id=$jpid" | btapi -k add group-policy/$GROUP_POLICY_ID/jumpoint
echo "jump_group_id=$jgid" | btapi -k add group-policy/$GROUP_POLICY_ID/jump-group
echo "
account_id=$vkid
role=inject
" | btapi -k add group-policy/$GROUP_POLICY_ID/vault-account

# Cleanup the tools downloaded at the top of this script
rm -f jq
rm -f btapi
rm -f btapi.zip

# Reset PATH
export PATH=$ORIG_PATH
```

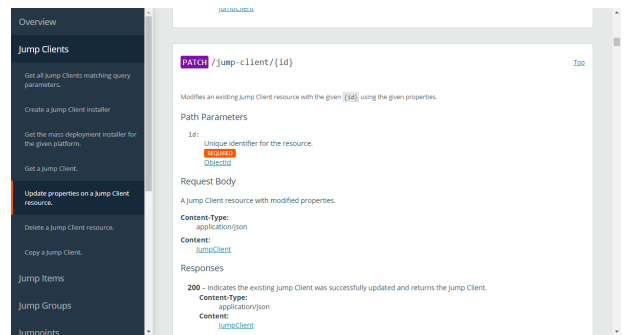


## Configuration API

The Configuration API is written according to OpenAPI standards, and enables end users to view documentation for the API using their preferred OpenAPI tool, such as Swagger, Postman, or RediDoc. You can either view the Configuration API documentation directly in the product (/login), or download the YAML file and use a tool of your choice to view the documentation.

### View the Configuration API Documentation in /login

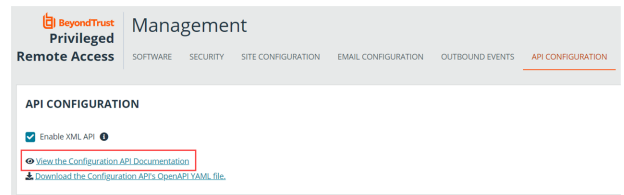
Log into your site (for example, <https://example.com/login/apidocs.html>) and enter your credentials. You can find lists, descriptions, and examples for all available APIs.



You can click the link to view the in-product Config API documentation.

### Access the YAML file via API

By following the steps below and referring to the documentation for the OpenAPI tool of your choice, you can view the API documentation and even *try out* features of the API using an intuitive browser user interface.



1. Go to **/login > Management > API Configuration**.
2. Under **API Accounts**, click **Add**.
3. Enter a name to identify your new API account.
4. Make sure the **Configuration API > Allow Access** box is checked.
5. Click **Save**.
6. Download and install your favorite software for running API calls. Please refer to the documentation for your selected software before proceeding, if needed.
7. In **/login > Management > API Configuration**, select the new API account you just created and click the edit icon.
8. Copy the **OAuth Client ID** and paste it into your selected software.
9. Back in **/login**, click **Generate New Client Secret**, copy it, and paste it into you selected software.
10. Click **Save** to save your API account.
11. Import the **OpenAPI.yaml** file from your site, using your preferred OpenAPI tool. The **OpenAPI.yaml** file can be accessed by creating a new **GET** request with the URL format <https://example.com/api/config/v1/openapi.yaml>. Once imported, the documentation for the Configuration APIs will be automatically generated. Follow the instructions in your API call software in order to complete these steps.

## Download the YAML file

Alternatively, you can download the YAML file by clicking the **Download the Configuration API's OpenAPI YAML file**



## Command API

The command API is designed to send commands to your BeyondTrust site from an outside application. Commands can get or set session attributes, join an existing session, or terminate a session. You can also check the health of your B Series Appliance or get information about your BeyondTrust API version.

Commands are executed by sending an HTTP request to the B Series Appliance. Send the request using any HTTPS-capable socket library, scripting language module, or URL fetcher such as **cURL** or **wget**. Use either **GET** or **POST** as the request method.

POST requests must include a "Content-Type: application/x-www-form-urlencoded" HTTP header when supplying parameters in the request body, and the parameters must be url-encoded. Multipart POST requests are not supported.



### IMPORTANT!

*When making consecutive API calls, you must close the connection after each API call.*

The command API URL is **https://access.example.com/api/command**.



*The command API is an authenticated API. For instructions on using authenticated APIs using OAuth, please see "Authenticate to the Privileged Remote Access API" on page 6.*

## Required Parameter for Command API

**action=[string]**

The type of action to perform. Can be **join\_session**, **set\_session\_attributes**, **get\_session\_attributes**, **import\_jump\_shortcut**, **terminate\_session**, **check\_health**, **set\_failover\_role**, or **get\_api\_info**.

The command API returns XML responses that declare a namespace. If you are parsing these responses with a namespace-aware parser, you need to set the namespace appropriately or ignore the namespace while parsing the XML.

- Command API: <https://www.beyondtrust.com/namespaces/API/command>



**Note:** *The above namespace is returned XML data and is not a functional URL.*

## API Command: get\_logged\_in\_reps

The **get\_logged\_in\_reps** request returns XML data about all logged-in representatives. It requires no additional parameters.



*The command API is an authenticated API. For instructions on using authenticated APIs using OAuth, please see "Authenticate to the Privileged Remote Access API" on page 6. The API account must have read-only or full access to the command API.*

## XML Response for get\_logged\_in\_reps Query

<logged\_in\_reps>

Returns a **<rep>** element for each logged-in representative. If no representatives are logged in, this element will contain no **<rep>** elements. If an error occurs, it will contain an **<error>** element describing the problem.

## Element Names and Attributes

*/logged\_in\_reps/rep*

id (attribute)	Unique ID assigned to the representative.
<display_name>	This element is deprecated as of API version 1.10.0 but still exists for backwards compatibility. Its value is the same as that of <b>&lt;public_display_name&gt;</b> .
<public_display_name>	The public display name currently assigned to the representative.
<private_display_name>	The private display name currently assigned to the representative.
<type>	The type of rep logged in. Types include <b>Normal</b> and <b>Invited</b> .
<direct_link>	An HTML anchor tag containing the URL that customers can use to download the customer client to connect directly to the representative.
<logged_in_since>	The date and time at which the representative logged in.
<presentation_count>	The number of active presentations the representative is currently running.
<support_session_count>	The number of active sessions the representative is currently running.
<showing_on_rep_list>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the rep has permission to show on the public site and has the <b>Showing On Representative List</b> option checked in the access console.

## Query Example: get\_logged\_in\_reps

get\_logged\_in\_reps

https://access.example.com/api/command?  
action=get\_logged\_in\_reps



### IMPORTANT!

*If you experience a high volume of support requests, repeatedly calling a command such as **get\_logged\_in\_reps** might bottleneck your system. Therefore, a best practice is to not request a list of representatives or teams with each support request. Instead, if making the same API call in succession, consider caching the results for a period of time and reusing them. New sessions requests should reference the cached list instead of calling for the list each time.*

## API Command: set\_session\_attributes

The **set\_session\_attributes** command sets the external key and other custom attributes for an active session.

The API account used to issue this command must have full access to the command API.

## Required Parameter for `set_session_attributes`

<code>Isid=[string]</code>	The ID of the session whose attributes you wish to set. The session must currently be active.
----------------------------	---

## Optional Parameters for `set_session_attributes`

<code>session.custom.external_key=[string]</code>	An arbitrary string that can link this session to an identifier on an external system, such as a customer relationship management ticket ID. This has a maximum length of 1024 characters.
<code>session.custom.[custom field]=[string]</code>	The code name and value of any custom fields. These fields must first be configured in <b>/login &gt; Management &gt; API Configuration</b> .  Each attribute must be specified as a different parameter. Each custom field has a maximum length of 1024 characters. The maximum total size of all combined custom fields, including the external key, must be limited to 10KB.



**Note:** If an attribute is not listed in the URL, it will keep its existing value. To clear an attribute, you must set the attribute to an empty string.

## XML Response for `set_session_attributes` Query

<code>&lt;success&gt;</code>	Returns a message of <b>Session attributes were set</b> if the attributes were set successfully.
<code>&lt;error&gt;</code>	Returns an error message if the attributes were not set successfully.

## Query Examples: `set_session_attributes`

Set external key for session <code>c69a8e10bea9428f816cfababe9815fe</code>	<code>https://access.example.com/api/command?action=</code> <code>set_session_attributes&amp;Isid=</code> <code>c69a8e10bea9428f816cfababe9815fe&amp;</code> <code>session.custom.external_key=ABC123</code>
Set a custom value for session <code>c69a8e10bea9428f816cfababe9815fe</code>	<code>https://access.example.com/api/command?action=</code> <code>set_session_attributes&amp;Isid=</code> <code>c69a8e10bea9428f816cfababe9815fe&amp;</code> <code>session.custom.custom_field1=Custom%20Value</code>

## API Command: `get_session_attributes`

The `get_session_attributes` command returns attributes set for an active session.

In order to issue the **get\_session\_attributes** command, you must supply the username and password for a BeyondTrust user account. That account must have the permission **Allowed to Use Command API** along with the permission **Administrator**.

The API account used to issue this command must have read-only or full access to the command API.

## Required Parameter for get\_session\_attributes

<code>Isid=[string]</code>	The ID of the session whose attributes you wish to get. The session must currently be active.
----------------------------	---

## XML Response for get\_session\_attributes Query

<code>&lt;custom_attributes&gt;</code>	Contains a <code>&lt;custom_attribute&gt;</code> element for each custom attribute set for the session.
<code>&lt;error&gt;</code>	Returns an error message if the attributes were not retrieved successfully.

## Element Names and Attributes

	<i>/custom_attributes/custom_attribute</i>
<code>display_name (attribute)</code>	The display name assigned to the custom attribute.
<code>code_name (attribute)</code>	The code name assigned to the custom attribute.

## Query Example: get\_session\_attributes

Get custom attributes for session c69a8e10bea9428f816cfababe9815fe	<a href="https://access.example.com/api/command?action=get_session_attributes&amp;Isid=c69a8e10bea9428f816cfababe9815fe">https://access.example.com/api/command?action=get_session_attributes&amp;Isid=c69a8e10bea9428f816cfababe9815fe</a>
---	---

## API Command: import\_jump\_shortcut

The **import\_jump\_shortcut** command creates a Jump shortcut. When dealing with a large number of Jump shortcuts, it may be easier to import them programmatically than to add them one by one in the access console.

The API account used to issue this command must have full access to the command API.

## Required Parameters for import\_jump\_shortcut - Local Jump

<code>name=[string]</code>	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
<code>local_jump_hostname=[string]</code>	The hostname of the endpoint to be accessed by this Jump Item. This string has a maximum of 128 characters.
<code>group=[string]</code>	The code name of the Jump Group with which this Jump Item should be associated.



**Note:** When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.

### Optional Parameters for import\_jump\_shortcut - Local Jump

tag=[string]	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments=[string]	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy=[string]	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.
session_policy=[string]	The code name of a session policy. You can specify a session policy to manage the permissions available on this Jump Item.

### Required Parameters for import\_jump\_shortcut - Remote Jump

name=[string]	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
remote_jump_hostname=[string]	The hostname of the endpoint to be accessed by this Jump Item. This string has a maximum of 128 characters.
jumpoint=[string]	The code name of the Jumpoint through which the endpoint is accessed.
group=[string]	The code name of the Jump Group with which this Jump Item should be associated.


**Note:** When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.

### Optional Parameters for import\_jump\_shortcut - Remote Jump

tag=[string]	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments=[string]	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy=[string]	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.
session_policy=[string]	The code name of a session policy. You can specify a session policy to manage the permissions available on this Jump Item.

## Required Parameters for import\_jump\_shortcut - VNC

remote_vnc_hostname=[string]	The hostname of the endpoint to be accessed by this Jump Item. This string has a maximum of 128 characters.
jumpoint=[string]	The code name of the Jumpoint through which the endpoint is accessed.
name=[string]	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
group=[string]	The code name of the Jump Group with which this Jump Item should be associated.



**Note:** When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.

## Optional Parameters for import\_jump\_shortcut - VNC

port=[integer]	A valid port number from <b>100</b> to <b>65535</b> . Defaults to <b>5900</b> .
tag=[string]	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments=[string]	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy=[string]	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.

## Required Parameters for import\_jump\_shortcut - Remote Desktop Protocol

name=[string]	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
remote_rdp_hostname=[string]	The hostname of the endpoint to be accessed by this Jump Item. This string has a maximum of 128 characters.
jumpoint=[string]	The code name of the Jumpoint through which the endpoint is accessed.
group=[string]	The code name of the Jump Group with which this Jump Item should be associated.


**Note:** When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.




## Optional Parameters for import\_jump\_shortcut - Remote Desktop Protocol

rdp_username=[string]	The username to sign in as.
domain=[string]	The domain the endpoint is on.
display_size=[string]	The resolution at which to view the remote system. Can be <b>primary</b> (default - the size of your primary monitor), <b>all</b> (the size of all of your monitors combined), or <b>XxY</b> (where <b>X</b> and <b>Y</b> are a supported width and height combination - e.g., <b>640x480</b> ).
quality=[string]	The quality at which to view the remote system. Can be <b>low</b> (2-bit gray scale for the lowest bandwidth consumption), <b>best_perf</b> (default - 8-bit color for fast performance), <b>perf_and_qual</b> (16-bit for medium quality image and performance), <b>best_qual</b> (32-bit for the highest image resolution), or <b>video_opt</b> (VP9 codec for more fluid video). This cannot be changed during the remote desktop protocol (RDP) session.
console=[boolean]	<b>1</b> : Starts a console session. <b>0</b> : Starts a new session (default).
ignore_untrusted=[boolean]	<b>1</b> : Ignores certificate warnings. <b>0</b> : Shows a warning if the server's certificate cannot be verified.
tag=[string]	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments=[string]	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy=[string]	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.
sql_server_hostname=[string]	The hostname of the SQL Server used to access SQL Server Management Studio. This string has a maximum of 64 characters.
sql_server_port=[integer]	The port used to access the SQL Server instance. The port value accepts only integers in the range of 1-65535, with <b>1433</b> as the default value.
sql_server_database=[string]	The database name of the SQL Server instance being accessed.. This string has a maximum of 520 characters.
custom_app_name=[string]	The name of the remote application being accessed. This string has a maximum of 520 characters.
custom_app_params=[string]	A space-separated list of parameters to pass to the remote application. Parameters with spaces can be delimited using double-quotes. This string has a maximum of 16,000 characters.

## Required Parameters for import\_jump\_shortcut - Shell Jump Shortcut

name=[string]	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
shelljump_hostname=[string]	The hostname of the endpoint to be accessed by this Jump Item. This string has a

	maximum of 128 characters.
jumpoint=[string]	The code name of the Jumpoint through which the endpoint is accessed.
protocol=[string]	Can be either <b>ssh</b> or <b>telnet</b> .
group=[string]	The code name of the Jump Group with which this Jump Item should be associated.




**Note:** When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.

### Optional Parameters for import\_jump\_shortcut - Shell Jump Shortcut

shelljump_username=[string]	The username to sign in as.
port=[integer]	A valid port number from 1 to 65535. Defaults to 22 if the protocol is <b>ssh</b> or 23 if the protocol is <b>telnet</b> .
terminal=[string]	Can be either <b>xterm</b> (default) or <b>VT100</b> .
keep_alive=[integer]	The number of seconds between each packet sent to keep an idle session from ending. Can be any number from 0 to 300. 0 disables keep-alive (default).
tag=[string]	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments=[string]	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy=[string]	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.
session_policy=[string]	The code name of a session policy. You can specify a session policy to manage the permissions available on this Jump Item.

### Required Parameters for import\_jump\_shortcut - Protocol Tunnel Jump Shortcut


Field	Description
protocol_tunnel_hostname	The hostname of the endpoint to be accessed by this Jump Item. This string has a maximum of 128 characters.
jumpoint	The code name of the Jumpoint through which the endpoint is accessed.
tcp_tunnels	The list of one or more tunnel definitions. A tunnel definition is a mapping of a TCP port on the local user's system to a TCP port on the remote endpoint. Any connection made to the local port causes a connection to be made to the remote port, allowing data to be tunneled between local and remote systems. Multiple mappings should be separated by a semicolon.

Field	Description
	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  <b>Example:</b> <code>auto-&gt;22;3306-&gt;3306</code> </div> <p>In the example above, a randomly assigned local port maps to remote port 22, and local port 3306 maps to remote port 3306.</p>
<code>name=[string]</code>	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
<code>group</code>	<p>The code name of the Jump Group with which this Jump Item should be associated.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>Note:</b> <i>When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.</i> </div>

### Optional Parameters for `import_jump_shortcut` - Protocol Tunnel Jump Shortcut

Field	Description
<code>local_address</code>	The address from which the connection should be made. This can be any address within the 127.x.x.x subrange. The default address is 127.0.0.1.
<code>tag</code>	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
<code>comments</code>	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
<code>jump_policy</code>	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.

### Required Parameters for `import_jump_shortcut` - Web Jump Shortcut

Field	Description
<code>web site_name</code>	The name of the endpoint to be accessed by this Jump Item. This name identifies the item in the session tabs. This string has a maximum of 128 characters.
<code>jumpoint</code>	The code name of the Jumpoint through which the endpoint is accessed.
<code>url</code>	The URL of the web site. The URL must begin with either <b>http</b> or <b>https</b> .
<code>group</code>	<p>The code name of the Jump Group with which this Jump Item should be associated.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>Note:</b> <i>When using the import method, a Jump Item cannot be associated with a personal list of Jump Items.</i> </div>

## Optional Parameters for import\_jump\_shortcut - Web Jump Shortcut

Field	Description
verify_certificate	<b>1:</b> The site certificate is validated before the session starts; if issues are found, the session will not start. <b>0:</b> The site certificate is not validated.
tag	You can organize your Jump Items into categories by adding a tag. This string has a maximum of 1024 characters.
comments	You can add comments to your Jump Items. This string has a maximum of 1024 characters.
jump_policy	The code name of a Jump Policy. You can specify a Jump Policy to manage access to this Jump Item.
session_policy	The code name of a session policy. You can specify a session policy to manage the permissions available on this Jump Item.

## XML Response for import\_jump\_shortcut Query

<success>	Returns a message of <b>Successfully imported Jump Item shortcut</b> if the import succeeded.
<error>	Returns an error message if the import failed.

## Query Examples: import\_jump\_shortcut

Import Local Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", pinning it to Jump Group "remote_access"	https://access.example.com/api/command?action=import_jump_shortcut&name=Endpoint&local_jump_hostname=ABCDEF02&group=remote_access
Import Local Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", pinning it to Jump Group "remote_access" and specifying its tag, comments, Jump Policy, and session policy	https://access.example.com/api/command?action=import_jump_shortcut&name=Endpoint&local_jump_hostname=ABCDEF02&group=remote_access&tag=Frequent%20Access&comments=Web%20server&jump_policy=Notify&session_policy=Servers
Import Remote Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access"	https://access.example.com/api/command?action=import_jump_shortcut&name=Endpoint&remote_jump_hostname=ABCDEF02&jumpoint=London&group=remote_access
Import VNC shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access"	https://access.example.com/api/command?action=import_jump_shortcut&name=Endpoint&remote_vnc_hostname=ABCDEF02&jumpoint=London&group=remote_access
Import VNC shortcut "Endpoint" to the	https://access.example.com/api/command?action=

<p>endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access" and specifying its port</p>	<pre>import_jump_shortcut&amp;name=Endpoint&amp;remote_vnc_hostname=ABCDEF02&amp;jumpoint=London&amp;group=remote_access&amp;port=100</pre>
<p>Import RDP shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access"</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;remote_rdp_hostname=ABCDEF02&amp;jumpoint=London&amp;group=remote_access</pre>
<p>Import RDP shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access" and specifying its username, domain, display size, quality, console session, untrusted certificate action, sql server name, sql server port, sql server database name, remote app name, and remote app parameters</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;remote_rdp_hostname=ABCDEF02&amp;jumpoint=London&amp;group=remote_access&amp;rdp_username=admin&amp;domain=example&amp;display_size=1280x720&amp;quality=perf_and_qual&amp;console=1&amp;ignore_untrusted=1&amp;sql_server_hostname=example.local&amp;sql_server_port=1500&amp;sql_server_database=example&amp;custom_app_name=sql_server&amp;custom_app_params=x,y,z</pre>
<p>Import Shell Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London" over SSH, pinning it to Jump Group "remote_access"</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;shelljump_hostname=ABCDEF02&amp;jumpoint=London&amp;protocol=ssh&amp;group=remote_access</pre>
<p>Import Shell Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London" over SSH, pinning it to Jump Group "remote_access", and specifying its username, port, terminal type, and keep-alive settings</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;shelljump_hostname=ABCDEF02&amp;jumpoint=London&amp;protocol=ssh&amp;group=remote_access&amp;shelljump_username=admin&amp;port=25&amp;terminal=vt100&amp;keep_alive=120</pre>
<p>Import Protocol Tunnel Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access", with a randomly assigned local port mapping to remote port 22</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;protocol_tunnel_hostname=ABCDEF02&amp;jumpoint=London&amp;group=remote_access&amp;tcp_tunnels=auto-&gt;22</pre>
<p>Import Protocol Tunnel Jump shortcut "Endpoint" to the endpoint with hostname "ABCDEF02", accessed through Jumpoint "London", pinning it to Jump Group "remote_access", with a randomly assigned local port mapping to remote port 22, local port 3306 mapping to port 3306, and a local address of 127.0.0.5</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;name=Endpoint&amp;protocol_tunnel_hostname=ABCDEF02&amp;jumpoint=London&amp;group=remote_access&amp;tcp_tunnels=auto-&gt;22;3306-&gt;3306&amp;local_address=127.0.0.5</pre>
<p>Import Web Jump shortcut "Endpoint" to the endpoint with URL "example.com", accessed through Jumpoint "London", pinning it to Jump Group "remote_access"</p>	<pre>https://access.example.com/api/command?action=import_jump_shortcut&amp;web_site_name=Endpoint&amp;url=example.com&amp;jumpoint=London&amp;group=remote_access</pre>

Import Web Jump shortcut "Endpoint" to the endpoint with URL "example.com", accessed through Jumpoint "London", pinning it to Jump Group "remote\_access" and not requiring certificate validation

```
https://access.example.com/api/command?action=
import_jump_shortcut&web site_name=Endpoint&url=
example.com&jumpoint=London&group=remote_access&
verify_certificate=0
```

## API Command: terminate\_session

The **terminate\_session** command terminates a session that is in progress.

The API account used to issue this command must have full access to the command API.

### Required Parameter for terminate\_session

Isid=[string]

The unique ID representing the session you wish to terminate.

### XML Response for terminate\_session Query

<success>

Returns a message of **Successfully terminated** if the termination was successful.

<error>

Returns an error message if the termination was not successful.

### Query Examples: terminate\_session

Session  
da4b510978a541d49398e88c66e28475  
terminated

```
https://access.example.com/api/command?action=
terminate_session&Isid=da4b510978a541d49398e88c66e28475
```

## API Command: get\_connected\_client\_list

The **get\_connected\_client\_list** command returns XML data containing a summary or list of all connected BeyondTrust clients.



*The command API is an authenticated API. For instructions on using authenticated APIs using OAuth, please see "Authenticate to the Privileged Remote Access API" on page 6. The API account must have read-only or full access to the command API.*

### Optional Parameters for get\_connected\_client\_list

type=[string]

The types of clients to return in the results. Can be a comma-separated list of values. Supported values are **all** (default), **representative**, **support\_customer**, **presentation\_attendee**, and **push\_agent**.



**Note:** Currently, `pinned_client` is not a possible value. If the count of pinned Jump Clients is needed in the summary, then **all** must be specified.

`summary_only=[boolean]`

To return only a summary, set this to **1**.

## XML Response for `get_connected_client_list`

`<connected_client_list>`

Contains a `<connected_client_summary>` element with a summary of the data. Also contains a `<connected_client>` element for each client currently connected to the B Series Appliance. If an error occurs, it will contain an `<error>` element describing the problem.

## Element Names and Attributes

*`/connected_client_list/connected_client_summary`*

`<appliance_summary>`

An `<appliance_summary>` element is created for each connected B Series Appliance.

*`/connected_client_list/connected_client_summary/appliance_summary`*

`id` (attribute)

The B Series Appliance's GUID.

`<count>`

A `<count>` element is created for each type of client connected to this B Series Appliance.

*`/connected_client_list/connected_client_summary/appliance_summary/count`*

`type` (attribute)

The type of client connected to the B Series Appliance. Can be one of **representative**, **support\_customer**, **presentation\_attendee**, **push\_agent**, or **pinned\_client**.

*`/connected_client_list/connected_client`*

`type` (attribute)

The type of client connected to one of the clustered B Series Appliances. Can be one of **representative**, **support\_customer**, **presentation\_attendee**, or **push\_agent**.

`id` (attribute)

A unique identifier which remains valid only while the client is connected.

## Query Examples: `get_connected_client_list`

Get a list of all connected clients

`https://access.example.com/api/command?action=get_connected_client_list`

Get a list of all connected representatives

`https://access.example.com/api/command?action=get_connected_client_list&type=representative`

Get a list of all connected representatives and support customers

`https://access.example.com/api/command?action=get_connected_client_list&type=representative,support_customer`

Get a summary of all connected clients	<code>https://access.example.com/api/command?action=get_connected_client_list&amp;summary_only=1</code>
Get a summary of all connected representatives	<code>https://access.example.com/api/command?action=get_connected_client_list&amp;summary_only=1&amp;type=representative</code>
Get a summary of all connected representatives and support customers	<code>https://access.example.com/api/command?action=get_connected_client_list&amp;summary_only=1&amp;type=representative,support_customer</code>

## API Command: `get_connected_clients`

The `get_connected_clients` command returns XML data containing details of all connected BeyondTrust clients.



*The command API is an authenticated API. For instructions on using authenticated APIs using OAuth, please see "Authenticate to the Privileged Remote Access API" on page 6. The API account must have read-only or full access to the command API.*

### Required Parameters for `get_connected_clients`

<code>type=[string]</code>	The types of clients to return in the results. Can be a comma-separated list of values. Supported values are <b>all</b> (default), <b>representative</b> , <b>support_customer</b> , <b>presentation_attendee</b> , and <b>push_agent</b> .
<code>id=[string]</code>	The ID of the client. To get client IDs, see "API Command: <code>get_connected_client_list</code> " on page 30. Can be a comma-separated list of values. A maximum of 100 IDs is supported. This ID is a unique identifier which remains valid only while the client is connected.
<code>include_connections=[boolean]</code>	If this is set to <b>1</b> , then the client's list of connections to B Series Appliances and an event log about those connections will be included in the results.

### XML Response for `get_connected_clients`

<code>&lt;connected_clients&gt;</code>	Contains a child element for each connected client, including <code>&lt;connected_representative&gt;</code> , <code>&lt;connected_support_customer&gt;</code> , <code>&lt;connected_presentation_attendee&gt;</code> , and <code>&lt;connected_push_agent&gt;</code> .
--	--

### Element Names and Attributes

`/connected_clients/connected_representative`

<code>id</code> (attribute)	A unique identifier which remains valid only while the client is connected.
<code>&lt;client_connections&gt;</code>	Contains a <code>&lt;client_connections&gt;</code> element and an <code>&lt;event_log&gt;</code> element. This element is returned only if the query specifies <b>include_connections</b> .



<hostname>	The hostname of the representative's computer.
<platform>	The operating system of the representative's computer. Also contains an <b>id</b> attribute that briefly notes the selected platform for the client.
<timezone_offset>	The number of seconds away from UTC.
<connected_since>	The date and time at which this connection was made. Data is returned in ISO 8601 format. Also contains a <b>ts</b> attribute which displays the connection start time as a UNIX timestamp (UTC). This element is returned only if the query specifies <b>include_connections</b> .
<user_id>	Unique ID assigned to the representative.
<type>	The type of account the representative is using. Can be one of <b>Normal</b> or <b>Invited</b> .
<username>	The username assigned to the representative.
<public_display_name>	The public display name assigned to the representative. Note that this field contains the public display name's value at the time of the conference, which may not match the current value if the <b>public_display_name</b> has subsequently been changed.
<private_display_name>	The private display name assigned to the representative. Note that this field contains the private display name's value at the time of the conference, which may not match the current value if the <b>private_display_name</b> has subsequently been changed.
<start_session_url>	A URL that can be sent to a customer to start a support session with the representative.
<presentation_count>	The number of presentations the representative is performing. Can be either <b>0</b> or <b>1</b> .
<support_session_count>	The number of sessions the representative is participating in.
<showing_on_rep_list>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the representative appears in the representative list on the public site.
<routing_idle>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the representative has a status of idle.
<routing_busy>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the representative has a status of busy.
<routing_enabled>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the representative has automatic session assignment enabled or disabled.
<routing_available>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the representative is available to have sessions automatically assigned.
<support_license>	The type of license used by the representative.
<support_session_isids>	Contains an <b>&lt;lsid&gt;</b> element for each session in which the representative is participating. This field corresponds with the <b>&lt;lsid&gt;</b> field of the <b>&lt;connected_support_customer&gt;</b> element.
<i>/connected_clients/connected_support_customer</i>	
id (attribute)	A unique identifier which remains valid only while the client is connected.
<client_connections>	Contains a <b>&lt;client_connections&gt;</b> element and an <b>&lt;event_log&gt;</b> element. This element is returned only if the query specifies <b>include_connections</b> .

<hostname>	The hostname of the customer's computer.
<platform>	The operating system of the customer's computer. Also contains an id attribute that briefly notes the selected platform for the client.
<timezone_offset>	The number of seconds away from UTC.
<connected_since>	The date and time at which this connection was made. Data is returned in ISO 8601 format. Also contains a <b>ts</b> attribute which displays the connection start time as a UNIX timestamp (UTC). This element is returned only if the query specifies <b>include_connections</b> .
<name>	The name which the customer entered in the <b>Your Name</b> field of the front-end survey or which was assigned programmatically.
<non_interactive>	Indicates if the session is a remote desktop protocol (RDP) session or a Shell Jump session. Can be either <b>rdp</b> or <b>shelljump</b> . If neither, this element is not returned.
<lsid>	A string which uniquely identifies this session. This field corresponds with the <b>&lt;lsid&gt;</b> field of the <b>&lt;connected_representative&gt;</b> element.

*/connected\_clients/connected\_presentation\_attendee*

id (attribute)	A unique identifier which remains valid only while the client is connected.
<client_connections>	Contains a <b>&lt;client_connections&gt;</b> element and an <b>&lt;event_log&gt;</b> element. This element is returned only if the query specifies <b>include_connections</b> .
<hostname>	The hostname of the attendee's computer.
<platform>	The operating system of the attendee's computer. Also contains an id attribute that briefly notes the selected platform for the client.
<timezone_offset>	The number of seconds away from UTC.
<connected_since>	The date and time at which this connection was made. Data is returned in ISO 8601 format. Also contains a <b>ts</b> attribute which displays the connection start time as a UNIX timestamp (UTC). This element is returned only if the query specifies <b>include_connections</b> .
<name>	The name which the attendee entered when joining the presentation or which was assigned programmatically.

*/connected\_clients/connected\_push\_agent*

id (attribute)	A unique identifier which remains valid only while the client is connected.
<client_connections>	Contains a <b>&lt;client_connection&gt;</b> element and an <b>&lt;event_log&gt;</b> element. This element is returned only if the query specifies <b>include_connections</b> .
<hostname>	The hostname of the Jumpoint's host computer.
<platform>	The operating system of the Jumpoint's host computer. Also contains an id attribute that briefly notes the selected platform for the client.

<timezone_offset>	The number of seconds away from UTC.
<connected_since>	The date and time at which this connection was made. Data is returned in ISO 8601 format. Also contains a <b>ts</b> attribute which displays the connection start time as a UNIX timestamp (UTC). This element is returned only if the query specifies <b>include_connections</b> .
<name>	The Jumpoint's name.

#### */client\_connection*

<appliance_id>	The GUID of the B Series Appliance to which the client is connected.
<purpose>	The reason the representative is connected to this B Series Appliance. Can be either <b>primary</b> or <b>traffic</b> . If not part of a cluster, this will always be <b>primary</b> .
<receive_traffic_node>	Integer value ( <b>1</b> or <b>0</b> ) indicating whether this is the client's default traffic node or not. If not part of a cluster, this will always be <b>0</b> .
<connected_since>	The date and time at which the client connected. Data is returned in ISO 8601 format. Also contains a <b>ts</b> attribute which displays the connection start time as a UNIX timestamp (UTC).
<private_ip>	The client's private IP address that was used to connect to the B Series Appliance.

#### */event\_log*

<event>	<p>An <b>&lt;event&gt;</b> element is created for each event that took place during this connection. Up to the last 20 events are returned.</p> <p>Events detail when and why a client connected to a B Series Appliance. Events also include failures to connect to nodes and normal disconnects.</p> <p>Includes a <b>ts</b> attribute which displays the timestamp of the event.</p>
---------	---

## Query Examples: `get_connected_clients`

Get a detailed list of all connected clients	<code>https://access.example.com/api/command?action=get_connected_clients</code>
Get a detailed list of all connected representatives	<code>https://access.example.com/api/command?action=get_connected_clients&amp;type=representative</code>
Get a detailed list of all connected representatives and support customers	<code>https://access.example.com/api/command?action=get_connected_clients&amp;type=representative,support_customer</code>
Get a detailed list of all clients with IDs 101, 102, and 103	<code>https://access.example.com/api/command?action=get_connected_clients&amp;id=101,102,103</code>
Get a detailed list of all clients with IDs 101, 102, and 103 AND whose type is representative or customer	<code>https://access.example.com/api/command?action=get_connected_clients&amp;id=101,102,103&amp;type=representative,support_customer</code>

Get a detailed list, with connection information, of all connected clients	<code>https://access.example.com/api/command?action=get_connected_clients&amp;include_connections=1</code>
Get a detailed list, with connection information, of all connected representatives	<code>https://access.example.com/api/command?action=get_connected_clients&amp;type=representative&amp;include_connections=1</code>
Get a detailed list, with connection information, of all connected representatives and support customers	<code>https://access.example.com/api/command?action=get_connected_clients&amp;type=representative,support_customer&amp;include_connections=1</code>
Get a detailed list, with connection information, of all clients with IDs 101, 102, and 103	<code>https://access.example.com/api/command?action=get_connected_clients&amp;id=101,102,103&amp;include_connections=1</code>
Get a detailed list, with connection information, of all clients with IDs 101, 102, and 103 AND whose type is representative or customer	<code>https://access.example.com/api/command?action=get_connected_clients&amp;id=101,102,103&amp;type=representative,support_customer&amp;include_connections=1</code>

## API Command: check\_health

The **check\_health** command returns XML data containing information about the BeyondTrust Appliance B Series.

The API account used to issue this command must have read-only or full access to the command API.

### XML Response for check\_health Query

<code>&lt;appliance&gt;</code>	The hostname of the B Series Appliance. Also contains an <code>id</code> attribute that contains the B Series Appliance's GUID.
<code>&lt;version&gt;</code>	The version number and build number of the BeyondTrust software running on the B Series Appliance.
<code>&lt;success&gt;</code>	Integer value ( <b>1</b> or <b>0</b> ) indicating if the health check of the B Series Appliance was successful.
<code>&lt;error_message&gt;</code>	Returns an error message if a problem is found. If no error is found, this element will not be returned.
<code>&lt;failover_role&gt;</code>	The role the B Series Appliance plays in the failover relationship. Can be one of <b>none</b> (if failover is not configured), <b>primary</b> , or <b>backup</b> .
<code>&lt;enabled_shared_ips&gt;</code>	Contains an <code>&lt;ip&gt;</code> element for each IP address which is shared between the primary and backup B Series Appliances. If no shared IP addresses are enabled or if failover is not configured, this element is not returned.
<code>&lt;last_data_sync_time&gt;</code>	The date and time at which the last data sync occurred between the primary and backup B Series Appliances. Data is returned in ISO 8601 format. Also contains a <code>ts</code> attribute which displays the data sync time as a UNIX timestamp (UTC). If failover is not configured, this element is not returned.
<code>&lt;last_data_sync_status&gt;</code>	Contains a string showing the status of the last data sync. If failover is not configured,

this element is not returned.

## Query Example: check\_health

check\_health

[https://access.example.com/api/command?action=check\\_health](https://access.example.com/api/command?action=check_health)

## HTTP Status Check

In addition to using the API command above, you can use [https://access.example.com/check\\_health](https://access.example.com/check_health) to check the health of a B Series Appliance. This returns an HTTP status of 200 if the probe is successful and 500 (Server Error) if not. While you will see a simple human-readable message showing success or failure, no other data is exposed.

## API Command: get\_api\_info

The `get_api_info` request returns XML data containing the current API version information.

## XML Response for get\_api\_info Query

<code>&lt;api_version&gt;</code>	The software version of the current BeyondTrust API.
<code>&lt;timestamp&gt;</code>	The server's current timestamp at the time this report was pulled.
<code>&lt;permissions&gt;</code>	The permissions of the API account used to issue this command. The permissions shown are detailed below.

## Element Names and Attributes

### */get\_api\_info/permissions/permission*

perm_backup	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to use the backup API.
perm_command	String indicating if the API account has <b>full access</b> to the command API, <b>read_only</b> access, or no access ( <b>deny</b> ).
perm_configuration	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account can be used by an Endpoint Credential Manager client to connect to the appliance.
perm_configuration_vault_account	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account can be used by an Endpoint Credential Manager client to connect to the appliance.
perm_ecm	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account can be used by an Endpoint Credential Manager client to connect to the appliance.
perm_reporting	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to use the reporting API.
perm_reporting_license	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to download a ZIP file

	containing the Endpoint License Usage Report.
perm_reporting_vault	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to download a ZIP file containing the Endpoint License Usage Report.
perm_vault_backup	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to download a ZIP file containing the Endpoint License Usage Report.
perm_scim	Integer value ( <b>1</b> or <b>0</b> ) indicating if the API account has permission to use the SCIM API.

### Query Example: get\_api\_info

get_api_info	https://access.example.com/api/command?action=get_api_info
--------------	--

## API Command: set\_failover\_role

The **set\_failover\_role** command sets the failover role of a B Series Appliance to either primary or backup.

The API account used to issue this command must have full access to the command API.

### Required Parameter for set\_failover\_role

role=[string]	The role to assign to this B Series Appliance. Can be either <b>primary</b> or <b>backup</b> .
---------------	--

### Optional Parameters for set\_failover\_role

data_sync_first=[boolean]	To perform a data sync with the peer B Series Appliance before failing over, set this to <b>1</b> . All users on the existing primary B Series Appliance will be disconnected during the data sync, and no other operations will be available until the swap is complete.  To fail over without a final data sync, set this to <b>0</b> .
force=[boolean]	This option is only applicable when contacting the primary B Series Appliance and attempting to set its role to backup.  If this is set to <b>1</b> , then this B Series Appliance will become the backup even if the peer B Series Appliance cannot be contacted.

### XML Response for set\_failover\_role Query

<success>	If a data sync is being performed first, returns a message of <b>Successfully started data sync. Role change will occur upon successful completion</b> .  Otherwise, returns a message of <b>Successfully changed role</b> .
<error>	Returns an error message if the role was not set successfully.

## Query Examples: set\_failover\_role

Set failover role to primary	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=primary</code>
Set failover role to backup	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=backup</code>
Set failover role to primary and perform a data sync	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=primary&amp;data_sync_first=1</code>
Set failover role to backup and perform a data sync	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=backup&amp;data_sync_first=1</code>
Set failover role to backup even if the primary B Series Appliance cannot be contacted	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=backup&amp;force=1</code>
Set failover role to backup even if the primary B Series Appliance cannot be contacted, and perform a data sync	<code>https://access.example.com/api/command?action=set_failover_role&amp;role=backup&amp;data_sync_first=1&amp;force=1</code>

## Access Console Scripting and Client Scripting API

The BeyondTrust access console scripting feature is composed of three parts:

1. The BeyondTrust Access Console Script file format
2. Command line parameters for the access console
3. The BeyondTrust client scripting API

### The BeyondTrust Access Console Script File

A BeyondTrust Console Script (BRCS) is a file that contains a sequence of commands to be executed by the BeyondTrust access console. The file extension is in the format "brcs-<companySiteName>." The Company Site Name is the name used to access your BeyondTrust site. During installation, the BeyondTrust access console uses the OS to associate the access console with the BRCS file type. Therefore, users can double-click a BRCS file and have it automatically executed by the BeyondTrust access console.

BRCS files have the following format:

```
BRCS1.0
<command>
<command>
...
```

This is more formally expressed as:

```
brcs_file = header , newline , commands ;
header = "BRCS" , version ;
version = digit , "." , digit ;
commands = command { newline , command } ;
digit = "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9" ;
newline = "\n" | "\r\n" ;
```



**Note:** Script files can have a maximum of 10 commands.

Each command consists of a set of key-value pairs separated by "&". The key in each pair is separated from the value by "=". Keys and values use the percent-encoding algorithm described in [RFC3986 section 2.1](#). This is commonly referred to as url-encoding or url-escaping. It is commonly seen in the address bar of web browsers to represent the parameters passed to a web server. Commands have the following format:

```
action=<action>&parameter1=value1&parameter2=value2...
```

This is more formally expressed as:

```
command = "action=", value, [ parameters ] ;
parameters = "&", parameter, [ parameters ] ;
parameter = url_encoded_string, "=", url_encoded_string ;
url_encoded_string = { * see RFC 3986 * } ;
```



## Command Line Parameters for the Access Console

Two command line parameters exist in the access console to support BRCS:

```
run-script <BRCS command>
run-script-file <path to BRCS file>
```

These command line parameters allow users to implement BRCS login via the command line.

Different behaviors can be seen when running a script from the command line, depending on the state of the access console:

- If the access console is not running, then attempting to run a script from the command line causes the access console to start the login dialog. After the user successfully logs in, the script is run.
- If the access console is already running but the user is not logged in, then the login dialog is shown. After the user logs in, the script is run.
- If the access console is already running and the user is already logged in, then attempting to run a script from the command line causes the existing instance of the access console to run the script.

Access console exit status:

- If an invalid script is given on the command line, then the access console terminates with an exit status > 0.
- If a valid script is given on the command line, then the access console terminates with an exit status of 0.

Examples:

```
bomgar-acc.exe --run-script "action=start_jump_item_
session&client.hostname=ABCEF02&session.custom.external_key=123456789"
bomgar-acc.exe --run-script-file my_script_file.brcc-beta60
```

## The BeyondTrust Client Scripting API

The client scripting API enables you to generate a BeyondTrust Console Scripting (BRCS) file which allows you to send commands to the BeyondTrust access console from external applications.

Customers can use the client scripting API to generate BRCS files that can start a session with a specific Jump Item or to log into the access console.



The client scripting API URL is [https://access.example.com/api/client\\_script](https://access.example.com/api/client_script).

This API accepts a client type (**rep**), an operation to perform (**generate**), a command to put in the script file, and a set of parameters to pass to the command. Here is an example of a valid Client Scripting API request:

```
https://access.example.com/api/client_script?type=rep&operation=generate&action=start_jump_item_
session&client.hostname=ABCDEF02
```

The above request prompts the user to download a BeyondTrust access console script file. After downloading the script file, the user can run it using the access console. In this case, the script file contains commands to start a session with the Jump Item whose hostname, comments, public IP, or private IP matches the search string "ABCDEF02".

## Parameters for Client Scripting API

type=rep type=web_console	The BeyondTrust client to which the command applies. Currently the API only supports <b>rep</b> or <b>web_console</b> as the client type.
operation=generate operation=execute	The operation to perform. Currently the API only supports <b>generate</b> or <b>execute</b> as the operation.  <div style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin-top: 10px;">  <b>Note:</b> If the type is <b>rep</b>, the operation should be <b>generate</b>. If the type is <b>web_console</b>, the operation should be <b>execute</b>.                 </div>
action=<command>&parameter=[value]	The name of the command to run and the necessary parameters. Available actions include: <ul style="list-style-type: none"> <li>login</li> <li>start_jump_item_session</li> <li>push_and_start_local</li> <li>push_and_start_remote</li> <li>start_rdp_session</li> <li>start_shell_jump_session</li> </ul> Two actions are automatically added to the BRCS file: <b>login</b> and <b>delete_script_file</b> . The <b>delete_script_file</b> action has no parameters.  <div style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin-top: 10px;">  <b>Note:</b> The <b>web_console</b> type supports only the <b>start_jump_item_session</b> action.                 </div>

## API Script Command: login

When generating any BeyondTrust Console Script, the **login** command is automatically added as the first command in the script file. It does not need to be specified in the URL used to generate the script file.

By default, this command opens the access console and attempts to log in using the credentials saved locally in the access console. If no credentials are saved, the command opens the access console login prompt. Once the user has correctly authenticated, the script continues running.

The **login** command has no effect if a user is already logged into the access console.

If you wish to specify the credentials to be used, you can create a separate script specifically to be used for logging in. The **login** command passes the login mechanism along with a username and password. Both username and password parameters are sent in plain text and is unencrypted.


**IMPORTANT!**

You cannot specify multiple commands in the URL used to generate a script. For example, you cannot specify **login** and multiple **start\_jump\_item\_session** commands in the same URL. Each command must be generated as a separate script.

However, a skilled developer may edit the **.brcs** script file once it has been generated in order to modify the login credentials and then run another command. BeyondTrust does not support scripts modified in this manner.

## Optional Parameters for login Command

mechanism=[string]	The mechanism to use for authentication. Currently, only <b>username_password</b> is supported. If this parameter is supplied, both other parameters must also be supplied.
username=[string]	The username of the account with which to log in. If this parameter is supplied, both other parameters must also be supplied.
password=[string]	The password of the account with which to log in. If this parameter is supplied, both other parameters must also be supplied.

## Query Examples: login

Log into the access console, specifying the username and password


```
https://access.example.com/api/client_script?type=rep&operation=generate&
action=login&mechanism=username_password&username=username&
password=password
```

## API Script Command: start\_jump\_item\_session

The **start\_jump\_item\_session** command attempts to start a session with a BeyondTrust Jump Item. Users may run this command for all Jump Items they are permitted to access via the Jump management interface in the access console.

## Optional Parameters for the start\_jump\_item\_session Command

jump.method	If specified, only Jump Items using the designated Jump method are included in the results. Acceptable values for this field are <b>push</b> (remote push), <b>local_push</b> , <b>pinned</b> (Jump Client), <b>rdp</b> , <b>vnc</b> , and <b>shelljump</b> .
credential_id	If specified, only a Jump Item with that specific credential ID associated is returned. This field has a maximum length of 255 characters.
search_string	Identifies the search criteria used to select and return specific Jump Items as results.



**Note:** This parameter is required only if no of the client fields below are specified.

<code>client.comments</code>	<p>If specified, only Jump Items with the given comments are included in the results.</p> <p>This field has a maximum length of 255 characters. Search is partial and case-insensitive.</p>
<code>client.hostname</code>	<p>If specified, only Jump Items with the given hostname are included in the results.</p> <p>This field has a maximum length of 255 characters. Search is partial and case-insensitive.</p>
<code>client.private_ip</code>	<p>If specified, only Jump Clients with the given private IP address are included in the results. This search field applies only to pinned clients.</p> <p>This field has a maximum length of 255 characters. Search is partial and case-insensitive.</p>
<code>client.public_ip</code>	<p>If specified, only Jump Clients with the given public IP address are included in the results. This search field applies only to pinned clients.</p> <p>This field has a maximum length of 255 characters. Search is partial and case-insensitive.</p>
<code>client.tag</code>	<p>If specified, only Jump Items with the given tag are included in the results.</p> <p>This field has a maximum length of 255 characters. Search is partial and case-insensitive.</p>
<code>session.custom.[custom field]=[string]</code>	<p>The code name and value of any custom fields. These fields must first be configured in <b>/login &gt; Management &gt; API Configuration</b>.</p> <p>Each attribute must be specified as a different parameter. Each custom field has a maximum length of 1024 characters. The maximum total size of all combined custom fields, including the external key, must be limited to 10KB.</p>


**IMPORTANT!**

*At least one **client.\*** parameter must be specified. If multiple **client.\*** parameters are specified, then only clients matching all criteria are returned.*

### Query Examples: `start_jump_item_session`

Start a session with a Jump Item whose hostname contains "ABCDEF02"	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_jump_item_session&amp;client.hostname=ABCDEF02</code>
Start a session with a Jump Item whose comments contain "maintenance" and whose tag contains "server"	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_jump_item_session&amp;client.comments=maintenance&amp;client.tag=server</code>
Start a session with a pinned Jump Client whose private IP address begins with "10.10.24" and associate custom attributes with the session	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_jump_item_session&amp;client.private_ip=10.10.24&amp;jump.method=pinned&amp;session.custom.custom_field1=Custom%20Value&amp;session.custom.custom_field2=123</code>



**Note:** If more than one Jump Item matches the search criteria, then a dialog opens, giving the user the option to select the appropriate Jump Item.

## API Script Command: `push_and_start_local`

The `push_and_start_local` command attempts to push the endpoint client client to a computer on the local network to start an access session. This can also be described as a local Jump.

### Required Parameter for `push_and_start_local` Command

`hostname=[string]`

The hostname of the computer that is the target of the push and start operation. This field has a maximum length of 255 characters.

### Optional Parameter for `push_and_start_local` Command

`session.custom.[custom field]=[string]`

The code name and value of any custom fields. These fields must first be configured in **/login > Management > API Configuration**.

Each attribute must be specified as a different parameter. Each customer field has a maximum length of 1024 characters. The maximum total size of all combined custom fields, including the external key, must be limited to 10KB.

### Query Examples: `push_and_start_local`

Jump to the local network computer "ABCDEF02"

`https://access.example.com/api/client_script?type=rep&operation=generate&action=push_and_start_local&hostname=ABCDEF02`

Jump to the local network computer "ABCDEF02" and associate custom attributes with the session

`https://access.example.com/api/client_script?type=rep&operation=generate&action=push_and_start_local&hostname=ABCDEF02&session.custom.custom_field1=Custom%20Value&session.custom.custom_field2=123`

## API Script Command: `push_and_start_remote`

The `push_and_start_remote` command attempts to push the endpoint client client to a computer on a remote network through a Jumpoint in order to start an access session. This can also be described as a remote Jump.

### Required Parameter for `push_and_start_remote` Command

`target=[string]`

The hostname or IP address of the target machine.

## Optional Parameters for push\_and\_start\_remote Command

<code>jumpoint=[string]</code>	<p>The Jumpoint through which to start the session. This Jumpoint must be on the same subnet as the target computer.</p> <p>If not specified and the user has access to only one Jumpoint, then that Jumpoint is used automatically. If not specified and the user has access to more than one Jumpoint, then a dialog opens from which the user must select a Jumpoint.</p>
<code>session.custom.[custom field]=[string]</code>	<p>The code name and value of any custom fields. These fields must first be configured in <b>/login &gt; Management &gt; API Configuration</b>.</p> <p>Each attribute must be specified as a different parameter. Each customer field has a maximum length of 1024 characters. The maximum total size of all combined custom fields, including the external key, must be limited to 10KB.</p>

## Query Examples: push\_and\_start\_remote

<p>Jump to the remote computer "ABCDEF02" through the Jumpoint "Network01"</p>	<pre>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=push_and_start_remote&amp;target=ABCDEF02&amp;jumpoint=Network01</pre>
<p>Jump to the remote computer "ABCDEF02" through the Jumpoint "Network01" and associate custom attributes with the session</p>	<pre>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=push_and_start_remote&amp;target=ABCDEF02&amp;jumpoint=Network01&amp;session.custom.custom_field1=Custom%20Value&amp;session.custom.custom_field2=123</pre>

## API Script Command: start\_shell\_jump\_session

The `start_shell_jump_session` command initiates a Shell Jump session, creating an SSH or Telnet connection to a remote network device.

### Required Parameter for the start\_shell\_jump\_session Command

<code>target=[string]</code>	<p>The hostname or IP address of the machine targeted for a Shell Jump session.</p>
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### Optional Parameters for the start\_shell\_jump\_session Command

<code>jumpoint=[string]</code>	<p>The Jumpoint through which to start the Shell Jump session. This Jumpoint must be on the same subnet as the target computer.</p> <p>If not specified and the user has access to only one Jumpoint, then that Jumpoint is used automatically. If not specified and the user has access to more than one Jumpoint, then a dialog opens from which the user must select a Jumpoint.</p>
<code>username=[string]</code>	<p>The username to use when authenticating. If not specified, the user must enter the username.</p>
<code>protocol=[string]</code>	<p>The network protocol to use. May be one of <b>ssh</b> (default) or <b>telnet</b>.</p>

<code>port=[integer]</code>	The port number on which to connect. Defaults to 22.
<code>terminal</code>	The terminal type to use. May be one of <b>xterm</b> (default) or <b>vt100</b> .
<code>session.custom.[custom field]=[string]</code>	<p>The code name and value of any custom fields. These fields must first be configured in <b>/login &gt; Management &gt; API Configuration</b>.</p> <p>Each attribute must be specified as a different parameter. Each customer field has a maximum length of 1024 characters. The maximum total size of all combined custom fields, including the external key, must be limited to 10KB.</p>

### Query Examples: `start_shell_jump_session`

Start a Shell Jump session with the computer "ABCDEF02"	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_shell_jump_session&amp;target=ABCDEF02</code>
Start a Shell Jump session with the computer "ABCDEF02" through the Jumpoint "Network01"	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_shell_jump_session&amp;target=ABCDEF02&amp;jumpoint=Network01</code>
Start a Shell Jump session with the computer "ABCDEF02" through the Jumpoint "Network01". Authenticate with "jsmith", and use a Telnet protocol through port 40 with terminal type vt100	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_shell_jump_session&amp;target=ABCDEF02&amp;jumpoint=Network01&amp;username=jsmith&amp;protocol=telnet&amp;port=40&amp;terminal=vt100</code>
Start a Shell Jump session with the computer "ABCDEF02" and associate custom attributes with the session	<code>https://access.example.com/api/client_script?type=rep&amp;operation=generate&amp;action=start_shell_jump_session&amp;target=ABCDEF02&amp;session.custom.custom_field1=Custom%20Value&amp;session.custom.custom_field2=123</code>

## Reporting API

The reporting API is designed to enable you to pull reporting data in XML format, suitable for importing into external databases and applications. The data presented is the same as in the session reports of the **/login** administrative interface.

XML data is pulled by sending a simple HTTP request to the B Series Appliance. The request can be sent using any HTTPS-capable socket library, scripting language module, or a URL fetcher such as **cURL** or **wget**. Either **GET** or **POST** may be used as the request method.

POST requests must include a **Content-Type: application/x-www-form-urlencoded** HTTP header when supplying parameters in the request body, and the parameters must be url-encoded. Multipart POST requests are not supported.



### IMPORTANT!

When making consecutive API calls, you must close the connection after each API call.

The reporting API URL is <https://access.example.com/api/reporting>.

An XML schema which formally describes the format of the returned reporting data is available at <https://access.example.com/api/reporting.xsd>.



**Note:** The reporting API is an authenticated API. For instructions on using authenticated APIs using OAuth, please see "Authenticate to the Privileged Remote Access API" on page 6.

## Required Parameter for Reporting API

`generate_report=[string]`

The type of report to be generated. Report types can be any of the following:

<a href="#">AccessSession</a>	<a href="#">AccessSessionSummary</a>
<a href="#">AccessSessionListing</a>	<a href="#">CommandShellRecording</a>
<a href="#">AccessSessionRecording</a>	<a href="#">UserRecording</a>
<a href="#">Team</a>	<a href="#">EndpointLicenseUsage</a>

The reporting API returns XML responses that declare a namespace. If you are parsing these responses with a namespace-aware parser, you must set the namespace appropriately or ignore the namespace while parsing the XML.

Reporting API: <https://www.beyondtrust.com/namespaces/API/reporting>



**Note:** The above namespace is returned XML data and is not a functional URL.

## Download Reports with AccessSession

The **AccessSession** query returns full information for all sessions which match given search parameters. You may use any of the following sets of parameters to generate reports:

- **start\_date** and **duration**
- **start\_time** and **duration**



- **end\_date** and **duration**
- **end\_time** and **duration**
- **Isid**
- **Isids**

The API account used to call this report must have access to the reporting API.

## Parameters for AccessSession

<code>start_date=[YYYY-MM-DD]</code>	Specifies that the report should return all sessions, even those still in progress, that began on or after this date and that are within the duration specified below.
<code>start_time=[timestamp]</code>	Specifies that the report should return all sessions, even those still in progress, that began at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>end_date=[YYYY-MM-DD]</code>	Specifies that the report should return only closed sessions that ended on or after this date and that are within the duration specified below.
<code>end_time=[timestamp]</code>	Specifies that the report should return only closed sessions that ended at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>duration=[integer]</code>	Length of time from the specified date or time for which you wish to pull reports, or <b>0</b> to pull from the specified date to present. If <b>start_date</b> or <b>end_date</b> is specified, <b>duration</b> will represent days; if <b>start_time</b> or <b>end_time</b> is specified, <b>duration</b> will represent seconds.
<code>Isid=[string]</code>	The ID of the session for which you wish to see details.
<code>Isids=[comma-separated strings]</code>	A comma-delimited list of the IDs of sessions for which you wish to see details.

## XML Response for AccessSession Query

<code>&lt;session_list&gt;</code>	Contains a <b>&lt;session&gt;</b> element for each session that matches the given criteria. If no sessions are returned, this element will contain no <b>&lt;session&gt;</b> elements. If an error occurs during the search, it will contain an <b>&lt;error&gt;</b> element describing the problem.
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## Element Names and Attributes

<i>/session_list/session</i>	
<code>Isid</code> (attribute)	A string which uniquely identifies this session.
<code>&lt;session_type&gt;</code>	Indicates the type of session for which the report was run. The value will always be <b>support</b> in the current BeyondTrust API version.
<code>&lt;Isidseq&gt;</code>	An incrementing number used to represent sessions in a non-string format.

	 <b>Note:</b> The LSEQ element is not guaranteed to be unique or strictly sequential.
<start_time>	The date and time the session was begun. Data is returned in ISO 8601 format. Also contains a <b>timestamp</b> attribute which displays the start time as a UNIX timestamp (UTC).
<end_time>	The date and time the session was ended. Data is returned in ISO 8601 format. Also contains a <b>timestamp</b> attribute which displays the end time in UNIX timestamp (UTC). This element will be empty for sessions which are still in progress when the report was run or which closed abnormally.
<duration>	Session length in HH:MM:SS format.
<jump_group>	<p>The element's content is the name of the Jump Group. For Personal Jump Groups, the name of the Jump Group is the Private Display Name of the representative who owns the Jump Group. The <b>&lt;jump_group&gt;</b> element has two attributes:</p> <p><b>type:</b> This is the Jump Group's type, which can be "shared" or "personal".</p> <p><b>id:</b> This is the Jump Group's unique ID for its type. Jump Groups of different types can have the same ID. For Personal Jump Groups, this is the unique ID of the user who owns the Jump Group. Each user can only have a single Personal Jump Group.</p>
<jumpoint>	The name of the Jumpoint through which this session was initiated, if any. Also contains an <b>id</b> attribute, which displays the unique ID assigned to the Jumpoint.
<custom_attributes>	Contains a <b>&lt;custom_attribute&gt;</b> element for each custom field assigned to a session. This element displays only if custom fields have been defined. The format of each <b>&lt;custom_attribute&gt;</b> element is described below.
<session_chat_view_url>	The URL at which this session's chat transcript can be viewed in a web browser. This element is displayed only for sessions that have successfully ended.
<session_chat_download_url>	The URL at which this session's chat transcript can be downloaded. This element is displayed only for sessions that have successfully ended.
<session_recording_view_url>	The URL at which the video of the session may be viewed in a web browser. This element is displayed only if screen sharing recording was enabled at the time of the session and only if the user initiated screen sharing during the session. It is available only for sessions that have successfully ended.
<session_recording_download_url>	The URL at which the video of the session may be downloaded. This element is displayed only if screen sharing recording was enabled at the time of the session and only if the user initiated screen sharing during the session. It is available only for sessions that have successfully ended.
<command_shell_recordings>	Contains a <b>&lt;command_shell_recording&gt;</b> element for each command shell that was initiated during the session. This element is displayed only if the user opened a remote command shell during the session, if command shell recording was enabled at the time of the session, and if the requesting user has permission to view session recordings. Each <b>&lt;command_shell_recording&gt;</b> element contains the child elements <b>&lt;download_url&gt;</b> and <b>&lt;view_url&gt;</b> as described below.

<file_transfer_count>	The number of file transfers which occurred during the session.
<file_move_count>	The number of files renamed via the <b>File Transfer</b> interface during the session.
<file_delete_count>	The number of files deleted via the <b>File Transfer</b> interface during the session.
<primary_customer>	Lists the <b>gsnumber</b> as an attribute and as an element, the <b>name</b> of the remote endpoint accessed by the user.
<primary_rep>	Lists the <b>gsnumber</b> and <b>id</b> as attributes and as an element, the <b>name</b> of the user who owned the session.
<customer_list>	A list of all endpoints accessed in the session. There should always be exactly one endpoint per session in the current BeyondTrust API version. The format of each <customer> element is described below.
<rep_list>	A list of all users who participated in the session, whether as the session owner or as conference members. The format of each <representative> element is described below.
<session_details>	Contains a chronological list of all events which occurred during the session. This element contains one or more child <event> elements, described below.

*/session\_list/session/custom\_attributes/custom\_attribute*

display_name (attribute)	The display name assigned to the custom attribute.
code_name (attribute)	The code name assigned to the custom attribute.

*/session\_list/session/command\_shell\_recordings/command\_shell\_recording*

instance (attribute)	The instance of the command shell session, starting with <b>0</b> .
<download_url>	The URL at which the video of the command shell session may be downloaded.
<view_url>	The URL at which the video of the command shell session may be viewed in a web browser.

*/session\_list/session/customer\_list/customer*

gsnumber (attribute)	Uniquely identifies the endpoint in regards to its current connection to the BeyondTrust Appliance B Series. A gsnumber may be recycled, so while two endpoints connected at the same time will never have the same gsnumber, one endpoint may have a gsnumber that was assigned to another endpoint in the past. Can be used to correlate a <customer> element with a <primary_customer> or with an event's <performed_by> or <destination> element.
<username>	The name used to identify the endpoint during the session.
<public_ip>	The endpoint's public IP address.
<private_ip>	The endpoint's private IP address.

<hostname>	The hostname of the endpoint.
<os>	The operating system of the endpoint.

*/session\_list/session/rep\_list/representative*

gsnumber (attribute)	<p>Uniquely identifies the user in regards to their current connection to the BeyondTrust Appliance B Series. A gsnumber is assigned on a per-connection basis, so if a user leaves a session and then rejoins without logging out of the B Series Appliance, their gsnumber will remain the same.</p> <p>However, if the user's connection is terminated for any reason, when that user logs back into the B Series Appliance, they will be assigned a new gsnumber and will also appear multiple times in the &lt;rep_list&gt; element.</p> <p>A gsnumber may be recycled, so while two people connected at the same time will never have the same gsnumber, one person may have a gsnumber that was assigned to another person in the past. Can be used to correlate a &lt;representative&gt; element with a &lt;primary_rep&gt; or with an event's &lt;performed_by&gt; or &lt;destination&gt; element.</p>
id (attribute)	Unique ID assigned to the user.
<username>	The username assigned to the user.
<display_name>	The display name assigned to the user. Note that this field contains the display name's value at the time of the conference, which may not match the current value if the <b>display_name</b> has subsequently been changed.
<public_ip>	The user's public IP address.
<private_ip>	The user's private IP address.
<hostname>	The hostname of the user's computer.
<os>	The operating system of the user's computer.
<session_owner>	Integer value ( <b>1</b> or <b>0</b> ) indicating whether the user was the owner of the session or was merely a conference member.
<seconds_involved>	Integer value indicating the number of seconds the user was involved in this session.
<invited>	Integer value ( <b>1</b> ) present only if the user is an invited user.

*/session\_list/session/session\_details/event*

timestamp (attribute)	The system time at which the event occurred.
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event_type (attribute)	The type of event which occurred. Event types include the following:																																
	<table border="1"> <tr> <td>Chat Message</td> <td>Registry Imported</td> </tr> <tr> <td>Command Shell Session Started*</td> <td>Registry Key Added</td> </tr> <tr> <td>Conference Member Added</td> <td>Registry Key Deleted</td> </tr> <tr> <td>Conference Member Departed</td> <td>Registry Key Renamed</td> </tr> <tr> <td>Conference Member State Changed</td> <td>Registry Value Added</td> </tr> <tr> <td>Conference Owner Changed</td> <td>Registry Value Deleted</td> </tr> <tr> <td>Credential Injection Attempt</td> <td>Registry Value Modified</td> </tr> <tr> <td>Credential Injection Attempt Failed</td> <td>Registry Value Renamed</td> </tr> <tr> <td>Directory Created</td> <td>Screen Recording</td> </tr> <tr> <td>File Deleted</td> <td>Screenshot Captured</td> </tr> <tr> <td>File Download</td> <td>Service Access Allowed</td> </tr> <tr> <td>File Download Failed</td> <td>Session End</td> </tr> <tr> <td>File Moved</td> <td>Session Foreground Window Changed</td> </tr> <tr> <td>File Upload</td> <td>Session Start</td> </tr> <tr> <td>File Upload Failed</td> <td>System Information Retrieved</td> </tr> <tr> <td>Registry Exported</td> <td></td> </tr> </table>	Chat Message	Registry Imported	Command Shell Session Started*	Registry Key Added	Conference Member Added	Registry Key Deleted	Conference Member Departed	Registry Key Renamed	Conference Member State Changed	Registry Value Added	Conference Owner Changed	Registry Value Deleted	Credential Injection Attempt	Registry Value Modified	Credential Injection Attempt Failed	Registry Value Renamed	Directory Created	Screen Recording	File Deleted	Screenshot Captured	File Download	Service Access Allowed	File Download Failed	Session End	File Moved	Session Foreground Window Changed	File Upload	Session Start	File Upload Failed	System Information Retrieved	Registry Exported	
	Chat Message	Registry Imported																															
	Command Shell Session Started*	Registry Key Added																															
	Conference Member Added	Registry Key Deleted																															
	Conference Member Departed	Registry Key Renamed																															
	Conference Member State Changed	Registry Value Added																															
	Conference Owner Changed	Registry Value Deleted																															
	Credential Injection Attempt	Registry Value Modified																															
	Credential Injection Attempt Failed	Registry Value Renamed																															
	Directory Created	Screen Recording																															
	File Deleted	Screenshot Captured																															
	File Download	Service Access Allowed																															
	File Download Failed	Session End																															
	File Moved	Session Foreground Window Changed																															
	File Upload	Session Start																															
	File Upload Failed	System Information Retrieved																															
Registry Exported																																	
	*Will only appear if recording is enabled for this session.																																
<performed_by>	The entity that performed the action. Indicates the entity's <b>gsnumber</b> and also its <b>type</b> , indicating whether this action was performed by the <b>system</b> , a <b>endpoint</b> , or a <b>representative</b> .																																
<destination>	The entity to which the event was directed. Indicates the entity's <b>gsnumber</b> and also its <b>type</b> , indicating whether this action was directed to the <b>system</b> , a <b>customer</b> , or a <b>user</b> .																																
<body>	The text of the message as displayed in the chat log area.																																
<encoded_body>	Can be shown in place of the <b>&lt;body&gt;</b> element above. Contains the base64 (RFC 2045 section 6.8) encoded value of what would have been shown in the <b>&lt;body&gt;</b> element, and is shown <b>ONLY</b> if the <b>&lt;body&gt;</b> text contains characters that are invalid according to XML specification. These characters are typically the result of binary data being sent through chat messages.																																
<filename>	The name of the transferred file.																																
<files>	If this event involved the transferring of files, then this element will contain a <b>&lt;file&gt;</b> element for every file transferred.																																
<filesize>	An integer indicating the size of the transferred file.																																
<system_information>	Applies only to <b>System Information Retrieved</b> events wherein the system information is pulled automatically upon session start. This element contains multiple <b>&lt;category&gt;</b> child elements as described below.																																



**Note:** System information is logged only when pulled automatically at the beginning of the session and not when specifically requested by the user. This is to prevent overload with the large amount of dynamic data that can be retrieved from the remote system.

<data>

Contains an arbitrary number of <value name="\_" value="\_" /> elements. The name and number of these elements varies based on **event\_type**. For example, when a user joins the session, a **Conference Member Added** event would contain <value> elements for the user's **name**, **private\_ip**, **public\_ip**, **hostname**, and **os**.

*/session\_list/session/session\_details/event/system\_information/category*

<description>

Contains multiple <field> elements, each of which contains a descriptor for the specific data field. For example, the **Drives** category would have <field> elements **Drive**, **Type**, **Percent Used**, etc. These <field> elements can be compared to table header cells.

<data>

Contains multiple <row> elements, each of which contains multiple <field> elements that correspond to the <field> elements above. For example, the **Drives** category would have a separate <row> for each drive on the endpoint computer. An example <row> might contain <field> elements **C:\**, **Local Disk**, **60%**, etc. These <row> elements can be compared to table rows, with each <field> element a table cell.

## Query Examples for AccessSession

Sessions started July 1 2016 to present	https://access.example.com/api/reporting?generate_report=AccessSession&start_date=2016-07-01&duration=0
Sessions started the month of July 2016	https://access.example.com/api/reporting?generate_report=AccessSession&start_date=2016-07-01&duration=31
Sessions started 8:00 AM July 1 2016 to present	https://access.example.com/api/reporting?generate_report=AccessSession&start_time=1467360000&duration=0
Sessions started 8:00 AM July 1 2016 to 6:00 PM July 1 2016	https://access.example.com/api/reporting?generate_report=AccessSession&start_time=1467360000&duration=36000
Sessions ended July 1 2016 to present	https://access.example.com/api/reporting?generate_report=AccessSession&end_date=2016-07-01&duration=0
Sessions ended the month of July 2016	https://access.example.com/api/reporting?generate_report=AccessSession&end_date=2016-07-01&duration=31
Sessions ended 8:00 AM July 1 2016 to 6:00	https://access.example.com/api/reporting?

PM July 1 2016	generate_report=AccessSession&end_time=1467360000&duration=36000
Session c69a8e10bea9428f816cfababe9815fe	https://access.example.com/api/reporting?generate_report=AccessSession&lsid=c69a8e10bea9428f816cfababe9815fe
Sessions c69a8e10bea9428f816cfababe9815fe, a5eaa58591047b88556f944804227b0, 5bf07601298b495b87310da9ce571e22	https://access.example.com/api/reporting?generate_report=AccessSession&lsids=c69a8e10bea9428f816cfababe9815fe,a5eaa58591047b88556f944804227b0,5bf07601298b495b87310da9ce571e22

## Download Reports with AccessSessionListing

The **AccessSessionListing** query returns a list of session IDs, external keys, and availability of a recording for sessions which match given search parameters. You may use any of the following sets of parameters to generate reports:

- **start\_date** and **duration**
- **start\_time** and **duration**
- **end\_date** and **duration**
- **end\_time** and **duration**

The API account used to call this report must have access to the reporting API.

### Parameters for AccessSessionListing

start_date=[YYYY-MM-DD]	Specifies that the report should return all sessions, even those still in progress, that began on or after this date and that are within the duration specified below.
start_time=[timestamp]	Specifies that the report should return all sessions, even those still in progress, that began at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
end_date=[YYYY-MM-DD]	Specifies that the report should return only closed sessions that ended on or after this date and that are within the duration specified below.
end_time=[timestamp]	Specifies that the report should return only closed sessions that ended at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
duration=[integer]	Length of time from the specified date or time for which you wish to pull reports, or <b>0</b> to pull from the specified date to present. If <b>start_date</b> or <b>end_date</b> is specified, <b>duration</b> represents days; if <b>start_time</b> or <b>end_time</b> is specified, <b>duration</b> represents seconds.

### XML Response for AccessSessionListing Query

<session_summary_list>	Contains a <b>&lt;session_summary&gt;</b> element for each session that matches the given criteria. If no sessions are returned, this element will contain no <b>&lt;session_summary&gt;</b>
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elements. If an error occurs during the search, it will contain an **<error>** element describing the problem.

## Element Names and Attributes

### */session\_summary\_list/session\_summary*

Isid (attribute)	The session ID for the given session.
has_recording (attribute)	Integer ( <b>1</b> or <b>0</b> ) indicating if the given session has a session recording.
external_key (attribute)	An arbitrary string that can link this session to an identifier on an external system, such as a customer relationship management ticket ID. This can be input from within the access console or defined programmatically. This element is displayed only if an external key has been defined.

## Query Examples for AccessSessionListing

Sessions started July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;start_date=2016-07-01&amp;duration=0</code>
Sessions started the month of July 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;start_date=2016-07-01&amp;duration=31</code>
Sessions started 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;start_time=1467360000&amp;duration=0</code>
Sessions started 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;start_time=1467360000&amp;duration=36000</code>
Sessions ended July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;end_date=2016-07-01&amp;duration=0</code>
Sessions ended the month of July 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;end_date=2016-07-01&amp;duration=31</code>
Sessions ended 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;end_time=1467360000&amp;duration=0</code>
Sessions ended 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionListing&amp;end_time=1467360000&amp;duration=36000</code>



## Download Reports with AccessSessionSummary

The **AccessSessionSummary** query returns an overview of access session statistics by user. You may use any of the following sets of parameters to generate reports:

- **start\_date**, **duration**, and **report\_type**
- **start\_time**, **duration**, and **report\_type**
- **end\_date**, **duration**, and **report\_type**
- **end\_time**, **duration**, and **report\_type**

The API account used to call this report must have access to the reporting API.

### Parameters for AccessSessionSummary

<code>start_date=[YYYY-MM-DD]</code>	Specifies that the report should return all sessions, even those still in progress, that began on or after this date and that are within the duration specified below.
<code>start_time=[timestamp]</code>	Specifies that the report should return all sessions, even those still in progress, that began at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>end_date=[YYYY-MM-DD]</code>	Specifies that the report should return only closed sessions that ended on or after this date and that are within the duration specified below.
<code>end_time=[timestamp]</code>	Specifies that the report should return only closed sessions that ended at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>duration=[integer]</code>	Length of time from the specified date or time for which you wish to pull reports, or 0 to pull from the specified date to present. If <b>start_date</b> or <b>end_date</b> is specified, <b>duration</b> represents days; if <b>start_time</b> or <b>end_time</b> is specified, <b>duration</b> represents seconds.
<code>report_type=[string]</code>	In the current BeyondTrust API version, <b>user</b> is the only accepted value.

### XML Response for AccessSessionSummary Query

<code>&lt;summary_list&gt;</code>	Contains a <b>&lt;summary&gt;</b> element for each record that matches the given criteria. If no sessions are returned, this element will contain no <b>&lt;summary&gt;</b> elements. If an error occurs during the search, it will contain an <b>&lt;error&gt;</b> element describing the problem.
-----------------------------------	---

### Element Names and Attributes

<i>/summary_list/summary</i>	
<code>id</code> (attribute)	Returns the user's unique ID.
<code>type</code> (attribute)	Specifies the report type generated. This value is always <b>user</b> in the current API version.

<display_name>	The display name of the user. Note that since summary reports represent an aggregation of sessions over a period of time, the display name used is the current value for the user, which may have been edited since the time of the first returned session.
<total_sessions>	The total number of sessions run by the user in the time specified.
<avg_sessions_per_weekday>	The average number of sessions conducted on Monday through Friday by the user, expressed as a decimal rounded to the nearest point.
<avg_duration>	The average length of each session, expressed as HH:MM:SS.

## Query Examples

Sessions started July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;start_date=2016-07-01&amp;duration=0&amp;report_type=user</code>
Sessions started the month of July 2016, by user	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;start_date=2016-07-01&amp;duration=31&amp;report_type=user</code>
Sessions started 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;start_time=1467360000&amp;duration=0&amp;report_type=user</code>
Sessions started 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;start_time=1467360000&amp;duration=36000&amp;report_type=user</code>
Sessions ended July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;end_date=2016-07-01&amp;duration=0&amp;report_type=user</code>
Sessions ended the month of July 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;end_date=2016-07-01&amp;duration=31&amp;report_type=user</code>
Sessions ended 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;end_time=1467360000&amp;duration=0&amp;report_type=user</code>
Sessions ended 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=AccessSessionSummary&amp;end_time=1467360000&amp;duration=36000&amp;report_type=user</code>

## Download Reports with AccessSessionRecording

The **AccessSessionRecording** query returns the requested access session recording file. Depending on your browser, this query will either immediately begin download or prompt you to open or save the file. Note that the requesting user must have permission to view session recordings.

The API account used to call this report must have access to the reporting API.

## Parameter for AccessSessionRecording

Isid=[string]

The session ID for which you wish to download the video recording of the session.

## Query Example for AccessSessionRecording

AccessSessionRecording: Session  
c69a8e10bea9428f816cfababe9815fe

https://access.example.com/api/reporting?  
generate\_report=AccessSessionRecording&  
Isid=c69a8e10bea9428f816cfababe9815fe

## Download Reports with CommandShellRecording

The **CommandShellRecording** query returns the requested command shell recording. Depending on your browser, this query will either immediately begin download or prompt you to open or save the file. Note that the requesting user must have permission to view session recordings.

The API account used to call this report must have access to the reporting API.

## Parameters for CommandShellRecording

Isid=[string]

The session ID for which you wish to download the video recording of the command shell.

instance=[integer]

The instance number of the command shell recording you wish to download. Instances are enumerated starting with **0**. The instance number can be obtained from the **AccessSession** report.

## Optional Parameter for CommandShellRecording

format=[string]

If this parameter has the value of **txt**, the command shell output will be in a text format instead of a recording.

## Query Examples for CommandShellRecording

CommandShellRecording:  
First shell instance of session  
c69a8e10bea9428f816cfababe9815fe

https://access.example.com/api/reporting?  
generate\_report=CommandShellRecording&  
Isid=c69a8e10bea9428f816cfababe9815fe&instance=0

CommandShellRecording:  
Third shell instance of session  
c69a8e10bea9428f816cfababe9815fe

https://access.example.com/api/reporting?  
generate\_report=CommandShellRecording&  
Isid=c69a8e10bea9428f816cfababe9815fe&instance=2

## Download Report with EndpointLicenseUsage

The **EndpointLicenseUsage** query downloads a ZIP file containing detailed information (English only) on your BeyondTrust license usage. This file contains a list of all Jump Items (not counting uninstalled Jump Clients), daily counts for Jump Item operations and license usage, and a summary for the BeyondTrust Appliance B Series and its endpoint license usage and churn.

### Query Example for EndpointLicenseUsage

EndpointLicenseUsage

[https://access.example.com/api/reporting?generate\\_report=EndpointLicenseUsage](https://access.example.com/api/reporting?generate_report=EndpointLicenseUsage)

## Download Reports with Team

The **Team** query returns information about activity within a team. You may use any of the following sets of parameters to generate reports:

- **start\_date** and **duration**
- **start\_time** and **duration**
- **end\_date** and **duration**
- **end\_time** and **duration**

The API account used to call this report must have access to the reporting API.

### Parameters for Team

<code>start_date=[YYYY-MM-DD]</code>	Specifies that the report should return team activity that began on or after this date and that is within the duration specified below.
<code>start_time=[timestamp]</code>	Specifies that the report should return team activity that began at or after this time and that is within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>end_date=[YYYY-MM-DD]</code>	Specifies that the report should return team activity that ended on or after this date and that is within the duration specified below.
<code>end_time=[timestamp]</code>	Specifies that the report should return team activity that ended at or after this time and that is within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>duration=[integer]</code>	Length of time from the specified date or time for which you wish to pull reports, or <b>0</b> to pull from the specified date to present. If <b>start_date</b> or <b>end_date</b> is specified, <b>duration</b> will represent days; if <b>start_time</b> or <b>end_time</b> is specified, <b>duration</b> will represent seconds.

### Optional Parameter for Team

`team_id=[integer]`

The numeric ID of the team by which to filter results. Only the activity within the specified team will be returned. If this parameter is not specified, results from all teams will be returned.

## XML Response for Team Query

<code>&lt;team_activity_list&gt;</code>	<p>Contains a <b>&lt;team_activity&gt;</b> element for each team with any activity within the given parameters. If no teams are returned, this element will contain no <b>&lt;team_activity&gt;</b> elements. If an error occurs during the search, it will contain an <b>&lt;error&gt;</b> element describing the problem.</p> <p>Also contains <b>&lt;start_time&gt;</b> and <b>&lt;end_time&gt;</b> elements displaying the time parameters in the system time and with a <b>timestamp</b> attribute in UTC.</p>
---	---

## Element Names and Attributes

<i>/team_activity_list/team_activity</i>	
id (attribute)	Integer representing the team's unique ID.
name (attribute)	The display name of the team. Note that this field contains the team name as it currently appears, which may not match the value at the time of the conference if the team name has been subsequently changed.
<code>&lt;logged_in_privileged_users&gt;</code>	Contains a <b>&lt;representative&gt;</b> element for each user in that team who was logged into the access console before the first event in the report occurred. If no users were logged in at the start time, this element will be empty.
<code>&lt;events&gt;</code>	Contains an <b>&lt;event&gt;</b> element for each event that occurred within this team.

### */team\_activity\_list/team\_activity/logged\_in\_representatives/representative*

gsnumber (attribute)	<p>Uniquely identifies the user in regards to their current connection to the B Series Appliance. A gsnumber is assigned on a per-connection basis, so if a user leaves a session and then rejoins without logging out of the B Series Appliance, their gsnumber will remain the same.</p> <p>However, if the user's connection is terminated for any reason, when that user logs back into the B Series Appliance, they will be assigned a new gsnumber.</p> <p>A gsnumber may be recycled, so while two people connected at the same time will never have the same gsnumber, one person may have a gsnumber that was assigned to another person in the past. Can be used to correlate a <b>&lt;representative&gt;</b> element with an event's <b>&lt;performed_by&gt;</b> or <b>&lt;destination&gt;</b> element.</p>
id (attribute)	Unique ID assigned to the user.
<code>&lt;display_name&gt;</code>	The display name assigned to the user. Note that this field contains the display name's value at the time of the conference, which may not match the current value if the <b>display_name</b> has subsequently been changed.
<code>&lt;public_ip&gt;</code>	The user's public IP address.
<code>&lt;private_ip&gt;</code>	The user's private IP address.

*/team\_activity\_list/team\_activity/events/event*

timestamp (attribute)	The system time at which the event occurred.																		
event_type (attribute)	<p>The type of event which occurred. Event types include the following:</p> <table border="1"> <tr> <td>Chat Message</td> <td>Jump Item Authorization Request</td> </tr> <tr> <td>Conference Member Added</td> <td>Jump Item Authorization Request Utilized</td> </tr> <tr> <td>Conference Member Departed</td> <td>Pinned Session Moved Away from Queue</td> </tr> <tr> <td>Conference Member State Changed</td> <td>Pinned Session Moved to Queue</td> </tr> <tr> <td>File Download</td> <td>Representative Monitoring Started</td> </tr> <tr> <td>File Download Failed</td> <td>Representative Monitoring Stopped</td> </tr> <tr> <td>File Upload</td> <td>Session Deployed to Queue</td> </tr> <tr> <td>File Upload Failed</td> <td>Session Undeployed from Queue</td> </tr> <tr> <td>Files Shared</td> <td></td> </tr> </table>	Chat Message	Jump Item Authorization Request	Conference Member Added	Jump Item Authorization Request Utilized	Conference Member Departed	Pinned Session Moved Away from Queue	Conference Member State Changed	Pinned Session Moved to Queue	File Download	Representative Monitoring Started	File Download Failed	Representative Monitoring Stopped	File Upload	Session Deployed to Queue	File Upload Failed	Session Undeployed from Queue	Files Shared	
Chat Message	Jump Item Authorization Request																		
Conference Member Added	Jump Item Authorization Request Utilized																		
Conference Member Departed	Pinned Session Moved Away from Queue																		
Conference Member State Changed	Pinned Session Moved to Queue																		
File Download	Representative Monitoring Started																		
File Download Failed	Representative Monitoring Stopped																		
File Upload	Session Deployed to Queue																		
File Upload Failed	Session Undeployed from Queue																		
Files Shared																			
<performed_by>	The entity that performed the action. Indicates the entity's <b>gsnumber</b> and also its <b>type</b> , indicating whether this entity was the system or a user.																		
<destinations>	If this event was targeted to one or more specific users, it will contain one or more <b>&lt;destination&gt;</b> elements as described below.																		
<files>	If this event involved the transfer of files, then this element will contain a <b>&lt;file&gt;</b> element for every file transferred.																		
<data>	Contains an arbitrary number of <b>&lt;value name="_" value="_" /&gt;</b> elements. The name and number of these elements varies based on the <b>event_type</b> . For example, when a user logs into the access console, a <b>Conference Member State Changed</b> event would contain <b>&lt;value&gt;</b> elements for the <b>hostname</b> , <b>os</b> , <b>private_ip</b> , <b>public_ip</b> , and <b>state</b> .																		
<body>	The text of the chat message as displayed in the chat log area.																		
<encoded_body>	Can be shown in place of the <b>&lt;body&gt;</b> element above. Contains the base64 (RFC 2045 section 6.8) encoded value of what would have been shown in the <b>&lt;body&gt;</b> element, and is shown <b>ONLY</b> if the <b>&lt;body&gt;</b> text contains characters that are invalid according to XML specification. These characters are typically the result of binary data being sent through chat messages.																		

*/team\_activity\_list/team\_activity/events/event/destinations/destination*

gsnumber (attribute)	Indicates the <b>gsnumber</b> of the entity to which the event was destined.
type (attribute)	Indicates whether this entity was the system or a user.
[value]	The name of the entity to which the event was destined.

*/team\_activity\_list/team\_activity/events/event/files/file*

name (attribute)	The name of the transferred file.
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size (attribute)	An integer indicating the size of the transferred file.
------------------	---

## Query Examples for Team

Activity started July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=Team&amp;start_date=2016-07-01&amp;duration=0</code>
Activity started the month of July 2016	<code>https://access.example.com/api/reporting?generate_report=Team&amp;start_date=2016-07-01&amp;duration=31</code>
Activity started 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=Team&amp;start_time=1467360000&amp;duration=0</code>
Activity started 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=Team&amp;start_time=1467360000&amp;duration=36000</code>
Activity started July 1 2016 to present for a specific team	<code>https://access.example.com/api/reporting?generate_report=Team&amp;start_date=2016-07-01&amp;duration=0&amp;team_id=1</code>
Activity ended July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=Team&amp;end_date=2016-07-01&amp;duration=0</code>
Activity ended the month of July 2016	<code>https://access.example.com/api/reporting?generate_report=Team&amp;end_date=2016-07-01&amp;duration=31</code>
Activity ended 8:00 AM July 1 2016 to present	<code>https://access.example.com/api/reporting?generate_report=Team&amp;end_time=1467360000&amp;duration=0</code>
Activity ended 8:00 AM July 1 2016 to 6:00 PM July 1 2016	<code>https://access.example.com/api/reporting?generate_report=Team&amp;end_time=1467360000&amp;duration=36000</code>
Activity ended July 1 2016 to present for a specific team	<code>https://access.example.com/api/reporting?generate_report=Team&amp;end_date=2016-07-01&amp;duration=0&amp;team_id=1</code>

## Download Reports with VaultAccountActivity

The **VaultAccountActivity** query returns full information for all Vault account activity events that match given search parameters. You can use any of the following sets of parameters to generate reports:

- **start\_date** and **duration**
- **start\_time** and **duration**
- **end\_date** and **duration**
- **end\_time** and **duration**

The API account used to call this report must have the permission **Allow Access to Vault Account Activity Reports**.

## Parameters for VaultAccountActivity

<code>start_date=[YYYY-MM-DD]</code>	Specifies that the report returns all events that happened on or after this date, and that are within the duration specified below.
<code>start_time=[timestamp]</code>	Specifies that the report returns all sessions, as well as those still in progress, that began at or after this time, and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>end_date=[YYYY-MM-DD]</code>	Specifies that the report returns only closed sessions that ended on or after this date and that are within the duration specified below.
<code>end_time=[timestamp]</code>	Specifies that the report returns only closed sessions that ended at or after this time and that are within the duration specified below. The time must be a UNIX timestamp (UTC).
<code>duration=[integer]</code>	Length of time from the specified date or time for which you wish to pull reports, or <b>0</b> to pull from the specified date to present. If <b>start_date</b> or <b>end_date</b> is specified, <b>duration</b> represents days; if <b>start_time</b> or <b>end_time</b> is specified, <b>duration</b> represents seconds.

## Optional Parameter for VaultAccountActivity

<code>limit=[string]</code>	<p>The category by which to filter results. Can be one of the following:</p> <p><b>all</b> Returns all results.</p> <p><b>rep:[id]</b> Returns sessions owned by a representative, specified by user ID.</p> <p><b>account: [id]</b> Returns all events involving a specific account.</p>
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For more information on getting a representative's ID, please see "[API Command: get\\_logged\\_in\\_reps](#)" on page 19.

## XML Response for VaultAccountActivity Query

<code>&lt;vault_account_activity_list&gt;</code>	Contains a <b>&lt;vault_account_activity&gt;</b> element for each event that matches the given criteria. If no events are returned, this element contains no <b>&lt;vault_account_activity&gt;</b> elements. If an error occurs during the search, it contains an <b>&lt;error&gt;</b> element describing the problem.
--	--

## Element Names and Attributes

timestamp (attribute)	The system time at which the event occurred.
Account	The ID of the Vault account.



<code>event_type</code> (attribute)	<p>The type of event which occurred. Event types include the following:</p> <ul style="list-style-type: none"> <li>Account Created</li> <li>Account Deleted</li> <li>Credentials Checked Out</li> <li>Credentials Checked In</li> <li>Password Changed</li> <li>Password Rotation Failed</li> <li>Credentials Used</li> <li>Credentials Force Checked In</li> </ul>
<code>&lt;performed_by&gt;</code>	<p>The entity that performed the action. Indicates the entity's <b>ID</b> and also its <b>type</b>, indicating whether this action was performed by the <b>system</b>, a <b>representative</b>, or an <b>API account</b>.</p>
<code>&lt;data&gt;</code>	<p>The value of this attribute depends on the <b>event_type</b>. For a <b>Password Changed</b> event, it contains values like <b>Manually Edited</b>, <b>Manually Rotated</b>, or <b>Rotate after check in</b>. For a <b>Password Rotation Failed</b> event, it contains an error string explaining the reason for its failure. For a <b>Credential Checked Out</b> event, if the credentials were used in a session, then it contains the LSID of the session.</p>

## Vault Account Configuration APIs

You can list Vault accounts with the Vault Configuration API. Vault administrators can also create generic username/password and username/SSH key accounts using the API. This provides a programmatic way to onboard Vault accounts that can't automatically be discovered through Domain Discovery (Active Directory).



For more information on Vault account roles, please see [Vault for Privileged Remote Access: New Member Role](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/accounts.htm) at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/accounts.htm>.

## API Account Permission for Vault Configuration APIs

Due to the sensitive information stored by Vault, there is a permission check box in **Management > API Configuration > Permissions** to manage which API Accounts are allowed to manage Vault Accounts. When checked, the API Account has permission to use all Vault APIs specified in this document. The permission can only be checked if the API Account already has permission to access the Configuration API. For new and existing API Accounts, the default value of the box is unchecked.

### PERMISSIONS

At least one permission must be enabled for an API account.

#### Command API

- Deny
- Read-Only
- Full Access

#### Reporting API

- Allow Access to Access Session Reports and Recordings
- Allow Access to Vault Account Activity Reports

#### Backup API

- Allow Access ⓘ
- Allow Vault Encryption Key Access ⓘ

#### Configuration API

- Allow Access
- Manage Vault Accounts



For more information, please see the section on [Permissions in the API Configuration section of the Administrative Guide](https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm) at <https://www.beyondtrust.com/docs/privileged-remote-access/getting-started/admin/api-configuration.htm>.

## Backup API

The backup API is designed to enable you to automatically back up your BeyondTrust software configuration on a recurring basis. The backup file includes all your configuration settings and logged data except for recordings and some large files from the file store. The backup includes files from the file store only less than 200 KB in size and no more than 50 files total. In the event of a hardware failure, having a backup file helps to speed the disaster recovery process.

The backup API is an authenticated API. The API account used to issue this command must have access to the backup API.

Commands are executed by sending a simple HTTP request to the B Series Appliance. The request can be sent using any HTTPS-capable socket library, scripting language module, or a URL fetcher such as **cURL** or **wget**. Either **GET** or **POST** may be used as the request method.

The backup API URL is **<https://access.example.com/api/backup>**.



For instructions on using authenticated APIs using OAuth, see "[Authenticate to the Privileged Remote Access API](#)" on page 6.

## Query Example

```
backup
```

```
https://access.example.com/api/backup
```

## Test Scenario

To get started with this basic API integration, follow the steps below.

1. Log into your BeyondTrust administrative interface and go to **Management > API Configuration**. Check the box to **Enable XML API**.
2. Create an API account and copy the client secret. This secret can be viewed only once and must be regenerated if lost.

```
OAuth Client ID: e52a9aa6fc0508ddf3a40601a736b230albebcd1
OAuth Client Secret: BU5u0fVEb1qEWuHdBK9AR6q9+O1CB26squ1susfJ0LsK
```

3. It is necessary to base64 encode these values ("Client ID:Client Secret") for use in the authorization header.

```
Base64 Encoded:
ZTUyYTlhYTZmYzA1MDhkZGYzYTQwNjAxYTczNmIyMzBhMWJlYmNkMTpCVTV1MGZWRWIxcUVXdUhkQks5QVI2cTkrTzFD
QjI2c3F1MXN1c2ZKMExzSw==
```

4. We will use cURL to illustrate generating a token using a BeyondTrust API account and using that token to make requests to the BeyondTrust web API.

- First, we request a Bearer Token using the OAuth client ID and client secret.

```
curl -H "authorization: Basic
ZTUyYTlhYTZmYzA1MDhkZGYzYTQwNjAxYTczNmIyMzBhMWJlYmNkMTpCVTV1MGZWRWIxcUVXdUhkQks5QVI2cT
krTzFDQjI2c3F1MXN1c2ZKMExzSw==" --data "grant_type=client_credentials"
https://access.example.com/oauth2/token
```

- This results in a JSON response containing the bearer token.

```
{
  "access_token": "23MS6S2L42WCriESVzGbuwsiQwdbxuAJ3Zj4DxO",
  "token_type": "Bearer",
  "expires_in": 3600
}
```

- We can now use that token to make a request to the API.

```
curl -H "authorization: Bearer 23MS6S2L42WCriESVzGbuwsiQwdbxuAJ3Zj4DxO"
https://access.example.com/api/command?action=get_api_info
```

- This results in an XML response for the requested API.



**Note:** If you receive any errors such as **Document Not Found**, check that the API account has the necessary permissions. Also, make sure that a user is logged into the site while you are testing.

## Privileged Remote Access API Change Log

### API Version 1.7 for PRA 23.3.x

- Configuration API:
  - Added "Windows Local" and "Domain" accounts and attributes to the Vault Account configuration API (GET).
  - Added an *endpoint* filter to the Vault Account configuration API (GET).

### API Version 1.22.3 for PRA 23.2.x

- Configuration API:
  - Added Jump Item Association.
  - Added VNC Jump Items.
  - Added Account Group Memberships to Group Policies.
  - Added reactivating vendor users.
  - Added return all API accounts and permissions.
  - Added return user permissions.
- Reporting API:
  - Added download syslog zip files from the appliance.

### API Version 1.22.2 for PRA 22.3.x, 21.1.x

- Configuration API:
  - Added GET, PATCH, and DELETE APIs for the Protocol Tunnel Jump Item type.
  - Added GET and PATCH APIs to allow administrators to update the available groups for existing SAML Security Provider resources.

### API Version 1.22.2 for PRA 22.2.x

- Configuration API:
  - Enhanced Group Policy Configuration APIs (GET, POST, and PATCH) to allow administrators to read and set access permission settings.

### API Version 1.22.1 for PRA 22.1.x

- Command API:
  - Added *perm\_reporting\_license*.

## API Version 1.21.1 for PRA 21.2.x

- Command API:
  - Added `set_rep_status`.
  - Expanded `send_chat_message` to allow sending messages to team chats.
- Configuration API:
  - Enhanced Web Jump Shortcut API to enable administrators to manage Web Jump Shortcuts via API.
  - Enhanced Copy Jump Item API to enable administrators to copy jump items via API.

## API Version 1.19.2 for PRA 20.1.x

- Added the ["Configuration API" on page 17](#).

## API Version 1.19.0 for PRA 19.1.x

- Version update.

## API Version 1.18.0 for PRA 18.2.x

- SCIM options have been added to the API Configuration.

## API Version 1.16.0 for PRA 17.1.x

- Use OAuth 2.0 authentication for endpoint credential manager connections.
- When importing a Jump Item several changes have been made:
  - Specify a name for Jump Items.
  - Import VNC Jump Items.
  - Specify a SecureApp for RDP Jump Items.
  - Specify a local address for Protocol Tunnel Jump Items.
  - For Web Jump Items, set if the certificate should be verified.
  - ["API Command: import\\_jump\\_shortcut" on page 22](#)

## API Version 1.15.1 for PRA 16.1.x

- Granularly define the accounts used for API access to the specific roles they serve. Additionally, OAuth 2.0 authentication is now used for authenticating API accounts.
  - ["Reporting API" on page 48](#)
  - ["Command API" on page 19](#)
  - ["Backup API" on page 67](#)

## API Version 1.14.0 for PRA 15.3.x

- Import Jump Item shortcuts to minimize the time needed to create Jump Items.
  - "API Command: `import_jump_shortcut`" on page 22

## Privileged Remote Access API Version Reference

The following table shows the relationship between the API and BeyondTrust versions for BeyondTrust Privileged Remote Access.

API Version	BeyondTrust PRA Version
1.22.3	23.1.x, 23.2.x
1.22.2	22.2.x, 22.3.x, 23.1.x
1.22.1	22.1.x
1.21.1	21.2.x
1.19.2	20.1.x, 20.2.x
1.19.0	19.1.x
1.19.0	18.3.x
1.18.0	18.2.x
1.17.0	18.1.x
1.16.0	17.1.x
1.15.1	16.1.x
1.14.0	15.3.x
1.13.0	15.1.x, 15.2.x



## Appendix: Require a Ticket ID for Access to Jump Items

If your service requests use ticket IDs as part of the change management workflow, connect your ticket IDs to endpoint access in BeyondTrust. By leveraging BeyondTrust Jump Technology with your existing ticket ID process, your change management workflow integration lets you restrict a BeyondTrust access request by requiring a Ticket ID to be entered as part of the access request process before an access session begins.

### What Users See

When users of the BeyondTrust access console attempt to access a Jump Item that uses a Jump Policy configured to require a ticket ID, a dialog opens. In the administrator-configured dialog, users enter the ticket ID needed, authorizing access this Jump Item.

To set up the connection to your existing ITSM or ticket ID system, create a Jump Policy you can apply to those Jump Items you want to only be used if a ticket ID from your external system is entered.

### How It Works

After the user enters the required ID and clicks **OK**, the B Series Appliance posts an HTTP outbound request to the ticket system URL configured in Jump Policies. The request contains information about both the ticket ID and the Jump Item, as well as user information. Your external system then replies asynchronously to either allow or deny access.

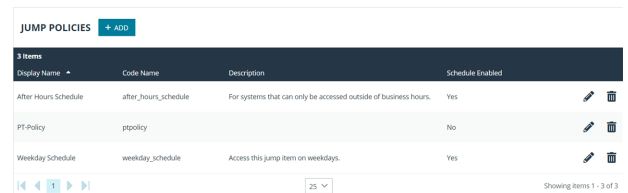
If the request is allowed, the external ticket ID system assigns the allowed session. Optionally, your external ITSM or ticket ID system may send a list of custom session attributes in its response to assign to the allowed session. For more information on using the BeyondTrust API see the [Privileged Remote Access API Programmer's Guide](http://www.beyondtrust.com/docs/privileged-remote-access/how-to/integrations/api) at [www.beyondtrust.com/docs/privileged-remote-access/how-to/integrations/api](http://www.beyondtrust.com/docs/privileged-remote-access/how-to/integrations/api).

Follow the steps below to set up a ticket ID requirement for access.


### Create a Jump Policy Requiring Ticket ID Approval

First, create a Jump Policy with the requirement of ticket ID approval enabled.

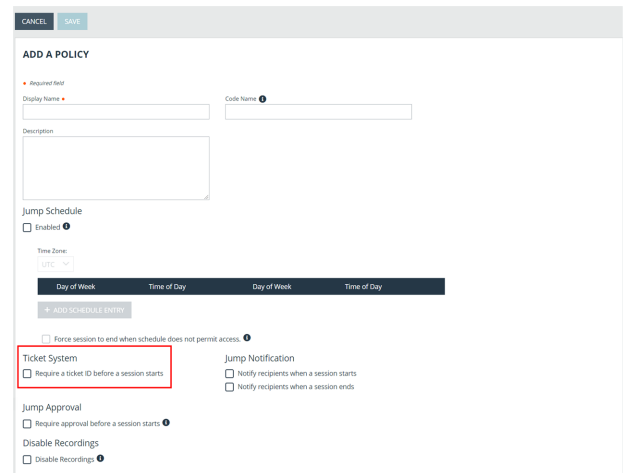
1. From your BeyondTrust /login administrative interface, go to **Jump > Jump Policies**.
2. In the **Jump Policies** section, click the **Add** button.



Display Name	Code Name	Description	Schedule Enabled
After Hours Schedule	after_hours_schedule	For systems that can only be accessed outside of business hours.	Yes
PF-Policy	ppolicy		No
Weekday Schedule	weekday_schedule	Access this jump item on weekdays.	Yes

 **Note:** A Jump Policy does not take effect until you have applied it to at least one Jump Client item.

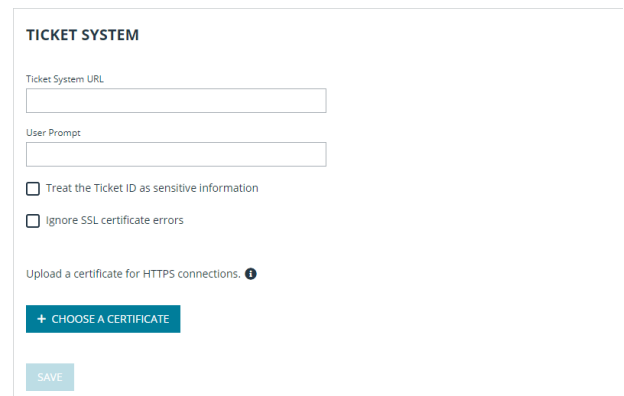
3. Enter a **Display Name**, **Code Name**, and **Description** in the corresponding locations to enable you to effectively apply this Jump Policy appropriate to your purposes after its creation.
4. Optionally, complete the configuration for **Jump Schedule** and **Jump Notification** if appropriate for the access control desired on this Jump Policy.
5. In the **Jump Approval** section, check **Require a ticket ID before a session starts**. To instantly disable ticket ID approval on this policy, simply uncheck this box. If ticket ID approval is enabled on a policy that does not have a ticket system URL configured, users attempting to access a Jump Item to which the policy is applied receive a message to contact the administrator.
6. Optionally, complete any additional approval configuration you wish this Jump Policy to enforce.
7. Click **Save**.



## Connect External Ticket ID System to Jump Policies

Next, connect your existing ITSM or ticket ID system to the B Series Appliance.

1. Remain in your BeyondTrust /login administrative interface on the **Jump > Jump Policies** page.
2. At the bottom of the **Jump Policies** page, locate the **Ticket System** section.
3. In **Ticket System URL**, enter the URL for your external ticket system. The B Series Appliance sends an outbound request to your external ticketing system. The URL must be formatted for either HTTP or HTTPS. If an HTTPS URL is entered, the site certificate must be verified for a valid connection. If a Jump Policy requiring a ticket ID exists, a ticket system URL must be entered or you will receive a warning message.
4. The **Current Status** field is shown only when a valid status value exists to report the connection to the ticket system configured in **Ticket System URL**. Any ticket system configuration change resets the value.
5. Click **Choose a certificate** to upload the certificate for the HTTPS ticket system connection to the B Series Appliance. If your certificate is uploaded, the B Series Appliance uses it when it contacts the external system. If you do not upload a certificate and the **Ignore SSL certificate errors** box below this setting is checked, the B Series Appliance optionally falls back to use the built-in certificate store when sending the request.




**Note:** When the **Ignore SSL certificate errors** box is checked, the B Series Appliance will not include the certificate validation information when it contacts your external ticket system.

6. In **User Prompt**, enter the dialog text you want access console users to see when they are requested to enter the ticket ID required for access.

7. If your company's security policies consider ticket ID information as sensitive material, check the **Treat the Ticket ID as sensitive information** box.

If this box is checked, the ticket ID is considered sensitive information and asterisks are shown instead of text. You must use an HTTPS Ticket System URL. If an address with HTTP is entered, an error message appears to remind you HTTPS is required.

When this feature is enabled you cannot bypass issues with SSL certificates by checking the **Ignore SSL certificate errors** box. This means you must have a valid SSL certificate in place. If you try to check the **Ignore SSL certificate errors** box, a message appears stating that you cannot ignore SSL certificate errors.


When the Ticket ID is sensitive, the following rules apply:




- Both the desktop and the web access consoles show asterisks instead of text.
- The ticket is not logged anywhere by the access console or on the B Series Appliance.

8. Click **Save**.

## API Approval Request

BeyondTrust PRA sends an HTTP Post request to the ticketing system URL. The POST request contains the following key-value pairs:

request_id	Unique ID that identifies the approval request. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <b>Note:</b> The request ID must be sent from the external ticketing system to BeyondTrust PRA in the response. The maximum length is 255 characters, and the ticketing system must treat the request ID as an opaque value.                 </div>
ticket_id	ticket ID entered by the user.
response_url	URL to which the integration should POST its response.
jump_item.computer_name	Hostname or IP address of the endpoint the user is requesting access for.
jump_item.type	Type of Jump Item being accessed: <ul style="list-style-type: none"> <li>• client (for Jump Clients)</li> <li>• shell (for Shell Jump Shortcuts)</li> <li>• rdp</li> <li>• vnc</li> <li>• push_and_start (for Remote Jump and Local Jump)</li> <li>• vpro</li> </ul>
jump_item.comments	Comments noted about the Jump Item.
jump_item.group	Group associated of the Jump Item.
jump_item.tag	Tags associated with the Jump Item.
jump_item.jumpoint_name	Name of the Jumpoint.
jump_item.public_ip	Public IP address of the Jump Item.


	 <b>Note:</b> This is not provided for Jumpoints.
jump_item.private_ip	Private IP address of the Jump Item.
	 <b>Note:</b> This is not provided for Jumpoints.
jump_item.custom.<code>	Key-value pair designated for the Jump Item custom field.
	 <b>Note:</b> Only one key-value pair is permitted for each Jump Item custom field.
user.id	The requesting user's unique ID.
user.username	Username used by the requesting user for authentication.
user.public_display_name	The requesting user's public display name.
user.private_display_name	The requesting user's private display name.
user.email_address	Email address listed for the requesting user.

## API Approval Response

The external ticketing system sends an HTTP POST request to the B Series Appliance URL at [https://example.beyondtrust.com/api/endpoint\\_approval](https://example.beyondtrust.com/api/endpoint_approval).


**Note:** The API must be accessed over HTTPS.

The POST request can contain the following key-value pairs in the POST body:

response_id	Request ID sent in the approval request. *Required
response	Response to the request; either allow or deny. *Required
message	Message displayed to the requesting user if the request is denied. *Optional
	 <b>Note:</b> The maximum length set for the message is 255 characters.
session.custom.<code name>	One or more custom session attributes set for the access session. *Optional

## Error Messages

In certain circumstances, an error message displays in the **Ticket System** section:


- *Ticket System URL is required because one or more Jump Policies still require a ticket ID.* - A Jump Policy exists requiring the entry of a ticket ID for access.
- *Invalid ticket ID.* - The external ticket system explicitly denied the request. If the external ticket system sends the error message, that message is shown.
- *The Ticket System URL must start with "https://" when the Ticket ID is sensitive.* - You must enter an HTTPS URL when **Treat the Ticket ID as sensitive information** is checked.
- *Cannot ignore SSL errors when the Ticket ID is sensitive.* - When this option is checked, you cannot ignore SSL errors and must provide a valid SSL certificate.
- *The given host was not resolved.* - An invalid ticket system URL was attempted.
- *The ticket system failed to respond in time.* - The external ticket system failed to respond in a timely manner.

Users who are unable to connect due to misconfiguration or user error will see explanatory pop-up messages in the access console for the error state of the configuration.

- *No ticket system URL is configured. Please contact your administrator* - A ticket ID system URL is not configured in the /login administrative interface.
- *User Prompt Not Configured.* - The User Prompt is not configured in the /login administrative interface.
- *The ticket system returned an invalid response.* - An invalid ticket ID was entered.

The following errors can be returned by the B Series Appliance:

404	Returned when no ticketing system URL is configured in /login
403	Returned when the request_id is not valid


**Note:** This error message is received when the request has timed out.

# Disclaimers, Licensing Restrictions and Tech Support

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## Tech Support

At BeyondTrust, we are committed to offering the highest quality service by ensuring that our customers have everything they need to operate with maximum productivity. Should you need any assistance, please log into the [Customer Portal](https://beyondtrustcorp.service-now.com/csm) at <https://beyondtrustcorp.service-now.com/csm> to chat with Support.

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