kepware®

Configuration API for KEPServerEX® Version 6

Easy Guide

ptc

The Configuration API in [KEPServerEX® Version 6](#) enables users to leverage a RESTful interface and HTTP commands to make local, remote, and programmatic project changes to the KEPServerEX configuration via third-party applications (such as web clients, SCADA software that supports HTTP, and IoT platforms). Supported project changes include creating, reading, updating, and deleting objects (such as channels, devices, and tags) in the server—and more.

Follow the steps to enable the Configuration API and set up your third-party application to read object properties and create and modify objects.

Note: Although KEPServerEX Version 6 is packaged with layered security options, the settings in this exercise are not configured for security in order to simplify setup. For information on using the API in a more secure mode (by leveraging HTTPS, authentication, and more), refer to the [KEPServerEX Version 6](#) product manual.

Follow the Steps

Step 1:
Enable the Configuration API and Access the API Documentation
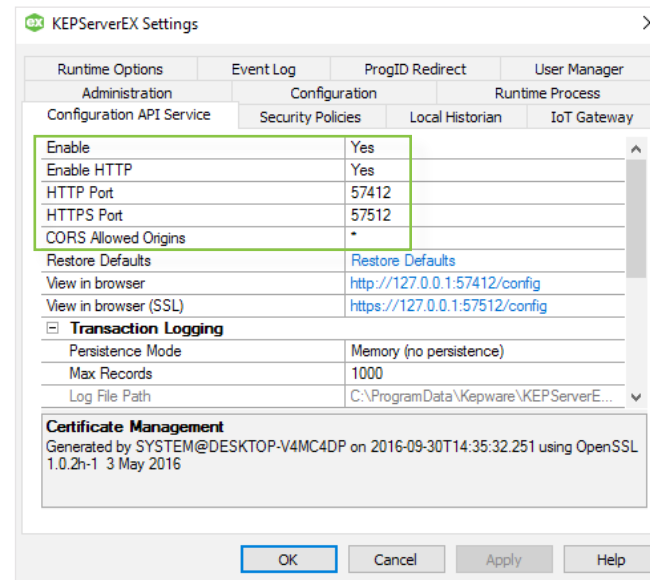
1. On the local machine where KEPServerEX Version 6 is installed, right-click on the **Administration** icon located in the system tray and select **Settings**.

2. Open the **Configuration API Service** tab and ensure that the settings are configured as follows:

   • **Enable:** Yes

   • **Enable HTTP:** Yes

   • **CORS Allowed Origins:** *
     Note: CORS stands for Cross Origin Domain Sharing. Putting an asterisk in this field allows all domains—regardless of origin—to access the API endpoints. This is helpful when developing a custom web client. For a more secure mode, enter a comma-separated list of domain specifications.

   • Leave all other options at their default settings.

3. Click **Apply** to save the modified settings.

1. Locate the "View in browser" setting and click "http://127.0.0.1:57412/config".
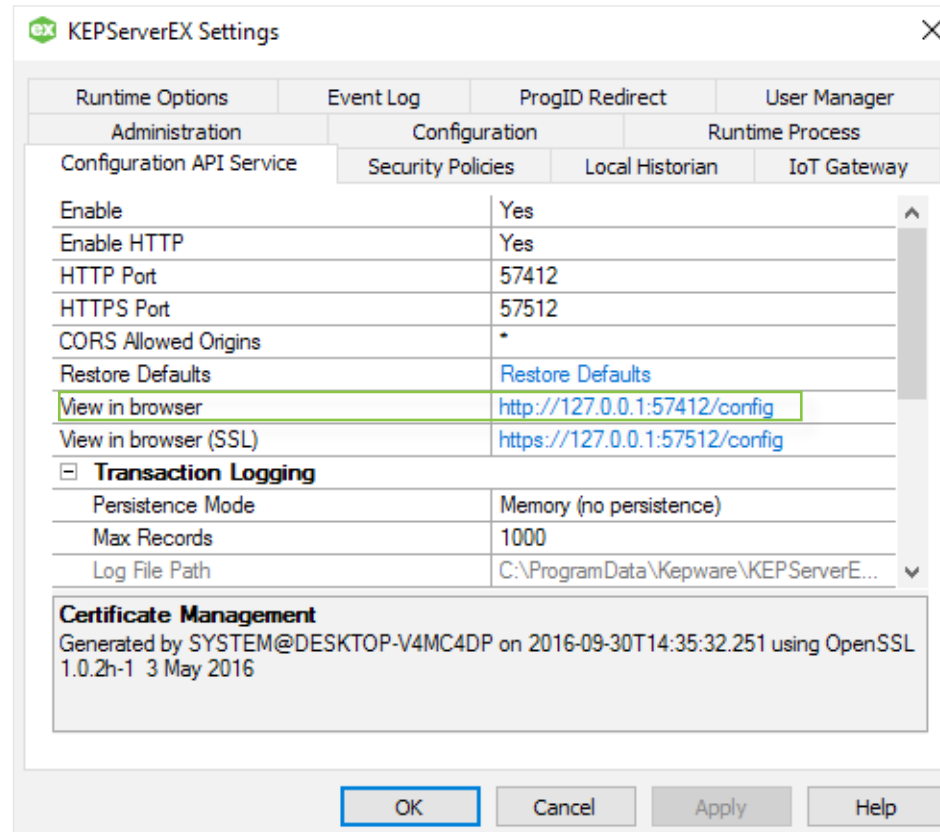
A web browser that displays the documentation for the Configuration API will open. The "Supported Drivers" section lists all the drivers installed in addition to associated properties that are accessible through the API. The "API Documentation" section lists all supported endpoints and HTTP commands.

**2.** Click **OK** to exit **KEPServerEX Settings**.

Step 2:
Use the HTTP GET Command to View a JSON Channel Object

Now that the interface is enabled, you can use HTTP commands to perform operations on the server project (such as creating, reading, updating, and deleting objects).

In order to use these commands with the API, you need an HTTP client with authentication capability. There are many open-source and free software options for this. The examples in this document utilize the free software [Postman](#), a developer tool that makes it easy to interact with the REST API of a server. Please note that Postman is not a Kepware product or associated with Kepware in any way. It is used in this document as an example only and is not recommended for production environments.

The next steps use the GET command to read an existing channel object in the default "simdemo.opf" project.

1. Install and open Postman.

2. In the **Builder** tab, select **GET** from the **Command** drop-down list and then enter the following URL:
    http://127.0.0.1:57412/config/v1/project/channels

3. Under **Authorization**, do the following:

    - In **Type**, select **Basic Auth** from the drop-down list.

    - In **Username**, enter **Administrator**.

    - Leave **Password** blank.

ptc
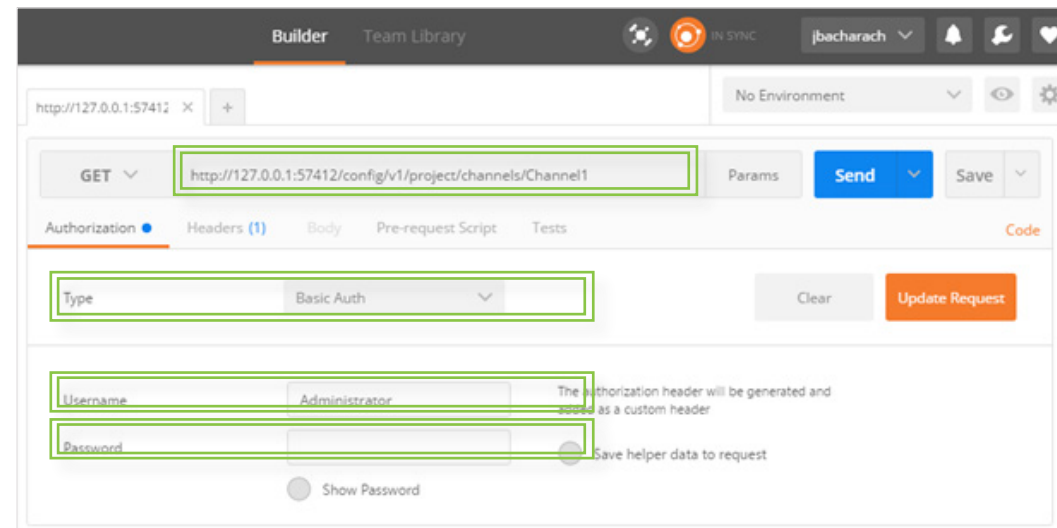
4. Click **Send** to send the GET command to the designated URL endpoint.

Once the GET command completes, the API will return a JSON object to Postman. This JSON object contains all the properties for Channel1 that are available over the API, such as the channel name (the "common. ALLTYPES_NAME" property) and driver type (the "servermain. MULTIPLE_TYPES_DEVICE_DRIVER" property). Use Postman to perform any GET, POST, or PUT commands listed in the API Documentation.
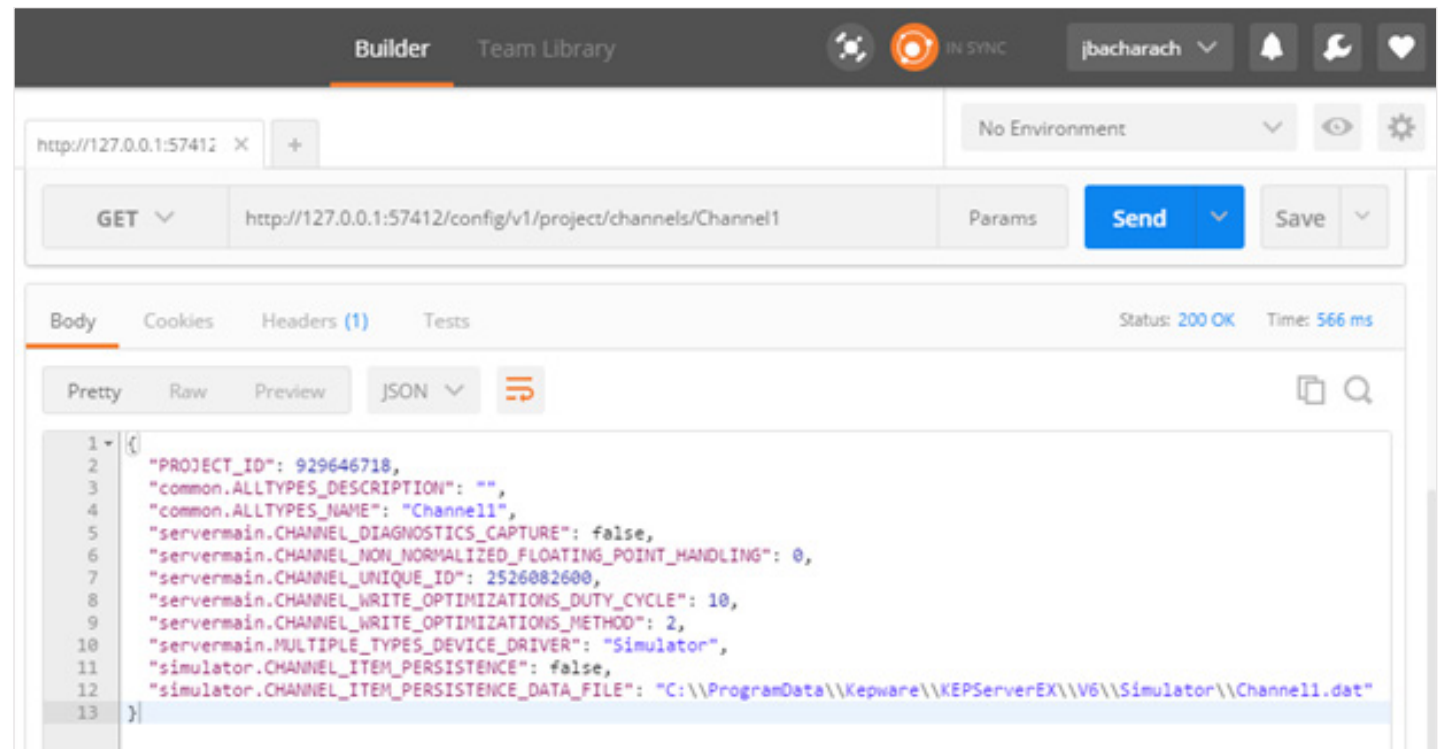
Step 3:

Use the HTTP POST Command to Create a Modbus Channel
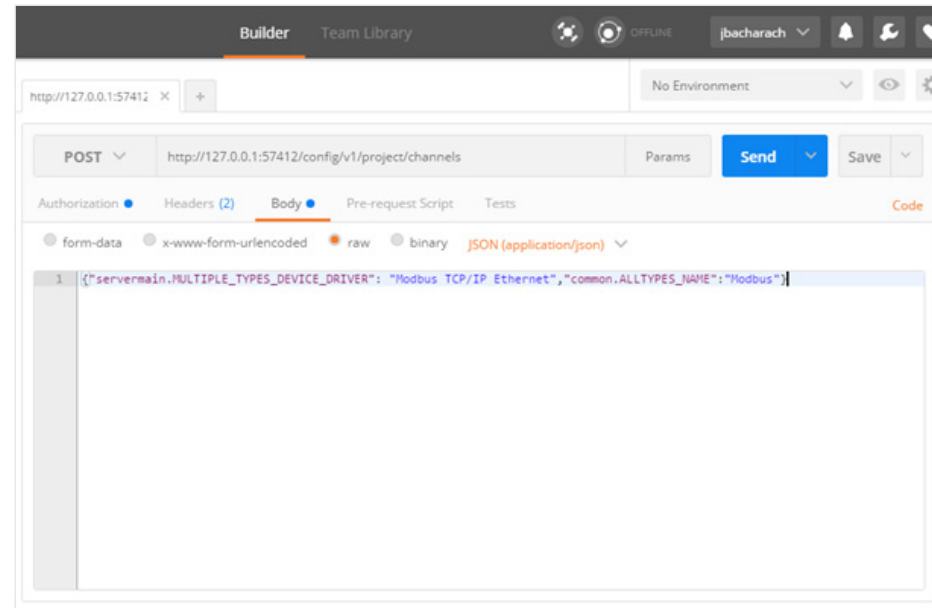
1. In Postman, click the **Command** drop-down list to change the command from GET to **POST**. Enter the following URL: http://127.0.0.1:57412/config/v1/project/channels

2. Leave the **Authorization** settings as is.

3. In the **Body** tab, select the **Raw** radio button and then choose **JSON(application/json)** from the drop-down list.

4. Enter the following JSON script into the field: {"servermain.MULTIPLE_TYPES_DEVICE_DRIVER": "Modbus TCP/IP Ethernet","common.ALLTYPES_NAME":"Modbus"}

5. Click **Send** to use the HTTP POST command to create the channel object.

6. In the KEPServerEX Configuration project, there should now be a new channel called "Modbus".

Step 4:
Develop a Custom Application
Using the Configuration API

You can now read object properties and create and modify objects from your third-party application.

The image below displays a Kepware demonstration of how a user might design a web front-end to create and update channels, devices, and tags in KEPServerEX via the Configuration API.

Next Steps
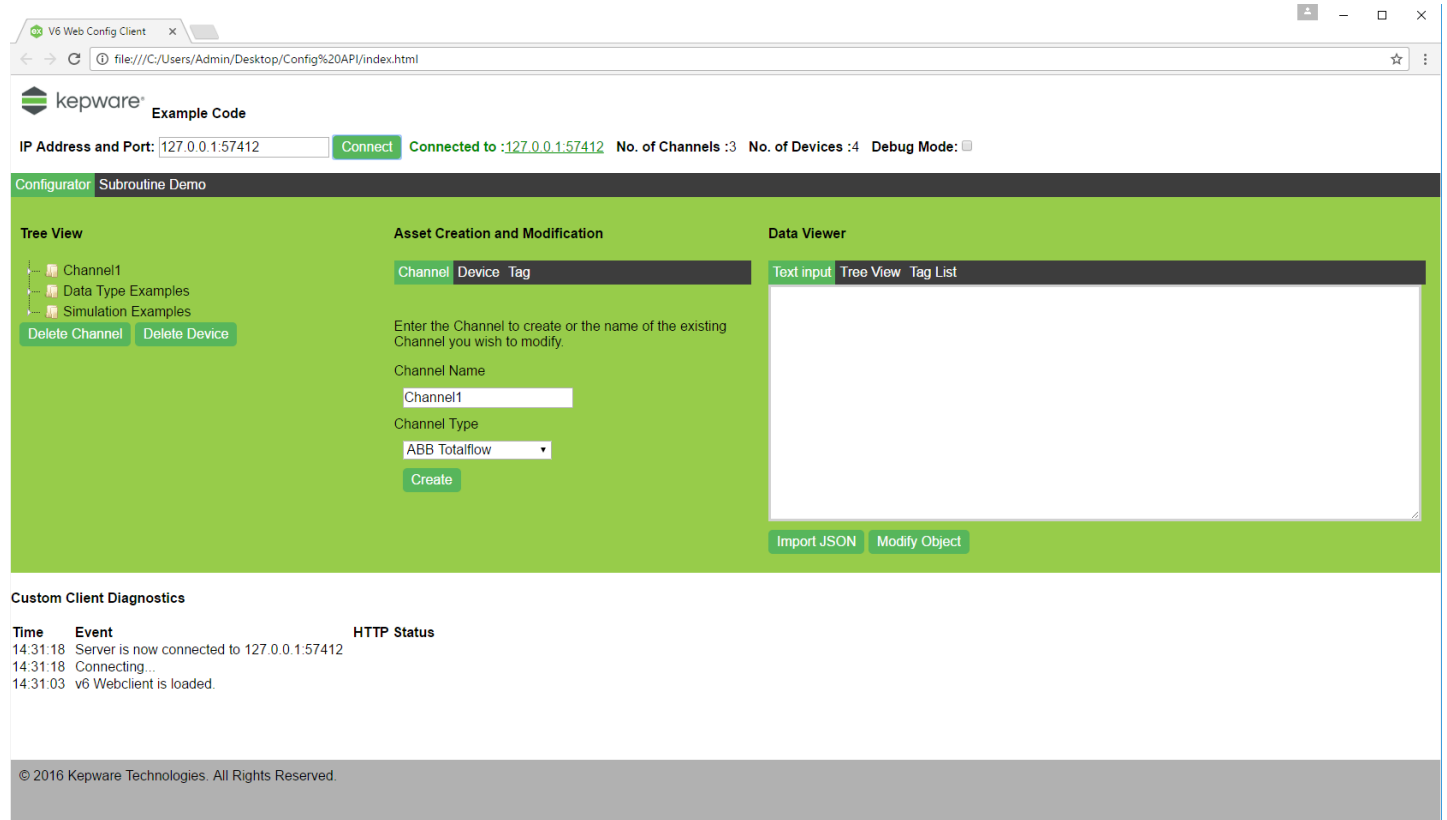
- Gain detailed feature information in the KEPServerEX Version 6 product manual.

- Read Q&A: New Remote Programmatic Configuration in KEPServerEX Version 6 to learn how the Configuration API can help with your KEPServerEX projects.

- Email sales@kepware.com to schedule an in-depth demonstration and learn how to use the Configuration API in your own environment.

Kepware is a software development business of PTC Inc. located in Portland, Maine. Kepware provides a portfolio of software solutions to help businesses connect diverse automation devices and software applications and enable the Industrial Internet of Things. From plant floor to wellsite to windfarm, Kepware serves a wide range of customers in a variety of vertical markets including Manufacturing, Oil & Gas, Building Automation, Power & Utilities, and more. Established in 1995 and now distributed in more than 100 countries, Kepware's software solutions help thousands of businesses improve operations and decision making.

J8206–ConfigurationAPIforKEPServerEXVersion6-EN–1216

ptc