# Deploying your first application on Code Engine using Python



**Estimated Time: 15 mins**

In this lab you will learn how to deploy a **Hello World** web application from GitHub on Code Engine. IBM Cloud Code Engine has been made available to you through this lab environment.
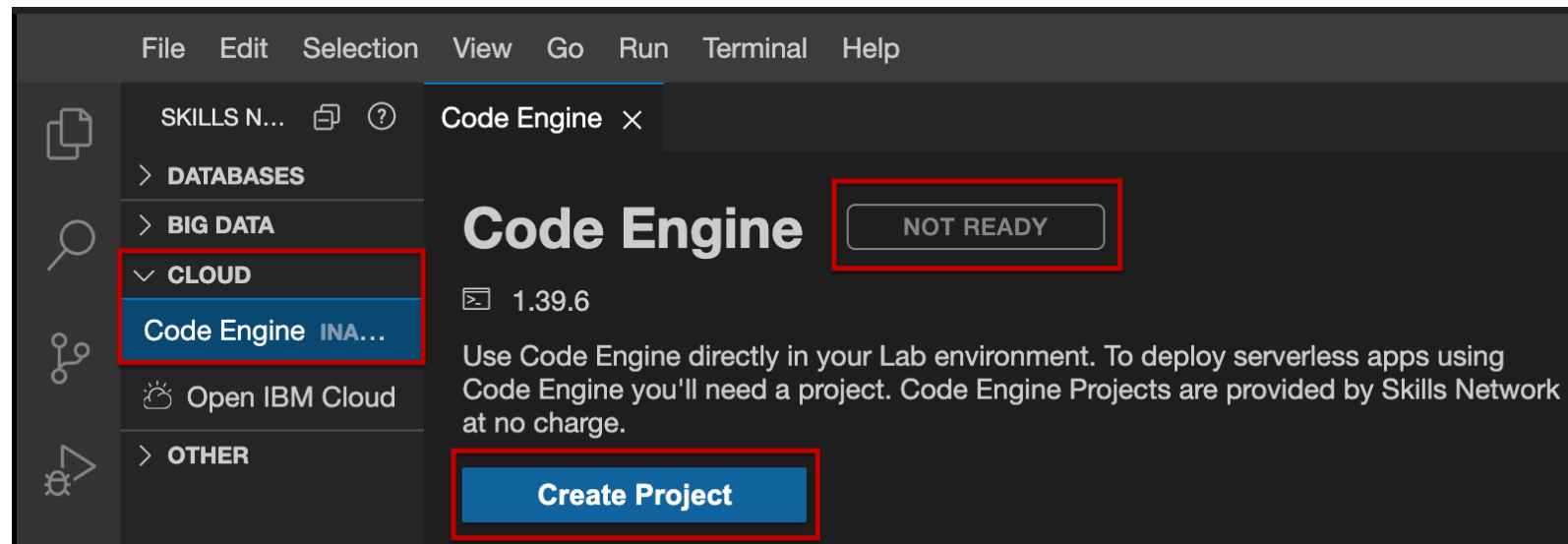
## Learning Objectives:
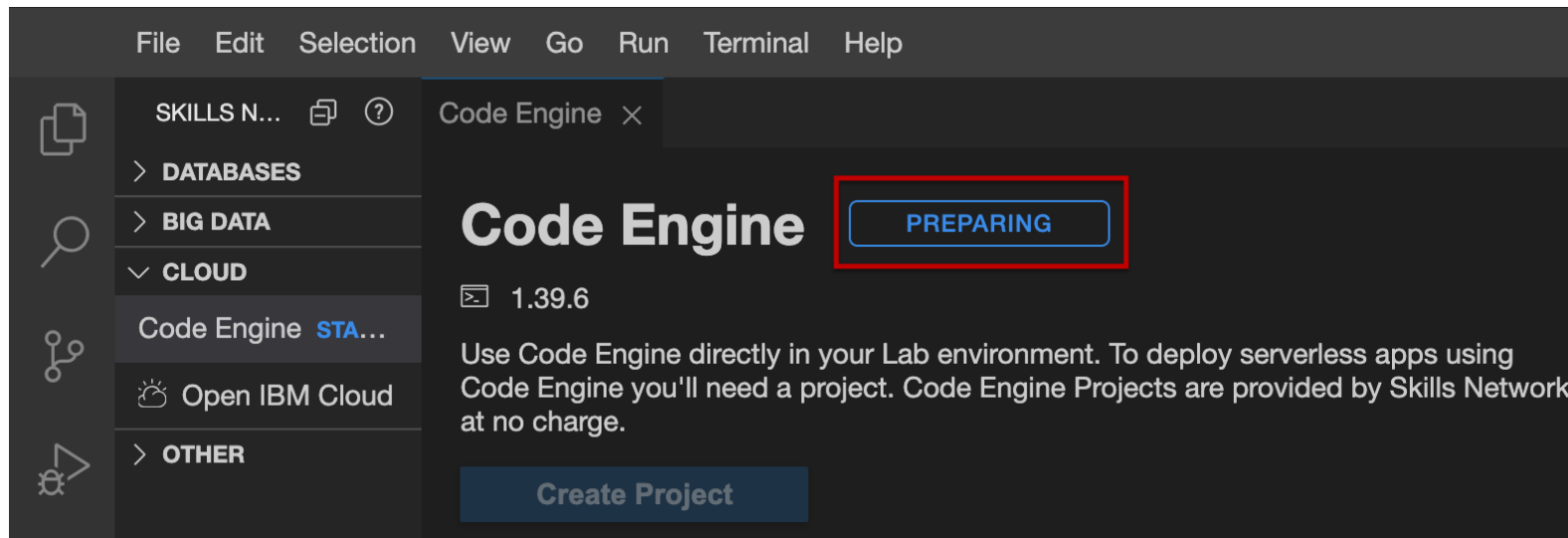
After completing this lab you will be able to:

1. Start Code Engine service to create applications

2. Use the code engine service to deploy an application and create a remote access URL for the application.

3. List the applications you have deployed.

# Setting up Code Engine

1. On the menu in your lab environment, click `Cloud` dropdown and choose `Code Engine`. The code engine set up panel comes up. Click `Create Project`.



2. The code engine environment takes a while to prepare. You will see the progress status being indicated in the set-up panel.

3. Once the code engine set up is complete, you can see that it is active. Click on `Code Engine CLI` to begin the pre-configured CLI in the terminal below.

4. You will observe that the pre-configured CLI startup and the home directory is set to the current directory. As a part of the pre-configuration, the project has been set up and Kubeconfig is set up. The details that are shown on the terminal.

```
ibmcloud ce project current
theia@theiadocker-lavanyas:/home/project$ ibmcloud ce project current
Getting the current project context...
OK

Name:        Code Engine - sn-labs-lavanyas
ID:          ee5183a9-4516-4bd1-8f4e-4a8615cafd81
Subdomain:   v9oc2xsjxaz
Domain:      us-south.codeengine.appdomain.cloud
Region:      us-south

Kubernetes Config:
Context:               v9oc2xsjxaz
Environment Variable:  export KUBECONFIG="/home/theia/.bluemix/plugins/code-engine/Code Engine -
 sn-labs-lavanyas-ee5183a9-4516-4bd1-8f4e-4a8615cafd81.yaml"
theia@theiadocker-lavanyas:/home/project$ 
```

## Deploying the first application

You will now use the CLI to deploy the Hello World application.

1. Run the following command to see the list of applications that exist.

   ```
   ibmcloud code-engine application list
   ```

There will be no applications if this is the first time you are running the lab.

2. You can alternatively use the short for `ibmcloud ce app` in the place of `ibmcloud code-engine application`.

   ```
   ibmcloud ce app list
   ```

3. You will deploy the simple flask web application which serves one REST API endpoint at the root level and returns the string `Hello World`. The code is provided in [https://github.com/ibm-developer-skills-network/danum-pythonflaskserver](https://github.com/ibm-developer-skills-network/danum-pythonflaskserver). Run the following command to deploy the application.

   ```
   ibmcloud ce application create --name helloworld --build-source https://github.com/ibm-developer-skills-network/danum-pythonflaskserver  --image us.icr.io/${SN_ICR_NAMESPACE}/helloworld --registry-secret icr-secret --port 5000
   ```

4. You will see that the command creates the application and also internally sets up the required infrastructure. It takes a few seconds and it finally gives a confirmation along with the URL.
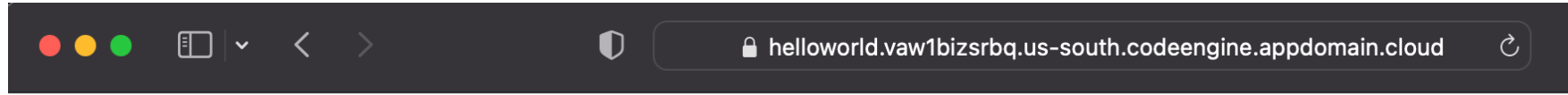


5. Press ctrl(Windows)/cmd(Mac) and the link that is created. Alternatively copy the link and paste it in a browser page and press enter. The `hello world` application page renders as given below.

# Hello World!

6. To get the details of the application, run the following command.

```
ibmcloud ce app get --name helloworld
```

It gives detailed information about the application including the time of creation, resources used, number of instances etc.,

Congratulations! You have completed this lab successfully and deployed your first application on Code Engine.

## Author(s)

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