Final Project - Product Price Comparison Application using Python



Estimated Time Needed: 1.5 hours

• In this final project you will be deploying multiple microservices to create an integrated application. These components consist of two backend microservices, one developed in Python and the other in Node.js, complemented by a front-end microservice.

Objectives:

After completing this lab, you will be able to:

- Deploy Python and Node is backend microservices on IBM Cloud Code Engine.
- Deploy the frontend microservices on IBM Cloud Code Engine.

Part A: Deploying the Backend Microservices

- 1. Open the Code Engine CLI.
- 2. Deploy the microservice for Product Details, which provides API endpoints to retrieve product information.

build-source - https://github.com/ibm-developer-skills-network/dealer_evaluation_backend.git

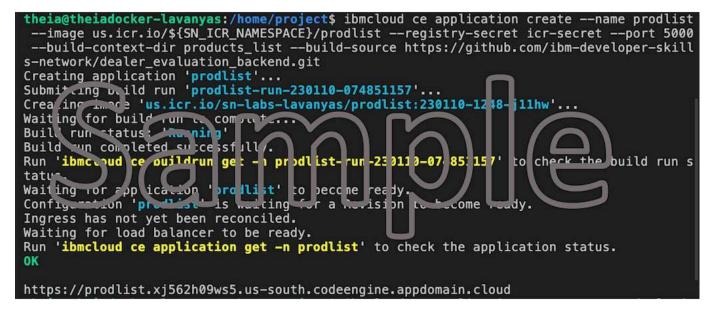
build-context-dir - products_list

port - 5000

ibmcloud ce application create --name prodlist --image us.icr.io/\${SN_ICR_NAMESPACE}/prodlist --registry-secret icr-secret --port 5000 --build-context-dir products_list --build-source https://github.

Copy the deployment URL and save it in a notepad or other text editors.

Take a screenshot of the successful deployment and save it as product_details_deploy.png.



Please note that if you encounter the error FAILED Wait failed for application 'prodlist', you can rename the application to prodlist1 and re-execute the command.

3. Deploy the microservice for Dealer Pricing, which provides API endpoints to retrieve dealer pricing information.

Note: Please use the below parameters for the deploy command

build-source - https://github.com/ibm-developer-skills-network/dealer_evaluation_backend.git

build-context-dir - dealer details

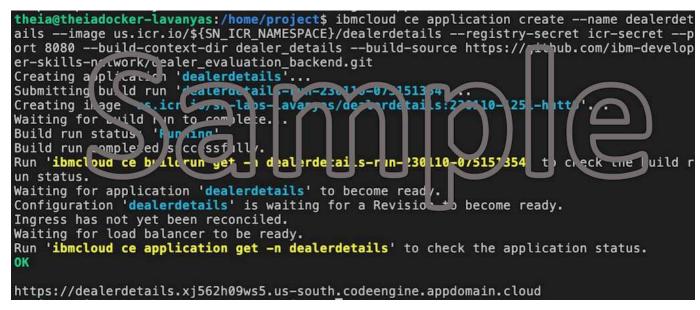
port - 8080

name - dealerdetails

image - us.icr.io/\${SN_ICR_NAMESPACE}/dealerdetails

Copy the deployment URL and save it in a notepad or other text editors.

Take a screenshot of the successful deployment and save it as dealer_details_deploy.png.



Please note that if you encounter the error FAILED Wait failed for application 'dealerdetails', you can rename the application to dealerdetails1 and re-execute the command.

Part B: Deploy the Frontend Microservice

1. Open new terminal, go to /home/project directory.

cd /home/project

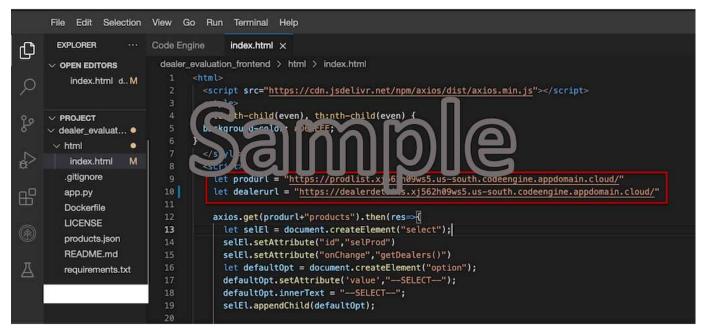
2. Clone the repository https://github.com/ibm-developer-skills-network/dealer_evaluation_frontend.git in your /home/project directory.

Take a screenshot of the successful git cloning and save it as git_clone.png.

```
theiagtheiadocker-lavanyas:/home/project$ git_clone https://github.com/ibm-deverger-skills-network/dealer_evaluation_frontend.git Cloning into 'dealer_evaluation_frontend'.
remote: Enumerating objects: 16, done.
remote: Counting objects: 100% (16/16), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 16 (delta 2), reused 14 (delta 2), reused 15 (delta 2), reused 16 (delta 2), reused 17 (delta 2), reused 18 (delta 2), reused 19 (delta 2), reused 19
```

- 3. Change to the dealer_evaluation_frontend directory.
- 4. Update the index.html file with the deployment URLs obtained from the microservice deployments. (http://localhost:5000/ and http://localhost:8080/), copy the deployment URLs you copied in the appropriate location. Make sure you end the URLs with a /.

Take a screenshot of the changes and save it as index urlchanges.png.



5. Deploy the Dealer Evaluation frontend microservice by pointing the build-source to the current directory.

build-source - .

port - 5001

name - frontend

image - us.icr.io/\${SN_ICR_NAMESPACE}/frontend

Take a screenshot of the successful deployment and name it frontend_deploy.png.

```
theia@theiadocker-lavanyas:/home/project/dealer_evaluation_frontend$ ibmcloud ce application create --name_frontend ---ima
ge us.icr.io/${SN_ICR_NAMESPACE}/frontend --registry-secret icr-secret --port 5001 --build-source . Creating application 'frontend'...
Packaging files to upload from source path '.'...
Submitting build run
                                d-run-230110-080653852
Creating image 'us.ir.io/sn- abs-lavanyas/frontend:230110-1306-lcccz'...
Waiting for build r n to complete.
Build run status: '
Build run completed uccessfully.
                                             -r n-: 301 .0-0 065 (852
Run 'ibmcloud ce buila. 'n get -n from
                                                                         ch
Waiting for application 'n ont nd
Configuration 'frontend' is wa t ng
Ingress has not yet become corci ed
Waiting for load balacer to be ready
Run 'ibmcloud ce application get -n frontend' to check the application's atus.
https://frontend.xj562h09ws5.us-south.codeengine.appdomain.cloud
```

Please note that if you encounter the error FAILED Wait failed for application 'frontend', you can rename the application to frontend1 and re-execute the command.

- 6. Click the link to load the homepage. Please note the page takes time to load the first time you access it.
- 7. Click the products drop down to see if the products have been populated.

Take a screenshot of the home page showing the products list and name it homepage.png.





8. Choose a specific dealer for the product and verify the price is displayed.

Take a screenshot of the entire page showing the product chosen, and dealers that supply the listed product returned by the microservice and name it product_dealer.png.



Products price comparison

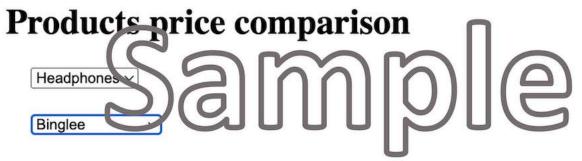


9. After the dealers dropdown populates, choose a particular dealer for the product and see if the price charged by that dealer is displayed.

Allow 10 to 20 secs to load the page.

Take a screenshot of the entire page showing the product chosen, dealer chosen, and the price returned by the microservice and name it product_dealer_price.png.





Headphones costs \$30 at Binglee

10. Choose All Dealers option for a product (make sure you choose a product which has more than one dealer). Pricing of all dealers offering the product should be shown on the screen.

Take a screenshot of the entire page showing the product chosen, All Dealers option chosen, and the prices charged by all dealers returned by the microservice and name it product_all_dealers_prices.png.

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Products price comparison



Congratulations! You have completed the Final project!

Summary:

In this lab, you've successfully deployed multiple microservices to build an integrated application. This includes two backend microservices, one developed in Python and the other in Node.js, along with a front-end microservice.

Author(s)

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