

Hands-on Lab: Staging with ABE and webMethods Deployer

Objectives

In this hands-on lab, you will create a repository by exporting all assets from the **API Gateway Dev** environment with the **Asset Build Environment**. You will then use **webMethods Deployer** to deploy all assets to the **API Gateway Prod** environment.

Steps

1. Open Windows Services UI to double check that the following services, needed for API Gateway and the native services, are up and running. If service is not running, start the service.
 - a) **Software AG Dev Stage Integration Server 10.5**
 - b) **Software AG Prod Stage Integration Server 10.5**
 - c) **Software AG Internal Integration Server 10.5**
2. Open the **Windows Explorer** and navigate to **C:\Training\E456C04-75E\setup**.
3. Right-click file **Restore_Initial_Backup_PROD.bat** and select **Run as administrator**. This will restore the initial (empty) backup of the **API Gateway Prod Stage** database created in hands-on lab **Prepare Bookstore API on API Gateway**.
4. Logon to **API Gateway Dev** as user **Administrator/manage**.
5. In the User Menu, navigate to **Aliases**.
6. Click on **Create alias**. Provide the following properties:
 - a) **Name:** BookstoreServerForStaging
 - b) **Type:** Endpoint alias
 - c) **Description:** Fictitious server for the Bookstore API on API Gateway DEV / PROD

Create alias

Create an alias by providing the basic information, and defining the alias type

Alias details

Basic information

Technical information

Name*

BookstoreServerForStaging

Type

Endpoint alias

Description

Fictitious server for the Bookstore API on API Gateway DEV / PROD

Continue to technical information

Click **Continue to technical information**.

7. Provide the following properties:

- a) **Optimization technique:** NONE
- b) **Pass WS-Security Headers:** - Leave unchecked -
- c) **Endpoint URI:** http://dev.fictitiousbookstore.com
- d) **Connection timeout:** 100
- e) **Read timeout:** 100
- f) **Keystore alias:** - Leave blank -
- g) **Key alias:** - Leave blank -
- h) **Stage:** - Leave blank -

Click **Save**. This alias will be used at run-time on the **API Gateway Dev** and **Prod**.

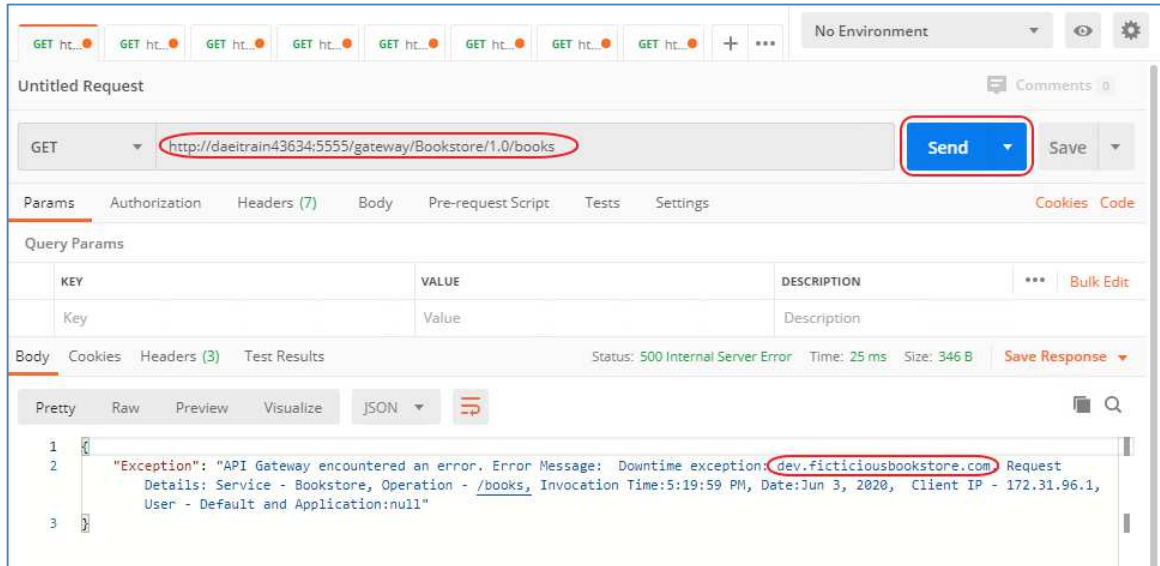
8. Navigate to **APIs**. From the list of APIs select **Bookstore** and switch to **Edit** mode.
9. Navigate to **Policies > Routing**. In the configuration of the **Straight Through Routing** policy, replace the following property:

Endpoint URI: \${BookstoreServerForStaging}/rest/bookstore/\${sys:resource_path}

Click **Save**.

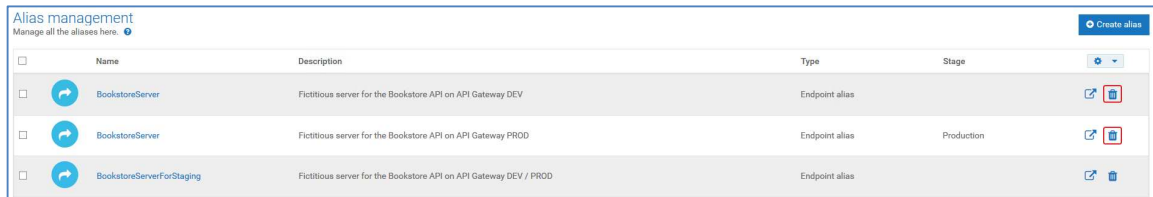
10. Navigate back to **API details** and copy the gateway endpoint.

- Open **Postman** REST client and paste the URL into the REST client and append **"/books"** to the URL; then click **Send**. This will invoke the Bookstore API on the **API Gateway Dev Stage**. As the endpoint configured in the BookstoreServer alias is invalid, the API Gateway will return an error message.

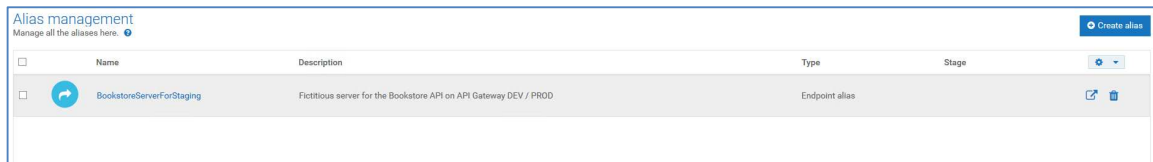


Inspect the error message and check that the **API Gateway Dev** tried to forward the request to **dev.fictitiousbookstore.com**.

- Back in **API Gateway Dev**, in the User Menu, navigate to **Aliases**.



- Delete the two instances of the **BookstoreServer** alias.



- Back in the Windows Explorer, navigate to:
C:\SoftwareAG\common\AssetBuildEnvironment\master_build
- Right-click file **build.properties** and select **Edit with Notepad++**. Go to line 63 and change the value of **enable.build.APIGateway** from **false** to **true**. Save the file. Notepad++ will ask you to open the program in Administrator mode. Click **Yes** and save the file. Close Notepad++.
- Open a Windows Command Prompt (cmd) as administrator and navigate to the Asset Build Environment bin folder:
cd \SoftwareAG\common\AssetBuildEnvironment\bin

17. Run the **Asset Build Environment** build script to create a repository including all assets from the **API Gateway Dev** environment:

```
build.bat -Dbuild.output.dir=C:\apigatewayRepoForDeployer\  
-Dapigateway.is.url=http://localhost:5555  
-Dapigateway.is.username=Administrator  
-Dapigateway.is.password=manage
```

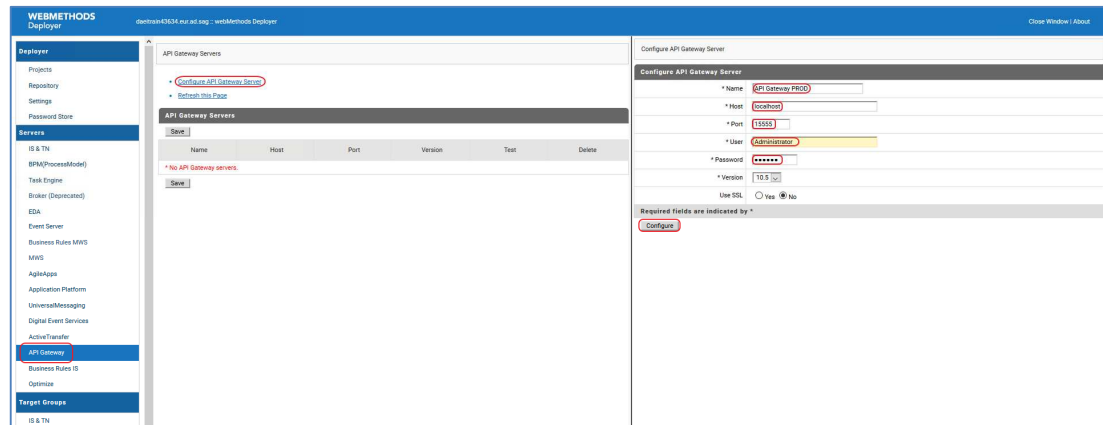
Note: You can copy and paste the command from the file **build.txt** in **C:\Training\E456C04-75E\Lab7**.

```
C:\SoftwareAG\common\AssetBuildEnvironment\bin>build.bat -Dbuild.output.dir=C:\apigatewayRepoForDeployer\ -Dapigateway.i  
s.url=http://localhost:5555 -Dapigateway.is.username=Administrator -Dapigateway.is.password=manage  
Buildfile: C:\SoftwareAG\common\AssetBuildEnvironment\master_build\build.xml  
  
check-build.prop-loc:  
[native2ascii] Converting 1 file from C:\SoftwareAG\common\AssetBuildEnvironment\master_build to C:\SoftwareAG\common\As  
setBuildEnvironment\master_build  
  
initLog:  
  
build:  
[echo] Apache Ant(TM) version 1.10.5 compiled on July 10 2018  
  
createNewBuildNumber:  
  
createBuildNumber:  
[propertyfile] Updating property file: C:\SoftwareAG\common\AssetBuildEnvironment\master_build\build.number  
  
createOutputDir:  
[echo] The directory C:\apigatewayRepoForDeployer\ already exists.  
[echo] Started APIGateway Build.....  
  
buildAPIGateway:  
  
build:  
  
validateParameters:  
  
createRepository:  
  
createRepoFromSource:  
[mkdir] Created dir: C:\SoftwareAG\common\AssetBuildEnvironment\APIGateway\temp  
  
downloadFromSourceAPIGateway:  
[java] OpenJDK 64-Bit Server VM warning: ignoring option MaxPermSize=128M; support was removed in 8.0  
  
createRepoFromLocalRepo:  
[echo] Creating Repo from Local file system at temp  
[mkdir] Created dir: C:\apigatewayRepoForDeployer\APIGateway  
[zip] Building zip: C:\apigatewayRepoForDeployer\APIGateway\APIGatewayAssets.zip  
[copy] Copying 1 file to C:\apigatewayRepoForDeployer\APIGateway  
[delete] Deleting directory C:\SoftwareAG\common\AssetBuildEnvironment\APIGateway\temp  
[echo] APIGateway Build complete.....  
  
check-build.prop-loc:  
  
createIndex:  
[createIndex] RepoIndexer is processing composite Assets for API Gateway from composite file C:\apigatewayRepoForDeploye  
r\APIGateway\APIGatewayAssets.acdl  
  
BUILD SUCCESSFUL  
Total time: 3 seconds
```

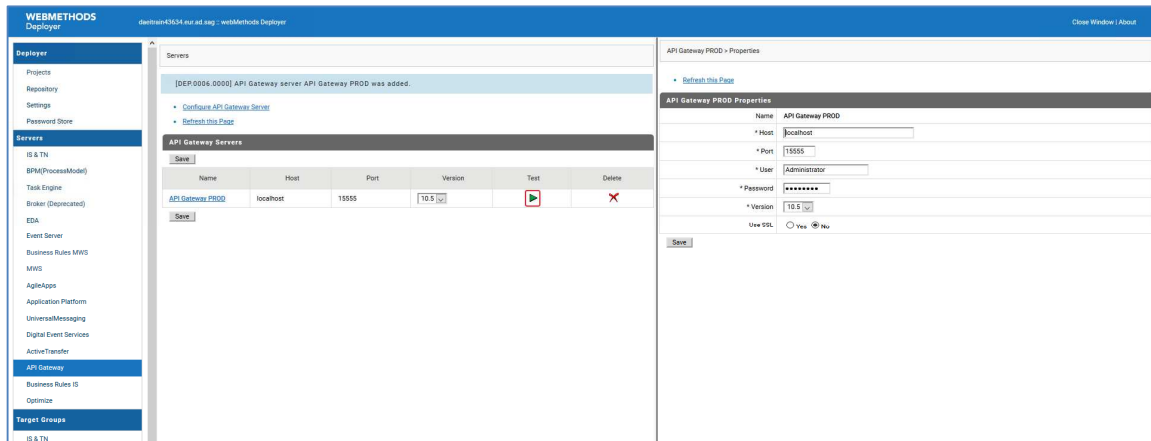
18. You might want to inspect the repository created in **C:\apigatewayRepoForDeployer**.
19. Login to Integration Server Dev Administration by opening **Firefox** and clicking the **IS Administration Dev** link. Login as Administrator (**Administrator / manage**).
20. Select **Solutions > Deployer ...**
21. In the new Firefox tab titled **webMethods Deployer**, select **Servers > API Gateway**.

22. Select **Configure API Gateway Server** and provide the following properties:

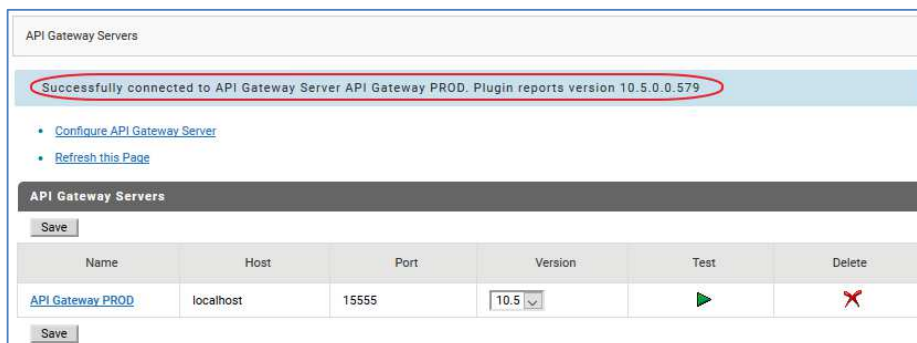
- a) **Name:** API Gateway PROD
- b) **Host:** localhost
- c) **Port:** 15555
- d) **User:** Administrator
- e) **Password:** manage
- f) **Version:** 10.5
- g) **Use SSL:** No



Click **Configure**.



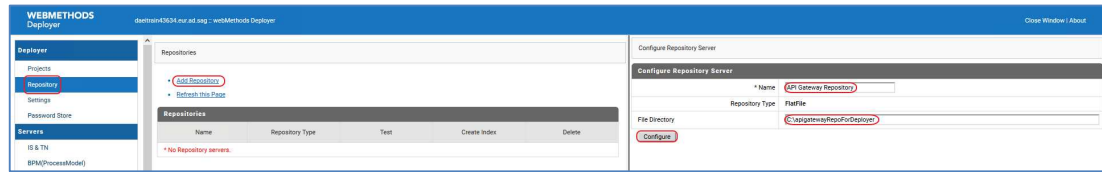
Click on the **Test** icon.



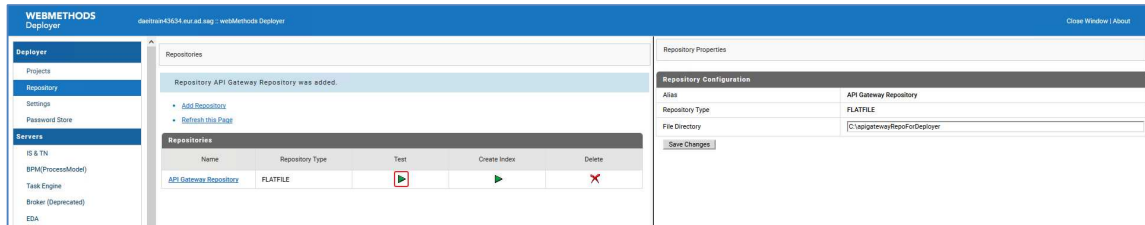
23. Select **Deployer > Repository**.

24. Select **Add Repository** and provide the following properties:

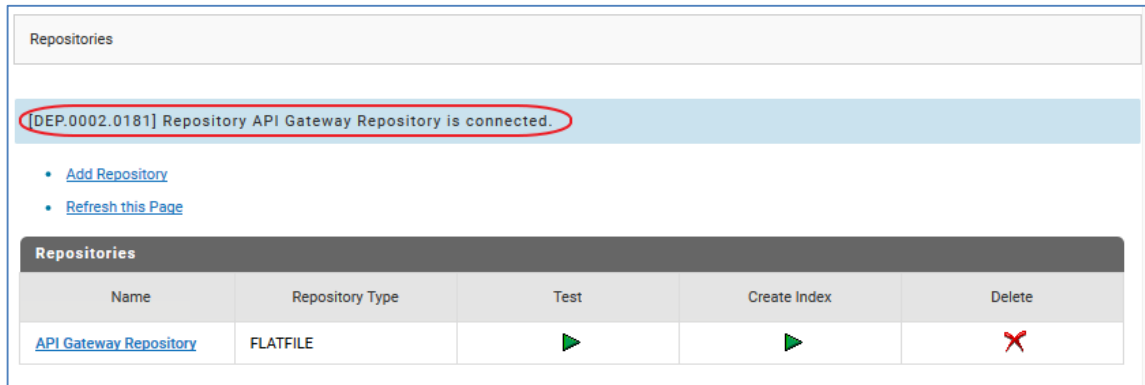
- a) **Name:** API Gateway Repository
- b) **File Directory:** C:\apigatewayRepoForDeployer



Click **Configure**.



Click on the **Test** icon.



25. Select **Deployer > Projects**.

26. Select **Create Project** and provide the following properties:

- a) **Name:** API Gateway Promotion
- b) **Description:** Promotion of API Gateway assets
- c) **Project Type:** Repository

WEBMETHODS Deployer

darfman@K3034 nur.at.sag - webMethods Deployer

Close Window | About

Deployer

- Projects
- Repository
- Settings
- Password Store

Servers

- IS & TN
- BPM(ProcessModel)
- Task Engine
- Broker (Deprecated)
- EDA

Projects

- Refresh this Page
- Create Project
- Clone Project

Create Project

* Name: API Gateway Promotion

Description: Promotion of API Gateway assets

Project Type: ☐ Runtime ☒ Repository

Required fields are indicated by *

Create

Click **Create**.

WEBMETHODS Deployer

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Close Window | About

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- Settings
- Password Store

Servers

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- BPM(ProcessModel)
- Task Engine
- Broker (Deprecated)
- EDA

Projects

- Refresh this Page
- Create Project
- Clone Project

API Gateway Promotion

[DEP 0002 0046] Successfully created project API Gateway Promotion.

API Gateway Promotion - Properties

Define

Deploy

**Locking is disabled.

- Refresh this Page
- Export Project Properties
- Import Project Properties

Project Properties

Project Name: API Gateway Promotion

Description: Promotion of API Gateway assets

Project Type: Repository

General Project Settings

Enable Project Locking: ☐ Yes ☒ No

Enable Concurrent Deployment: ☒ Yes ☐ No

Ignore Missing Dependencies: ☐ Yes ☒ No

Enable Transactional Deployment: ☒ Yes ☐ No

Save

27. Select **Define** and click **Create Set** and provide the following properties:

- a) **Set:** Deployment
- b) **Name:** myDeploymentSet
- c) **Description:** API Gateway deployment set

WEBMETHODS Deployer

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API Gateway Promotion - Define

Define

Deploy

**Locking is disabled.

- Create Set
- Refresh this Page
- Project Properties

Create Set

Source Of Truth: Repository

Set: Deployment

* Name: myDeploymentSet

Description: API Gateway deployment set

Required fields are indicated by *

Create

Click **Create**.

WEBMETHODS Deployer

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Close Window | About

Deployer

- Projects
- Repository
- Settings
- Password Store

Servers

- IS & TN
- BPM(ProcessModel)
- Task Engine
- Broker (Deprecated)
- EDA

API Gateway Promotion - Define

Define

Deploy

[DEP 0002 0046] Successfully added deployment set myDeploymentSet to project API Gateway Promotion.

**Locking is disabled.

- Create Set
- Refresh this Page
- Project Properties

Deployment Sets

Name	Description	Unresolved Dependencies	Delete
myDeploymentSet	API Gateway deployment set	✓ Check	✗

Deletion Sets

IMPORTANT: Deployer cannot detect dependencies across products. Make sure assets marked for deletion are not required by assets of other products.

Name	Description	Unresolved Dependencies	Delete
* No Deletion Sets			

myDeploymentSet - Properties

Set Properties

Name: myDeploymentSet

Source Of Truth: Repository

Description: API Gateway deployment set

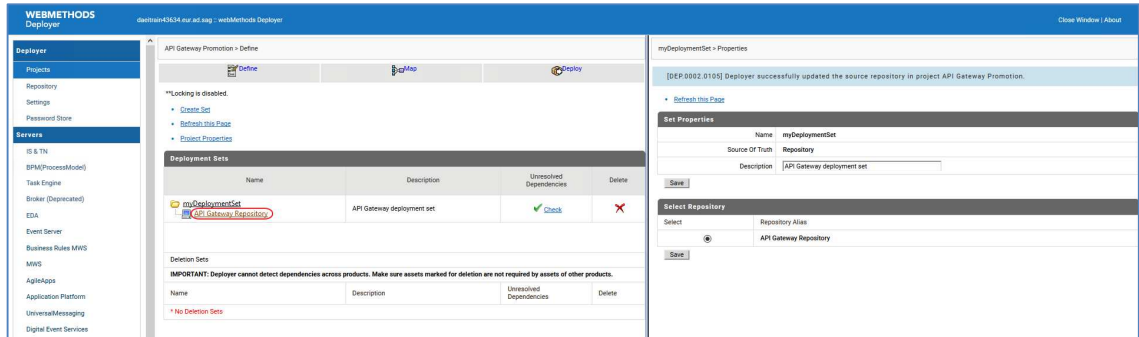
Save

Select Repository

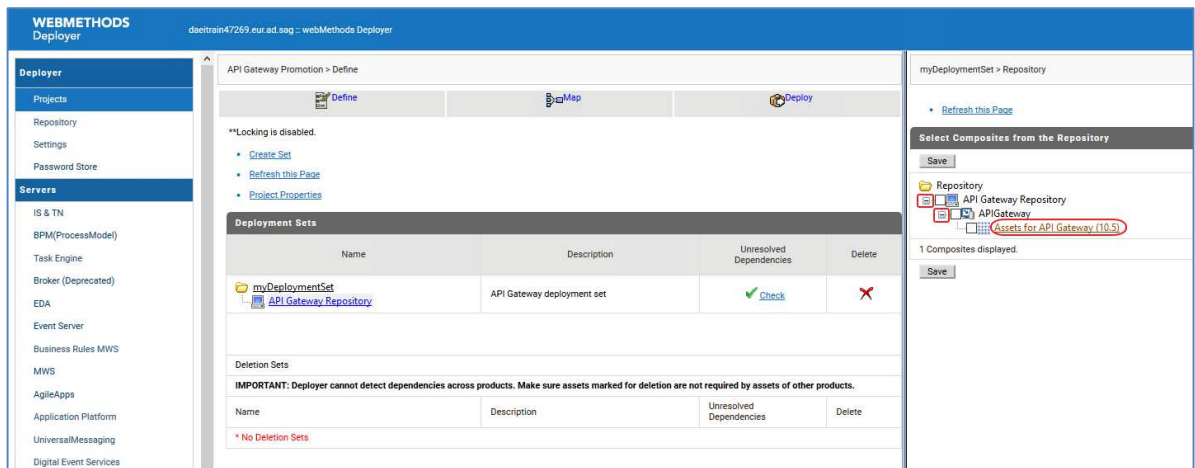
Select: ☒ API Gateway Repository

Save

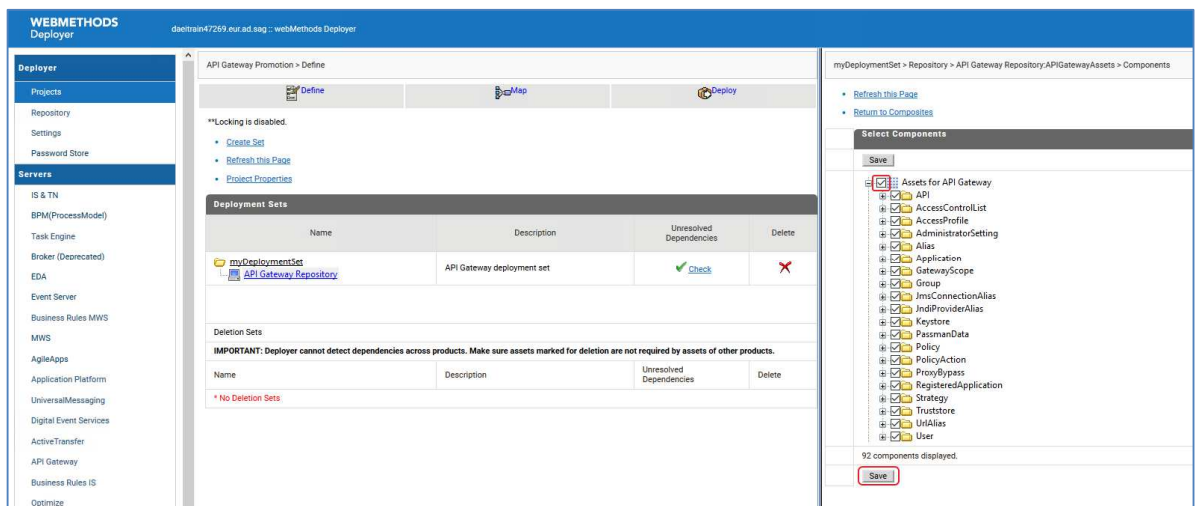
Select the **API Gateway Repository** and click **Save**.



Click on **API Gateway Repository**. Drill down into **API Gateway Repository** and **APIGateway** by clicking the Plus icons twice.



Click on **Assets for API Gateway (10.5)**.

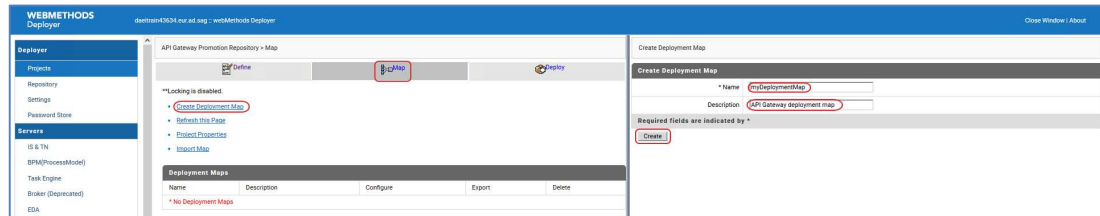


Click on the checkbox in front of **Assets for API Gateway** to select all assets. Click **Save**.

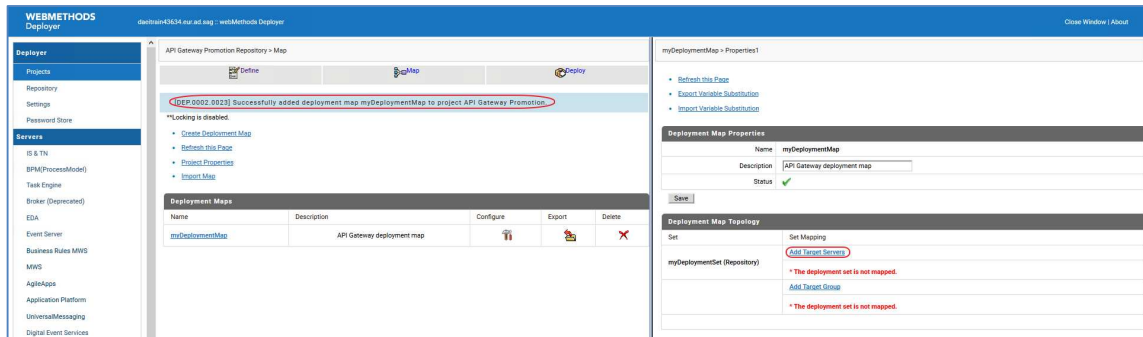
[DEP.0002.0038] Successfully updated component list in deployment set myDeploymentSet.

28. Select **Map** and click **Create Deployment Map** and provide the following properties:

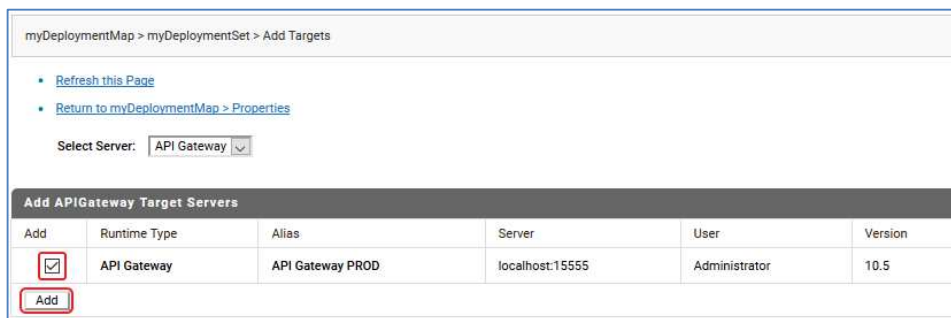
- a) **Name:** myDeploymentMap
b) **Description:** API Gateway deployment map



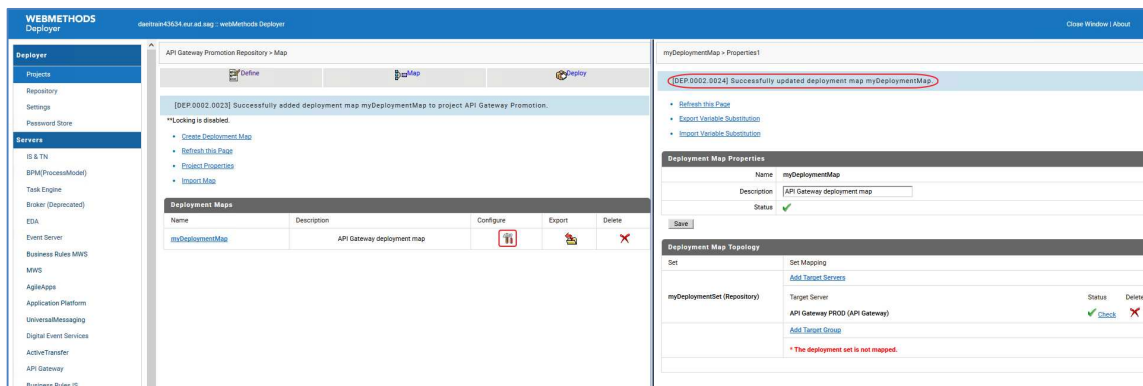
Click **Create**.



Select **Add Target Servers**.



Select the **API Gateway PROD** target server and click **Add**.



Click on the **Configure** icon.

29. In the new Firefox tab titled webMethods Deployer Package, select **API Gateway PROD (APIGateway)**, **Assets for API Gateway**, **BookstoreServerForStaging (Alias)**, and provide the following properties:

- a) **Endpoint URI for Endpoint alias BookstoreServerForStaging:**
http://prod.fictitiousbookstore.com
- b) **Optimization technique for Endpoint alias BookstoreServerForStaging:**
None
- c) **Connection timeout for Endpoint alias BookstoreServerForStaging:**
50
- d) **Read timeout for Endpoint alias BookstoreServerForStaging:**
50
- e) **Pass WS-Security Headers for Endpoint alias BookstoreServerForStaging:**
false

The screenshot shows the webMethods Deployer Package configuration interface. The top section displays three panels: 'API Gateway Promotion - myDeploymentMap - Target Servers', 'Configurable Composites', and 'APIGatewayAssets - Configurable Components'. The 'Configurable Composites' panel shows 'myDeploymentSet API Gateway Repository APIGateway' and 'Assets for API Gateway'. The 'APIGatewayAssets - Configurable Components' panel shows 'BookstoreServerForStaging (Alias)'. Below these panels, the 'Target Substitutions and Source Values' section is visible, showing a table with columns for 'Property Name', 'New Value', and 'Default Value'. The table contains the following data:

Property Name	New Value	Default Value
Endpoint URI for Endpoint alias BookstoreServerForStaging	http://prod.fictitiousbookstore.com	http://dev.fictitiousbookstore.com
Optimization technique for Endpoint alias BookstoreServerForStaging	None	None
Connection timeout for Endpoint alias BookstoreServerForStaging	50	100
Read timeout for Endpoint alias BookstoreServerForStaging	50	100
Pass WS-Security Headers for Endpoint alias BookstoreServerForStaging	false	false

At the bottom of the table, there are buttons for 'Save Substitutions' and 'Restore Defaults'.

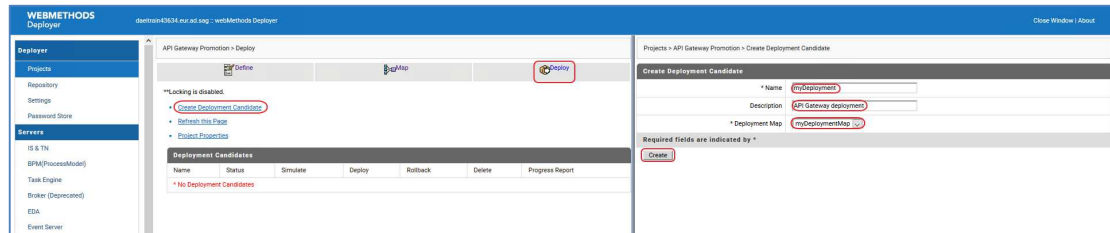
Click **Save Substitutions**.

Successfully saved properties of 'Alias.0a25e223-77ab-4f27-93f4-7485d74cc680' component(s) of 'Assets for API Gateway' composite

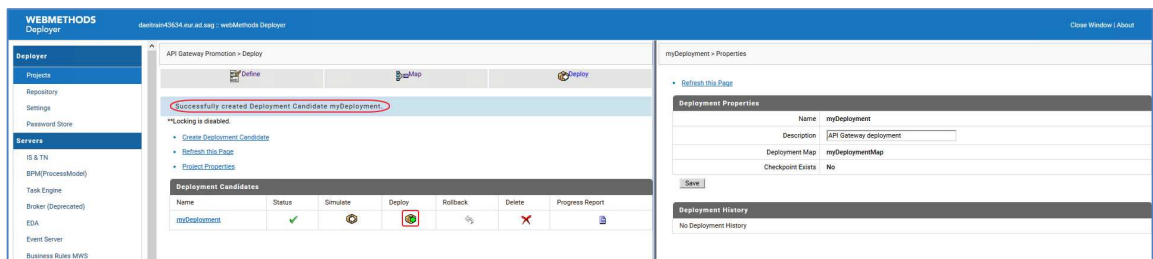
Close the **webMethods Deployer Package** browser tab.

30. Back in the **webMethods** Deployer browser tab, select **Deploy** and click **Create Deployment Candidate** and provide the following properties:

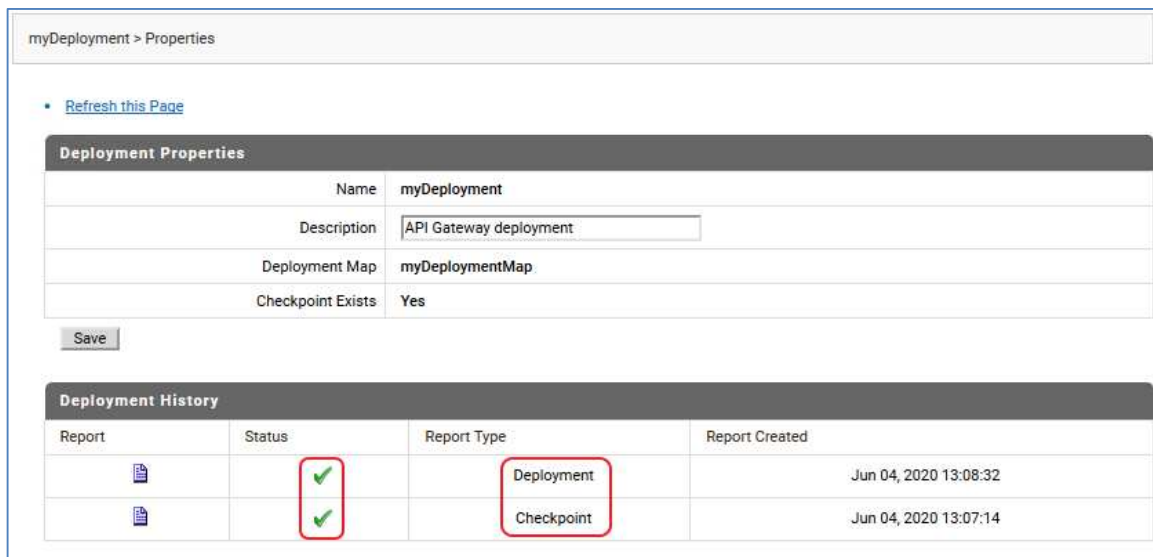
- a) **Name:** myDeployment
- b) **Description:** API Gateway deployment
- c) **Deployment Map:** myDeploymentMap



Click **Create**.



Click on the **Deploy** icon. After a few minutes the screen will be updated with the deployment result. You can click on **Refresh this Page** to enforce updating the page.

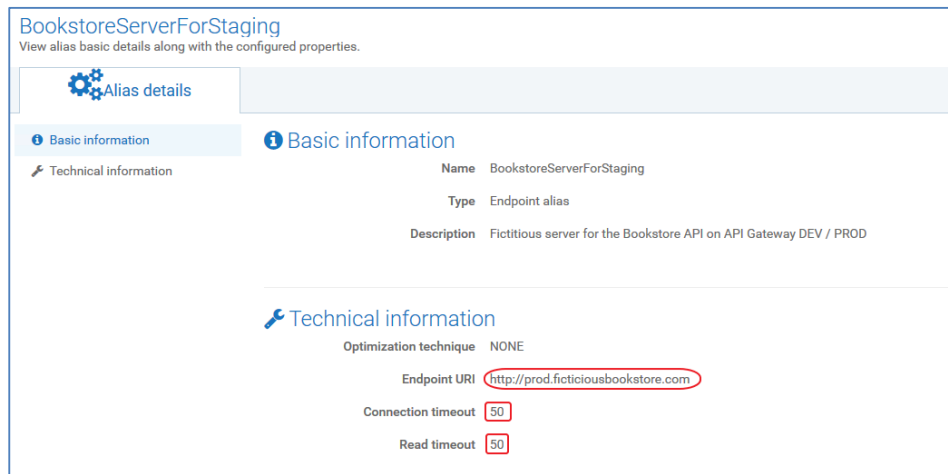


31. In a new private browser window, login to **API Gateway Prod** as user **Administrator/manage**.

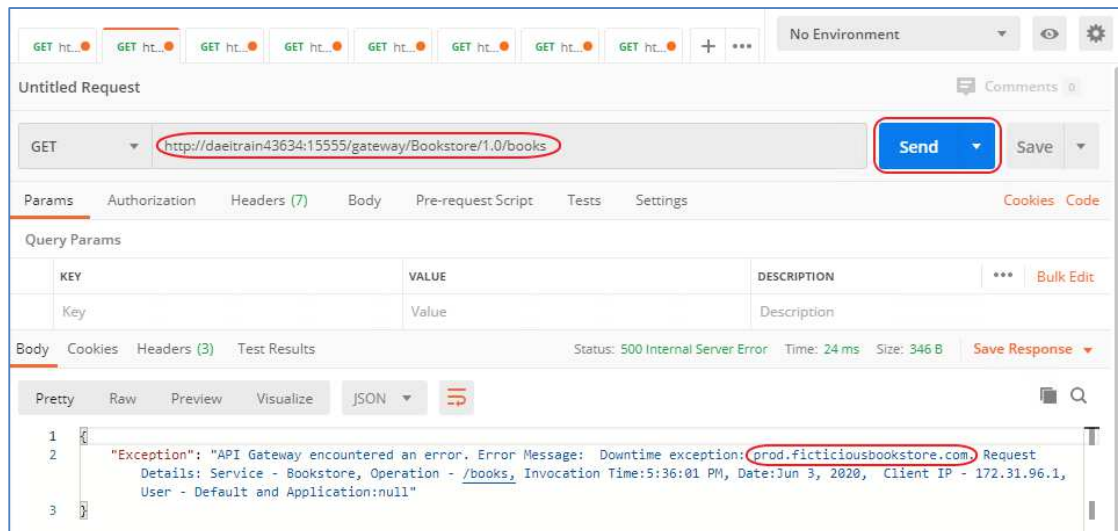
32. Navigate to **Administration > General > Extended settings** and check that the **pg_JWT_isHTTPS**, **pg_oauth2_isHTTPS** and **pg_OpenID_isHTTPS** settings were staged correctly.

33. Navigate to **Administration > Security > JWT/OAuth/OpenID** and check that that the **local** Authorization server alias was staged correctly including the **bookstore** OAuth2 scope.

34. Navigate to **OAuth/OpenID scopes** and check that that the **local:bookstore** scope mapping was staged correctly.
35. Navigate to **Policies > Global policies** and check that the **Throttling** global policy was staged correctly.
36. Navigate to **User management** and check that that the two user accounts were staged correctly.
37. Navigate to **APIs** and check that that the four APIs were staged correctly.
38. Navigate to **Aliases** and check that that the **BookstoreServerForStaging** alias was staged correctly. It should contain the values configured in the **webMethods Deployer** deployment map.



39. Open the **Bookstore** API and copy the gateway endpoint into the Windows clipboard.
40. Open **Postman** REST client and paste the URL into the REST client and append **"/books"** to the URL; then click **Send**. This will invoke the Bookstore API on the **API Gateway Prod Stage**. As the endpoint configured in the BookstoreServerForStaging alias is invalid, the API Gateway will return an error message.



Inspect the error message and check that the **API Gateway Prod** tried to forward the request to **prod.fictitiousbookstore.com**.