

# API Development : Create a Reverse Proxy

Duration : 15 mins

Persona : API Team

## Use case

You have a requirement to create a reverse proxy for taking requests from the Internet and forward them to an existing service. The reverse proxy should hide the complexity and interface details of the underlying service. Also Clients (mobile apps, Web apps etc.) making requests to the proxy may not be aware of the internal network and service.

## How can Apigee Edge help?

Apigee Edge enables you to quickly expose backend services as APIs. You do this by creating an API proxy that provides a facade for the backend service that you want to expose. You only need to provide the network address for the backend service, along with some information that Edge uses to create the API proxy that is exposed to developers.

The API proxy decouples your backend service implementation from the API that developers consume. This shields developers from future changes to your backend services. As you update backend services, developers, insulated from those changes, can continue to call the API uninterrupted.

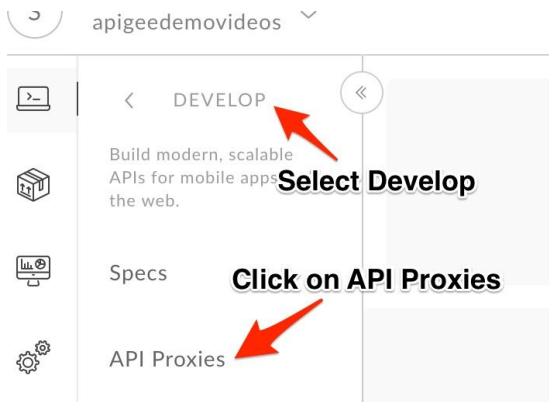
In this lab we will see how to create a reverse proxy, that routes inbound requests to existing HTTP backend services.

## Pre-requisites

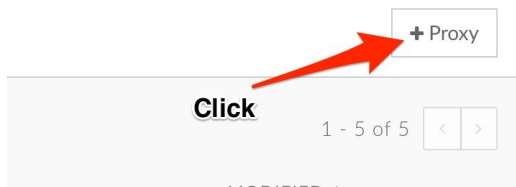
None.

## Instructions

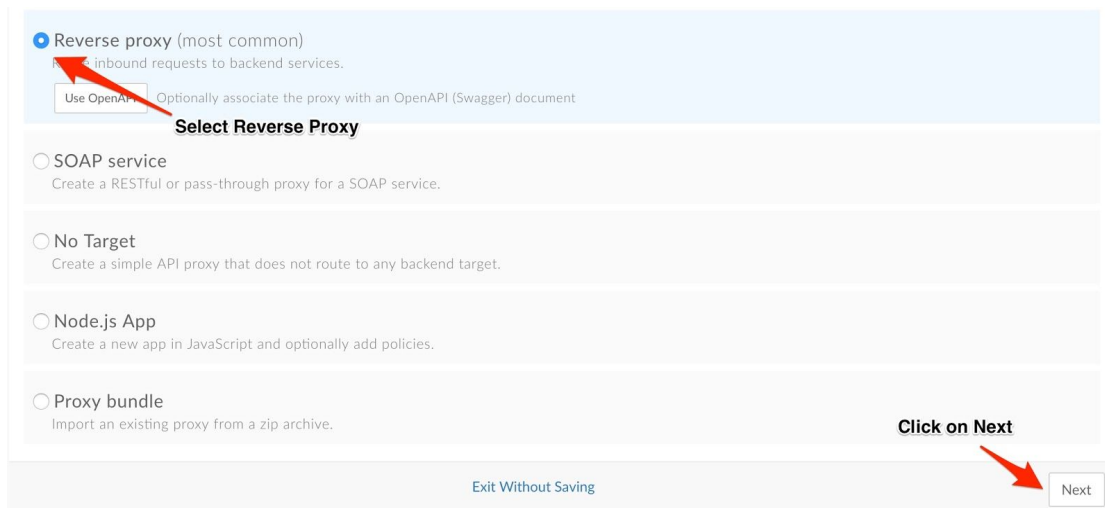
- Go to <https://apigee.com/edge> and log in. This is the Edge management UI.
- Select **Develop** → **API Proxies** in the side navigation menu



- Click **+ Proxy**. The Build a Proxy wizard is invoked.



- Select **Reverse proxy**. Click on **Next**.



- Enter details in the proxy wizard. Replace **{your-initials}** with the initials of your name.

Proxy Name: **{your\_initials}\_reverse\_proxy**

Project Base Path: /v1/**{your\_initials}\_reverse\_proxy**

Existing API: <http://apigeedemovideos-test.apigee.net/employees-api>

Type
Details
Security
Virtual Hosts
Build
Summary

Specify the proxy details.

Proxy Name \*  **Replace {your\_initials} with your name**  
Enter a valid name.  
Valid characters are letters, numbers, dash (-), and underscore (\_).

Proxy Base Path \*  **Replace {your\_initials} with your name**  
Enter a valid base path.  
A path component that uniquely identifies this API proxy. The public-facing URL of this API proxy is comprised of your organization name, an environment where this API proxy is deployed, and this Proxy Base Path. Example URL `http://apigeedemovideos-test.apigee.net/v1/{your_initials}_reverse_proxy`

Existing API \*   
Defines the target URL invoked on behalf of this API proxy. Any URL that is accessible over the open Internet can be used. Example: `https://api.usergrid.com`

Description

Previous
Exit Without Saving
Next

- Verify the values and click **Next**.
- Select **Pass through (none)** for the authorization in order to choose not to apply any security policy for the proxy. Click Next.

Type
Details
Security
Virtual Hosts
Build
Summary

Secure access for users and clients.

Authorization ☒ Pass through (none) **Select Pass through**  
☐ API Key  
☐ OAuth 2.0

Browser ☐ Add CORS headers

Previous
Exit Without Saving
Next

Click

- Go with the **default Virtual Host** configuration.

Select the virtual hosts this proxy will bind to when it is deployed. You must select at least one virtual host. [Learn more...](#)

<input checked="" type="checkbox"/>	Name	Environment	Host Aliases
<input checked="" type="checkbox"/>	default	prod	http://apigeedemovideos-prod.apigee.net
		test	http://apigeedemovideos-test.apigee.net
<input checked="" type="checkbox"/>	secure	prod	https://apigeedemovideos-prod.apigee.net
		test	https://apigeedemovideos-test.apigee.net

Previous Exit Without Saving **Click** Next

- Ensure that only the **test** environment is selected to deploy to and click **Build and Deploy**.

You are ready to build and deploy your API proxy.

Deploy Environments ☐ prod ☒ test **Select test environment**

Proxy Name sudhee\_reverse\_proxy

Proxy Type Reverse proxy

Virtual Hosts default, secure

Previous Exit Without Saving **Click** Build and Deploy

- Once API proxy has built and deployed **click** the link to view your proxy in the proxy editor.

Type > Details > Security > Virtual Hosts > Build > Summary

- ✓ Generated proxy
- ✓ Uploaded proxy
- ✓ Deployed to test

Click to view your Proxy

View [sudhee\\_reverse\\_proxy](#) proxy in the editor .

- You should see the proxy **Overview** screen

Project Save Revision 1 Deployment

Revision 1 Summary  
Created: 4 minutes ago, Updated: 4 minutes ago.  
Description: This is a reverse proxy for an existing Employee service.

Deployments

Environment	Revision	Status	URL
test	1	●	<a href="http://apigeedemovideos-test.apigee.net/v1/sudhee_reverse_proxy">http://apigeedemovideos-test.apigee.net/v1/sudhee_reverse_proxy</a> [ + ]

Proxy Endpoints

Name	Base Path	Target Endpoints
default	/v1/sudhee_reverse_proxy	default

Target Endpoints

Name	Target	Used by Proxy Endpoints
default	<a href="http://apigeedemovideos-test.apigee.net/employees-api">http://apigeedemovideos-test.apigee.net/employees-api</a>	default

OVERVIEW DEVELOP TRACE

Overview tab Develop tab Trace tab

API proxy endpoint

API Basepath

Target endpoint

Deployed environment

- Congratulations!...** You have now built a reverse proxy for an existing backend service.
- Let us test the newly built API proxy using the REST Client (<https://apigee-rest-client.appspot.com/>). Open the REST Client on a new browser window.
- Copy the URL for your API proxy.

Project Save Revision 1 Deployment

Revision 1 Summary  
Created: 4 minutes ago, Updated: 4 minutes ago.  
Description: This is a reverse proxy for an existing Employee service.

Deployments

Environment	Revision	Status	URL
test	1	●	<a href="http://apigeedemovideos-test.apigee.net/v1/sudhee_reverse_proxy">http://apigeedemovideos-test.apigee.net/v1/sudhee_reverse_proxy</a> [ + ]

Proxy Endpoints

Name	Base Path	Target Endpoints
default	/v1/sudhee_reverse_proxy	default

Copy the URL

- Paste the link on the REST Client and make a GET call

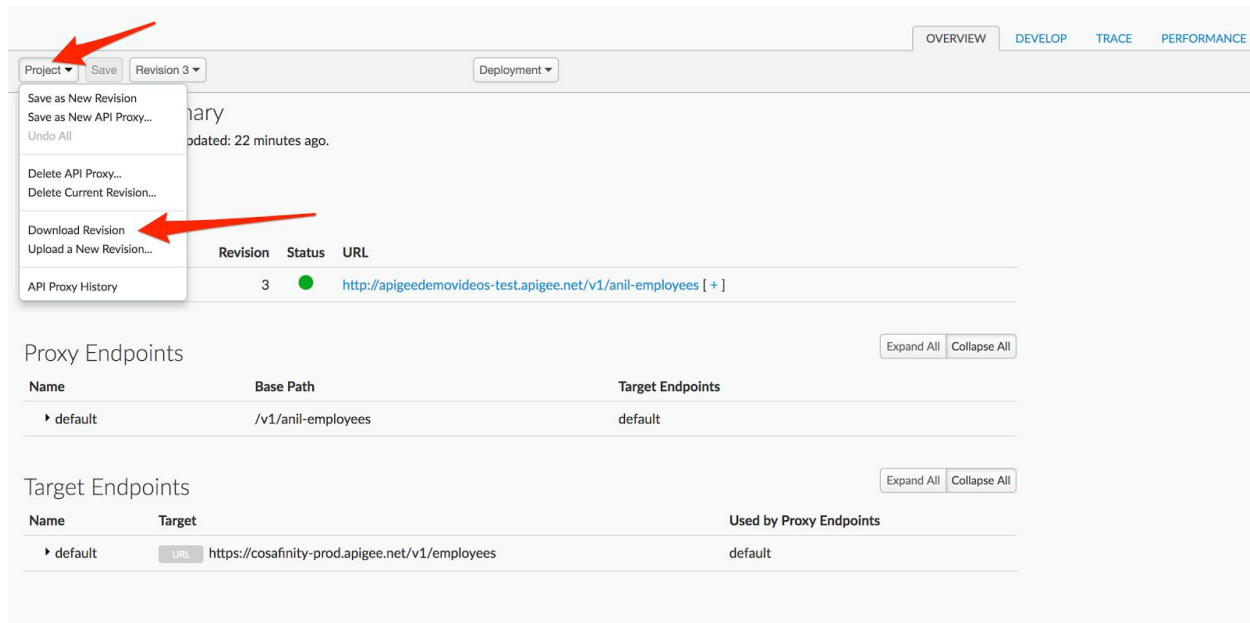


- You should see a success response similar to this -



## Save the API Proxy:

- Let's save the API Proxy locally as an API Bundle so that we can reuse it in other labs.
- Save the API Proxy by downloading the proxy bundle, See screenshot below for instructions.



## Lab Video

If you like to learn by watching, here is a short video on creating a reverse proxy in Apigee Edge  
<https://www.youtube.com/watch?v=ZtINy7n9QRc>

## Earn Extra-points

Now that you have created a reverse proxy, apply traffic management policies to protect the API proxy and then save it as a new revision. Then deploy the new revision to Test environment.

## Quiz

1. How to download (backup) the proxy you just created?
2. Can "wildcards" be used in the API proxy base path?

## Summary

That completes this hands-on lesson. In this simple lab you learned how to create a proxy for an existing backend using Apigee Edge proxy wizard.

## References

- Useful Apigee documentation links on API Proxies -

- Build a simple API Proxy - <http://docs.apigee.com/api-services/content/build-simple-api-proxy>
- Best practices for API proxy design and development - <http://docs.apigee.com/api-services/content/best-practices-api-proxy-design-and-development>
- Watch this 4minute video on “Anatomy of an API proxy” - <https://youtu.be/O5DJuCXXIRg>

## Rate this lab

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