

Hands-on Lab - Modernize JPetStore with Microservices

Estimated Time: 30 minutes

In this lab, you will become familiar with using the Swagger UI. The Swagger UI is an open source project to visually render documentation for an API defined with the OpenAPI (Swagger) specification. REST APIs endpoint is one end of a communication channel. When an API interacts with another system, the touchpoints of this communication are considered endpoints. For APIs, an endpoint can include a URL of a server or service.

Learning Objectives:

After completing this exercise, you should be able to perform the following tasks:

- Use the Swagger UI and understand the various components.
- Access endpoints through the Swagger UI.

Pre-requisites

- You must be familiar with Docker applications and commands.
- You must have a good understanding of REST API.

Task 1 - Getting the Swagger UI

1. Open a terminal window by using the top menu in the IDE: **Terminal** > **New Terminal**.
2. In the terminal, run the following command to pull the docker image for Swagger.

```
1. 1
1. docker pull swaggerapi/swagger-ui
```

Copied! Executed!

3. To run the swagger application and access the UI, run the following command.

```
1. 1
1. docker run -dp 8080:8080 swaggerapi/swagger-ui
```

Copied! Executed!

Note - You will get a hex code in return. This means the server has successfully started.

4. Click on the button below or click the **Skills Network** icon and choose **Launch Application** from the menu and enter the port number *8080*.

Launch Application

5. It opens the browser and connects to port 8080 which is where the Swagger application is running.

Swagger UI comes up connecting to the default, preconfigured sample [PetStore JSON](#).

Swagger Petstore 0.0.0

JSON being used

Protocol Scheme

pet Everything about your Pets

POST /pet/{petId}/uploadImage uploads an image

POST /pet Add a new pet to the store

PUT /pet Update an existing pet

GET /pet/{petId/status} Finds Pets by status

GET /pet/{petId/tag} Finds Pets by tag

GET /pet/{petId} Find pet by ID

POST /pet/{petId} Updates a pet in the store with form data

DELETE /pet/{petId} Deletes a pet

store Access to Petstore orders

POST /store/order Place an order for a pet

GET /store/order/{orderId} Find purchase order by ID

DELETE /store/order/{orderId} Delete purchase order by ID

GET /store/inventory Returns pet inventories by status

user Operations about user

POST /user/createWithArray Creates list of users with given input array

POST /user/createWithList Creates list of users with given input array

GET /user/{username} Get user by user name

PUT /user/{username} Update user

DELETE /user/{username} Delete user

GET /user/login Logs user into the system

GET /user/logout Logs out current logged in user session

POST /user Create user

The page will look as shown below. It lists the following:

1. JSON being used
2. The protocol scheme
3. The end points along with the type of REST requests - GET, POST, PUT, UPDATE, DELETE
4. It also lists the Models that are used in the application

Task 2 - Accessing endpoints through the Swagger UI

As a part of this task you will-

1. Add a pet
2. Get the details of the pet by id
3. Update the pet status to **sold**
4. Get the details of the pet by id to see if the status has been updated
5. Delete the pet
6. Get the details of the pet by id to see that it doesn't exist

You will try POST, GET and DELETE endpoints.

1. Click the dropdown next to the end point **POST /pet**.

POST /pet Add a new pet to the store

2. Click on **Try it out** to add a pet.

Parameters

 Try it out

Name	Description
body * required object (body)	<p>Pet object that needs to be added to the store</p> <p>Example Value Model</p> <pre>{ "id": 0, "category": { "id": 0, "name": "string" }, "name": "doggie", "photoUrls": ["string"], "tags": [{ "id": 0, "name": "string" }], "status": "available" }</pre>

3. This will allow you to edit the values. Replace the prepopulated JSON, with the following:

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. 16
17. 17
18. 18

1. {
2.   "id": 10,
3.   "category": {
4.     "id": 1,
5.     "name": "dogs"
6.   },
7.   "name": "Hershey",
8.   "photoUrls": [
9.     "https://i.natgeo.co/n/4f5aaece-3300-41a4-b2a8-ed2708a0a27c/domestic-dog_thumb_3x2.jpg"
10.   ],
11.   "tags": [
12.     {
13.       "id": 1,
14.       "name": "Friendly"
15.     }
16.   ],
17.   "status": "available"
18. }
```

Copied!

POST /pet Add a new pet to the store

Parameters Cancel

Name	Description
body ★ required object (body)	<div>Pet object that needs to be added to the store</div> <div>Edit Value Model</div> <div><pre>{ "id": 10, "category": { "id": 1, "name": "dogs" }, "name": "Hershey", "photoUrls": ["https://i.natgeofe.com/n/4f5aaece-3300-41a4-b2a8-ed2708a0a27c/domestic-dog_thumb_3x2.jpg"], "tags": [{ "id": 1, "name": "Friendly" }], "status": "available"}</pre></div> <div>Cancel</div> <div>Parameter content type application/json ▼</div>

Execute

Clear

4. Click **Execute** to add the pet. You should see a **Server Response** with Code 200, which means the POST request was successful.

Server response

Code

Details

200

Undocumented

Response body

```
{
  "id": 10,
  "category": {
    "id": 1,
    "name": "dogs"
  },
  "name": "Hershey",
  "photoUrls": [
    "https://i.natgeofe.com/n/4f5aaece-3300-41a4-b2a8-ed2708a0a27c/domestic-dog_thumb_3x2.jpg"
  ],
  "tags": [
    {
      "id": 1,
      "name": "Friendly"
    }
  ],
  "status": "available"
}
```

Download

Response headers

```
content-type: application/json
```

- 5. Close the dropdown for **POST** /pet.
- 6. Now you will get the details of the pet you just added. Click the dropdown next to **GET** /pet/{petId}.
- 7. Click **Try it out** and enter the id of the pet whose details you want to retrieve. Our pet's id is **10**. Click **Execute**.

GET

/pet/{petId}

Find pet by ID

^

🔒

Returns a single pet

Parameters

Cancel

Name

Description

petId

★ required

integer(\$int64)

ID of pet to return

(path)

10

Execute

Clear

Responses

Response content type

application/json

- 8. In the Server Response obtained, you will see **200** indicating the request was successful and the details of the pet.

Responses

Response content typeapplication/json

Curl

```
curl -X 'GET' \
'https://petstore.swagger.io/v2/pet/10' \
-H 'accept: application/json' \
-H 'api_key: special-key'
```

Request URL

https://petstore.swagger.io/v2/pet/10

Server response

Code

Details

200

Response body

```
{
  "id": 10,
  "category": {
    "id": 1,
    "name": "dogs"
  },
  "name": "Hershey",
  "photoUrls": [
    "https://i.natgeoife.com/n/4f5aaece-3300-41a4-b2a8-ed2708a0a27c/domestic-dog_thumb_3x2.jpg"
  ],
  "tags": [
    {
      "id": 1,
      "name": "Friendly"
    }
  ],
  "status": "available"
}
```

Download

9. Close the GET /pet/[petid] dropdown.
10. You will now update the status of the pet to sold. To do this, click the dropdown next to POST /pet/[petid].
11. Now you will change the status of the pet with id 10 to sold. Click Try it out and make the changes as shown below, and then click Execute.

POST `/pet/{petId}` Updates a pet in the store with form data

Parameters

Cancel

Name	Description
petId <small>required</small> <code>integer(\$int64)</code> <small>(path)</small>	ID of pet that needs to be updated
<input type="text" value="10"/>	
name <code>string</code> <small>(formData)</small>	Updated name of the pet
<input type="text" value="Hershey"/>	
status <code>string</code> <small>(formData)</small>	Updated status of the pet
<input type="text" value="sold"/>	

Execute

Clear

12. If the update ran successfully, you get a server response with code **200**.

Responses

Response content typeapplication/json

Curl

```
curl -X 'POST' \
'https://petstore.swagger.io/v2/pet/10' \
-H 'accept: application/json' \
-H 'Content-Type: application/x-www-form-urlencoded' \
-d 'name=Hershey&status=sold'
```

Request URL

https://petstore.swagger.io/v2/pet/10

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "code": 200, "type": "unknown", "message": "10" }</pre></div><div><div>Download</div></div></div>
	<div><div>Response headers</div><div><pre>content-type: application/json</pre></div></div>

13. Close the **POST** `/pet/{petid}` dropdown.
14. You can check if the pet you just updated reflects as **sold**. Click the dropdown next to **GET** `/pet/{petid}`.
15. Enter the id of the pet whose details you want to retrieve. The pet you updated has the id **10**. Click **Execute**.

GET

/pet/{petId} Find pet by ID

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🔒

Returns a single pet

Parameters

Cancel

Name	Description
petId * required <i>integer(\$int64)</i> <i>(path)</i>	ID of pet to return
<input type="text" value="10"/>	

Execute

Clear

Responses

Response content type

application/json

16. In the Server Response obtained, you will see **200** indicating the request was successful and the details of the pet.

Responses

Response content typeapplication/json


Curl

```
curl -X 'GET' \
'https://petstore.swagger.io/v2/pet/10' \
-H 'accept: application/json' \
-H 'api_key: special-key'
```

Request URL

```
https://petstore.swagger.io/v2/pet/10
```

Server response

Code	Details
200	<div>Response body<pre>{ "id": 10, "category": { "id": 1, "name": "dogs" }, "name": "Hershey", "photoUrls": ["https://i.natgeofe.com/n/4f5aaece-3300-41a4-b2a8-ed2708a0a27c/domestic-dog_thumb_3x2.jpg"], "tags": [{ "id": 1, "name": "Friendly" }], "status": "sold" }</pre></div> <div> Download</div>

17. Close the `GET /pet/{petid}` dropdown.

18. Now that the pet is sold, you can delete it from your system. Click the dropdown next to `DELETE /pet/{petid}`. Click `Try it out` and enter the `petid` as 10.

DELETE **/pet/{petId}** Deletes a pet

Parameters

Cancel

Name	Description
api_key string (header)	<input type="text" value="api_key"/>
petId * required integer(\$int64) (path)	<div>Pet id to delete</div> <input type="text" value="10"/>

Execute

Clear

19. Click **Execute**. If the delete ran successfully, you get a server response with code **200**.

Responses

Response content type **application/json**

Curl

```
curl -X 'DELETE' \
'https://petstore.swagger.io/v2/pet/10' \
-H 'accept: application/json'
```

Request URL

```
https://petstore.swagger.io/v2/pet/10
```

Server response

Code	Details
200 <i>Undocumented</i>	<div>Response body</div> <div><pre>{ "code": 200, "type": "unknown", "message": "10" }</pre></div> <div><div>Download</div></div>

20. You can check if the pet you just deleted, has been removed from the system. Click the dropdown next to **GET /pet/{petId}**.

21. Enter the id of the pet whose details you want to retrieve. The pet you deleted has the id **10**. Click **Execute**.

GET

/pet/{petId} Find pet by ID

⬆️🔒

Returns a single pet

Parameters

Cancel

Name	Description
petId * required <i>integer(\$int64)</i> <i>(path)</i>	ID of pet to return

10

Execute

Clear

Responses

Response content type application/json

22. In the Server Response obtained you will see **404** indicating the request was erroneous and there is no such pet.

Responses

Response content type application/json

Curl

```
curl -X 'GET' \
  'https://petstore.swagger.io/v2/pet/10' \
  -H 'accept: application/json' \
  -H 'api_key: special-key'
```

Request URL

https://petstore.swagger.io/v2/pet/10

Server response

Code	Details
404	<div>Error: response status is 404</div> <div><div>Response body</div><div><pre>{ "code": 1, "type": "error", "message": "Pet not found" }</pre></div><div><div>📄</div><div>Download</div></div></div>

Congratulations! You have successfully completed the task.

Tutorial details

Author: Lavanaya T S

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Change Log

Date	Version	Changed by	Change Description
2023-08-22	1.0	Lavanaya T S	Initial version created
2023-11-25	1.1	Steve Hord	QA pass edits
2023-09-05	1.2	Sapthashree	Updated the docker run command