Cloud Endpoints for OpenAPI

Cloud Endpoints is an API management system that helps you secure, monitor, analyze, and set quotas on your APIs using the same infrastructure Google uses for its own APIs. Endpoints works with the Extensible Service Proxy (ESP) (/endpoints/docs/openapi/glossary#extensible_service_proxy) and the Extensible Service Proxy V2 Beta (/endpoints/docs/openapi/glossary#extensible_service_proxy_v2) (ESPv2 Beta) to provide API management. You can find out more about Endpoints, ESP, and ESPv2 Beta in About Endpoints (/endpoints/docs/openapi/about-cloud-endpoints).

Endpoints supports version 2 of the OpenAPI Specification (https://github.com/OAI/OpenAPI-Specification/blob/master/versions/2.0.md) (formerly known as the Swagger spec)—the industry standard for defining REST APIs. If you are unfamiliar with the OpenAPI Specification, see OpenAPI Overview (/endpoints/docs/openapi/openapi-overview).

This documentation set shows you how to use Endpoints with OpenAPI. For documentation on the other Endpoints options, see All Endpoints Docs (/endpoints/docs).

To get started, we recommend the following path through the documentation:

1. To see Endpoints features in action, do the Quickstart for Cloud Endpoints (/endpoints/docs/quickstart-endpoints), which uses scripts to deploy a sample API to the App Engine flexible environment.
2. Now you need to decide which compute platform you want to use for your API. To help you make that decision, see Choosing a Computing Option (/docs/choosing-a-compute-option), and see the Supported compute platforms (#supported_compute_platforms) section below.
3. After you have decided on the backend for your API, walk through a tutorial (/endpoints/docs/openapi/tutorials) for your preferred compute platform.

Supported compute platforms

Endpoints for OpenAPI depends on either ESP or ESPv2 Beta for API management. Both ESP and ESPv2 Beta are Open Source projects and are available to you in the following ways:

- A container in Google Container Registry.

    - See the ESP release notes (https://github.com/cloudendpoints/esp/releases) for the current ESP Docker image.
    - See the ESPv2 Beta release notes (https://github.com/cloudendpoints/esp/releases) for the current ESPv2 Beta Docker image.
- Source code in GitHub.
    - See the ESP README (https://github.com/cloudendpoints/esp/blob/master/README.md) for details on building ESP.
    - See the ESP README (https://github.com/GoogleCloudPlatform/esp-v2/blob/master/README.md) for details on building ESP.

You can run the ESP container on the following:

- App Engine flexible environment
- Compute Engine
- Kubernetes, including Google Kubernetes Engine
- A Linux or macOS computer or another platform (/endpoints/docs/openapi/running-esp-localdev)

You can run the ESPv2 Beta container on the following:

- App Engine
- Cloud Functions
- Cloud Run
- Cloud Run for Anthos
- GKE
- Compute Engine
- Kubernetes

These features are currently in Beta. See About Cloud Endpoints (/endpoints/docs/openapi/about-cloud-endpoints) for more.

On the App Engine flexible environment (/appengine/docs/flexible), ESP is automatically deployed for you when you add a few lines to your `app.yaml` (/appengine/docs/flexible/nodejs/reference/app-yaml) file. For more information, see Deploying your API and ESP (/endpoints/docs/openapi/deploy-api-backend#deploying_your_api_and_esp). ESPv2 Beta does not support App Engine flexible environment.

For the App Engine standard generation 1 environment (/appengine/docs/standard), you must use Endpoints Frameworks (/endpoints/docs/frameworks/about-cloud-endpoints-frameworks). If you instead deploy the container to one of the compute options above, you can proxy to either generation of App Engine standard runtime.

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