API CTL tool Installation and Usage

1. Download **API Controller** based on your preferred platform (i.e., Mac, Windows, Linux).
   * [For MacOS](https://apim.docs.wso2.com/en/3.1.0/assets/attachments/learn/api-controller/apictl-3.1.4-macosx-x64.tar.gz)
   * [For Linux 32-bit](https://apim.docs.wso2.com/en/3.1.0/assets/attachments/learn/api-controller/apictl-3.1.4-linux-i586.tar.gz)
   * [For Linux 64-bit](https://apim.docs.wso2.com/en/3.1.0/assets/attachments/learn/api-controller/apictl-3.1.4-linux-x64.tar.gz)
   * [For Windows 32-bit](https://apim.docs.wso2.com/en/3.1.0/assets/attachments/learn/api-controller/apictl-3.1.4-windows-i586.zip)
   * [For Windows 64-bit](https://apim.docs.wso2.com/en/3.1.0/assets/attachments/learn/api-controller/apictl-3.1.4-windows-x64.zip)
2. Extract the downloaded archive of the CTL Tool to the desired location.
3. Navigate to the working directory where the executable CTL Tool resides.
4. Execute the following command to start the CTL Tool.

**Warn**

From API Manager Tooling 3.1.0 version onwards, the names of the endpoints have been modified and this causes changing the syntax in /home/<user>/.wso2apictl/main\_config.yaml file. If you have an older file, you'll get an error while executing the apictl commands due to this. To avoid that, backup and remove /home/<user>/.wso2apictl/main\_config.yaml file and reconfigure the environments using new commands as explained below in [Add an environment](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#add-an-environment) section.

./apictl

The directory structure for the configuration files ( <USER\_HOME>/.wso2apictl ) will be created upon the execution of the apictl command.

1. Add the location of the extracted folder to your system's $PATH variable to be able to access the executable from anywhere.

**Tip**

For further instructions, execute the following command.

apictl --help

Global flags for CTL Tool[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#global-flags-for-ctl-tool)

The following are some global flags that you can use with any CTL tool command.

--verbose

Enable verbose logs (Provides more information on execution)

--insecure, -k

Allow connections to SSL sites without certs

--help, -h

Display information and example usage of a command

Check the version of the CTL[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#check-the-version-of-the-ctl)

Run the following CTL command to check the version of the CTL.

* **Command**

apictl version

* **Response**
* Version: 3.1.0

Build Date: 2020-03-31 13:22:12 UTC

Set mode of the CTL[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#set-mode-of-the-ctl)

Run the following CTL command to set the mode of the CTL. The allowed modes are default and kubernetes.

* **Command**

apictl set --mode <mode>

**Example**

apictl set --mode default

apictl set --mode kubernetes

Add an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#add-an-environment)

You can add environments by either manually editing the <USER\_HOME>/.wso2apictl/main\_config.yaml file or by running the following CTL command.

apictl add-env

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Run the following CTL command to add an environment.
   * **Command**

Linux/Unix

apictl add-env -e <environment-name> \

--registration <client-registration-endpoint> \

--apim <API-Manager-endpoint> \

--token <token-endpoint> \

--admin <admin-REST-API-endpoint> \

--publisher <publisher-portal-endpoint> \

--devportal <developer-portal-endpoint>

Mac/Windows

**Info**

**Flags:**

* + - Required :

`--environment` or `-e` : Name **of** the environment to be added

`--token` : Token endpoint **for** the environment

AND (either)

`--apim` : API Manager endpoint **for** the environments

OR (the following 4)

`--registration` : Registration endpoint **for** the environment

`--admin` : Admin endpoint **for** the environment

`--publisher` : Publisher endpoint **for** the environment

`--devportal` : Developer Portal endpoint **for** the environment

**Tip**

When adding an environment, when the optional flags are not given, CTL will automatically derive those from --apim flag value.

**Note**

The flags --environment (-e) and --token are mandatory. You can either provide only the 2 flags --apim and --token, or all the other 5 flags (--registration, --publisher, --devportal, --admin, --token) without providing --apim flag. If you are omitting any of --registration, --publisher, --devportal, --admin flags, you need to specify --apim flag with the API Manager endpoint.

**Example**

Linux/Unix

apictl add-env -e dev \

--apim https://localhost:9443 \

--token https://localhost:8243/token

Mac/Windows

**Example**

Linux/Unix

apictl add-env -e production \

--registration https://idp.com:9444 \

--token https://gw.com:8244/token \

--admin https://apim.com:9444 \

--publisher https://apim.com:9444 \

--devportal https://apps.com:9444

Mac/Windows

**Example**

Linux/Unix

apictl add-env -e production \

--registration https://idp.com:9444 \

--apim https://apim.com:9444 \

--token https://gw.com:8244/token

Mac/Windows

* + **Response**

Response Format

Successfully added environment '<environment-name>'

Example Response

Remove an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#remove-an-environment)

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Run the following CTL command to remove an environment.
   * **Command**

apictl remove env <environment-name>

**Example**

apictl remove env production

* + **Response**

Response Format

Successfully removed environment '<environment-name>'

Execute 'apictl add-env --help' to see how to add a new environment

Example Response

List environments[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#list-environments)

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Run the following CTL command to list the environments.
   * **Command**

apictl list envs

**Info**

**Flags:**

* + - Optional :  
      --format : pretty-print environments using templates
  + **Response**

Response Format

NAME API MANAGER ENDPOINT REGISTRATION ENDPOINT TOKEN ENDPOINT PUBLISHER ENDPOINT DEVPORTAL ENDPOINT ADMIN ENDPOINT

<environment-name> <APIM-endpoint> <registration-endpoint> <token-endpoint> <Publisher-endpoint> <DevPortal-endpoint> <admmin-endpoint>

Example Response

Login to an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#login-to-an-environment)

After adding an environment, you can log in to the API Manager instance in that environment using credentials.

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Run any of the following CTL commands to log in to the environment.
   * **Command**

apictl login <environment-name> -k

apictl login <environment-name> -u <username> -k

apictl login <environment-name> -u <username> -p <password> -k

**Tip**

If you run apictl login <environment-name> you are prompted to provide both the username and the password. If you run apictl login <environment-name> --username <username>, you are prompted to provide the password.

**Info**

**Flags:**

* + - Optional :  
      --username or -u : Username for login  
      --password or -p : Password for login  
      --password-stdin : Get password from stdin

**Example**

apictl login dev -k

apictl login dev -u admin -p admin -k

apictl login dev --username admin --password admin -k

* + **Response**

Response Format

Logged into '<environment-name>' environment

Example Response

1. **Warning**
2. Using --password in CTL is not secure. You can use --password-stdin instead. For example,
3. cat ~/.mypassword | ./apictl login dev --username admin --password-stdin -k

Logout from an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#logout-from-an-environment)

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Run the following command to log out from the current session of the API Manager environment.
   * **Command**

apictl logout <environment-name>

**Example**

apictl logout dev

Add APIs/Applications in an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#add-apisapplications-in-an-environment)

You can add APIs and Applications via the Publisher Portal and Developer Portal accordingly. However, **apictl** allows you to create and deploy APIs without using the Publisher Portal. For more information on adding APIs, see [Importing APIs Via Dev First Approach](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/importing-apis-via-dev-first-approach).

List APIs/Applications in an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#list-apisapplications-in-an-environment)

Follow the instructions below to display a list of APIs/API Products/Applications in an environment using CTL:

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.0 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).
2. Log in to the API Manager in the environment by following the instructions in [Login to an Environment](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#login-to-an-environment).
3. Run the corresponding CTL command below to list APIs/API Products/Applications in an environment.
   1. List APIs in an environment.
      * **Command**

apictl list apis -e <environment> -k

apictl list apis --environment <environment> --insecure

apictl list apis --environment <environment> --query <API search query> --insecure

**Info**

**Flags:**

* + - * Required :  
        --environment or -e : Environment to be searched
      * Optional :  
        --query or -q : Search query pattern  
        --limit or -l : Maximum number of apis to return (Default 25) --format : pretty-print environments using templates

**Example**

apictl list apis -e dev -k

apictl list apis --environment production --limit 15 --insecure

apictl list apis --environment production --query provider:Alice name:PizzaShackAPI --insecure

* + - **Response**
    - ID NAME VERSION CONTEXT STATUS PROVIDER
    - 12d6e73c-778d-45ac-b57d-117c6c5092a4 PhoneVerification 1.0 /phoneverify PUBLISHED admin

91fe87c3-f0d7-4c35-81f5-0e0e42d8e19f PizzaShackAPI 2.0.0 /pizzashack CREATED Alice

**Tip**

When using the apictl list apis -e dev command, -q or --query optional flag can be used to search for APIs. You can search in attributes by using a : modifier. Supported attribute modifiers are **name**, **version**, **provider**, **context**, **status**, **description**, **subcontext**, **doc** and **label**. You can also use combined modifiers.  
**Example:**

* + - * provider:wso2 will match an API if the provider of the API contains wso2.
      * 'provider:"wso2"' will match an API if the provider of the API is exactly wso2.
      * status:PUBLISHED will match an API if the API is in PUBLISHED state.
      * label:external will match an API if it contains a Microgateway label called "external".
      * name:pizzashack version:v1 will match an API if the name of the API is pizzashack and version is v1.

If no advanced attribute modifier has been specified, the API names containing the search term will be returned as a result.

* 1. List Applications in an environment.
     + **Command**

apictl list apps -e <environment> -k

apictl list apps --environment <environment> --insecure

apictl list apps --environment <environment> --owner <application owner> --insecure

**Info**

**Flags:**

* + - * Required :  
        --environment or -e : Environment to be searched
      * Optional :  
        --owner or -o : Owner of the Application  
        --limit or -l : Maximum number of applications to return (Default 25)

**Example**

apictl list apps -e dev -k

apictl list apps --environment production --insecure

apictl list apps --environment production --owner sampleUser --limit 15 --insecure

* + - **Response**
    - ID NAME OWNER STATUS GROUP ID
    - 29b4fcc6-05a4-42a7-aa64-f1a1b8a7b979 DefaultApplication admin APPROVED

36d51e55-3f1e-4f85-86ee-8fe73b0c8adff SampleApplication sampleUser APPROVED orgA

**Tip**

When using the apictl list apps -e dev command, you can either specify -o (--owner) flag or not.

* + - * When someone has invoked the command **without specifying the owner flag**, it will list all the applications in that environment which belongs to the tenant that the currently logged in user belongs.
      * When someone has invoked the command **by specifying the owner flag**, it will list all the applications belongs to that particular owner in that environment.

Delete an API/Application in an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#delete-an-apiapplication-in-an-environment)

Follow the instructions below to delete an API/API Product/Application in an environment using CTL:

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.1 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).

**Note**

Note that you need to have the APICTL version 3.1.1 or higher to use this feature.

1. Log in to the API Manager in the environment by following the instructions in [Login to an Environment](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#login-to-an-environment).
2. Run the corresponding CTL command below to delete an API/API Product/Application in an environment.
   1. Delete an API in an environment.
      * **Command**

apictl delete api -n <API name> -v <API version> -e <environment> -k

apictl delete api --name <API name> --version <API version> --environment <environment> --insecure

apictl delete api --name <API name> --version <API version> --environment <environment> --provider <API provider> --insecure

**Info**

**Flags:**

* + - * Required :  
        --environment or -e : Environment from which the API should be deleted  
        --name or -n : Name of the API to be deleted  
        --version or -v : Version of the API to be deleted
      * Optional :  
        --provider or -r : Provider of the API to be deleted

**Example**

apictl delete api -n PizzaShackAPI -v 1.0.0 -e dev -k

apictl delete api --name PizzaShackAPI --version 1.0.0 --environment production --insecure

apictl delete api --name PizzaShackAPI --version 1.0.0 --environment production --provider Alice --insecure

* + - **Response**

PizzaShackAPI API deleted successfully!

* 1. Delete an Application in an environment.
     + **Command**

apictl delete app -n <application name> -e <environment> -k

apictl delete app -name <application name> --environment <environment> --insecure

apictl delete app --name <application name> --environment <environment> --owner <application owner> --insecure

**Info**

**Flags:**

* + - * Required :  
        --environment or -e : Environment from which the Application should be deleted  
        --name or -n : Name of the Application to be deleted
      * Optional :  
        --owner or -o : Owner of the Application to be deleted

**Example**

apictl delete app -n DefaultApplication -e dev -k

apictl delete app --name DefaultApplication --environment production --insecure

apictl delete app --name DefaultApplication --environment production --owner sampleUser --insecure

* + - **Response**

DefaultApplication Application deleted successfully!

Change status of an API in an environment[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#change-status-of-an-api-in-an-environment)

Follow the instructions below to change the status of an API in an environment using CTL:

1. Make sure that the WSO2 API Manager 3.1.0 version is started and that the 3.1.1 version of APTCTL is running.  
   For more information, see [Download and Initialize the CTL Tool](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#download-and-initialize-the-ctl-tool).

**Note**

Note that you need to have the APICTL version 3.1.1 or higher to use this feature.

1. Log in to the API Manager in the environment by following the instructions in [Login to an Environment](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#login-to-an-environment).
2. Run the corresponding CTL command below to change the status of an API in an environment.
   * **Command**

apictl change-status api -a <Action> -n <API name> -v <API version> -e <environment> -k

apictl change-status api --action <Action> --name <API name> --version <API version> --environment <environment> --insecure

apictl change-status api --action <Action> --name <API name> --version <API version> --environment <environment> --provider <API provider> --insecure

**Info**

**Flags:**

* + - Required :  
      --environment or -e : The environment that the command is executed on  
      --name or -n : The name of the respective API --version or -v : The version of the respective API --action or -a : The action to be taken to change the status of the API
    - Optional :  
      --provider or -r : The provider of the respective API

**Example**

apictl change-status api -a Publish -n PizzaShackAPI -v 1.0.0 -e dev -k

apictl change-status api --action Publish --name PizzaShackAPI --version 1.0.0 --environment production --insecure

apictl change-status api --action Publish --name PizzaShackAPI --version 1.0.0 --environment production --provider Alice --insecure

* + **Response**

PizzaShackAPI API state changed successfully!

1. **Info**
2. Supported action values : Publish, Deploy as a Prototype, Demote to Created, Demote to Prototyped, Block, Deprecate, Re-Publish, Retire. Note that the Re-publish action is available only after calling Block action.

Formatting the outputs of list[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#formatting-the-outputs-of-list)

Output of list envs, list apis and list apps can be formatted with Go Templates.

**Available formatting options**[**¶**](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#available-formatting-options)

| Name | Usage | Example |
| --- | --- | --- |
| table | This is the default format and the output is displayed as a table | --**format** "table {{.Name}}\t{{.Id}}" |
| json | Output is formatted as JSON | --**format** "{{ json . }}" |
| jsonPretty | Outputs a human-readable JSON with indented by 2 spaces | --**format** "table {{ jsonPretty . }}" |
| upper | Convert string to uppercase | --**format** "{{upper .Name}}\t{{upper .Context}}" |
| lower | Convert string to lowercase | --**format** "{{lower .Name}}\t{{lower .Context}}" |
| title | Convert the first letter to uppercase of a string | --**format** "{{title .Name}}\t{{title .Context}}" |

Set token type[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#set-token-type)

Run the following CTL command to set the token type of the default apictl application.

* **Command**

apictl set --token-type <token type>

**Example**

apictl set --token-type JWT

apictl set --token-type OAuth

**Info**

**Flags:**

* + Required :  
    --token-type or -t : Type of the token to be generated

Set HTTP request timeout[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#set-http-request-timeout)

Run the following CTL command to set the HTTP request timeout.

* **Command**

apictl set --http-request-timeout <http-request-timeout>

**Example**

apictl set --http-request-timeout 10000

**Info**

**Flags:**

* + Required :  
    --http-request-timeout : Timeout for HTTP Client (default 10000)

Set export directory[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#set-export-directory)

Run the following CTL command to change the default location of the export directory.

* **Command**

apictl set --export-directory <export-directory-path>

**Example**

Linux/Mac

apictl set --export-directory /home/user/exported-apis

Windows

**Info**

**Flags:**

* + Required :  
    --export-directory: Path to directory where APIs should be saved.  
    Default : /home/.wso2apictl/exported

Import SSL Certificates for Secure HTTP Communication with API Manager[¶](https://apim.docs.wso2.com/en/3.1.0/learn/api-controller/getting-started-with-wso2-api-controller/#import-ssl-certificates-for-secure-http-communication-with-api-manager)

Different environments of API Manager can have different SSL certificates for secure HTTP communications. The default certificate of WSO2 API Manager is a self-signed certificate and in production environments, it is advised to use a different certificate than the default.

If the certificate is the default WSO2 certificate or a CA-signed certificate of a CA (Certificate Authority) trusted by the OS, these certificates will be imported by default to the controller. If the CA or the certificate is new or does not get imported by default, you can add the certificate to the /home/.wso2apictl/certs directory. The certificates added to this directory will be imported whenever an action is performed with the controller. Any DER or PEM encoded certificate with file extensions of \*.pem, \*.crt or \*.cer can be used with the controller.

**Info**

If you are using windows, CA certs will not be imported by default and has to be added to the /home/.wso2apictl /certs directory.