

# Steps to deploy python app on IBM Cloud Foundry

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1. Create an IBM Cloud account <https://cloud.ibm.com/> for yourself.

2. Select python runtime and click on Create button :

The screenshot shows the IBM Cloud Foundry overview page at https://cloud.ibm.com/cloudfoundry/overview. The left sidebar is dark with the 'Cloud Foundry' tab selected. The main content area has a light gray background. At the top, there's a search bar and navigation links for Catalog, Docs, Support, Manage, and Account (Abhilash Kale's Account). A blue 'Create' button is visible on the right. Below the header, there are two sections: 'Explore our capabilities' and 'Application Runtimes'. The 'Explore our capabilities' section contains four cards: 'Access Control' (lock icon), 'Automatic Health Management' (refresh icon), 'Automatic Placement' (cloud icon), and 'Automatic Routing' (cloud icon). The 'Application Runtimes' section lists several runtime environments: Java Liberty (java liberty), Python (py Python), Node.js (js SDK for Node.js), Ruby (rb Ruby), .NET Core (dotnet ASP.NET Core), Tomcat (tomcat Tomcat), and Go (go Go). The Python runtime is highlighted with a gray background.

### 3. Select 256MB plan [ Can try selecting below 256MB as well but I tried on 256MB plan ] :

The screenshot shows the IBM Cloud Catalog interface. The user is creating a new application named ".py Create a Cloud Foundry Sample App". They have selected the "Create" tab and are currently choosing a location. The dropdown menu shows "London (eu-gb)" as the selected option. Below this, they are selecting a pricing plan. Under the "Lite" category, the "256 MB" plan is selected. The "Features" column indicates that "Lite apps are free" and can use up to 256 MB of memory. The "Pricing" column shows "Free". To the right, a "Summary" panel provides details about the app: "Cloud Foundry App", "Location: London", "Plan: Lite", "Runtime: Python", "Domain: eu-gb.cf.appdomain.cloud", "Org: [redacted]@gmail.com", and "Space: dev". At the bottom right of the main form, there are buttons for "Create", "Add to estimate", and "View terms".

### 4. Add further details for the application as below and click on Create button :

Lite apps sleep after 10 days of development inactivity.

**Standard**  
256 MB+ \$0.07 USD/GB-Hour

Configure your resource

Select a runtime

- .py Python** Community
- .js SDK for Node.js™**
- .net ASP.NET Core**
- .go Go** Community
- .php PHP** Community
- .rb Ruby** Community
- tomcat** Tomcat Community
- java** Liberty for Java™

App name: python-helloworld-abhilashkkale

Host name: python-helloworld-abhilashkkale

Domain: eu-gb.cf.appdomain.cloud

Choose an organization: abhilashkale@gmail.com

Choose a space: dev

Tags: env:dev

**Create**

Add to estimate

View terms

## 5. Once the creation is done, a guideline appears asking you to install the prerequisites like IBM Cloud CLI and create some config files. :

Important: IBM® Cloud Foundry Enterprise Environment is deprecated. The most recent documentation updates for IBM Cloud Foundry can be found in the [IBM Cloud Foundry version of this information](#).

**Getting started with Python**  
Last Updated: 2021-01-20

Congratulations, you deployed a Hello World sample application on IBM Cloud®! To get started, follow this step-by-step guide. Or, [download the sample code](#) and explore on your own.

By following the Python getting started tutorial, you'll set up a development environment, deploy an app locally on IBM Cloud®, and integrate a database service in your app.

**Tip:** Throughout these docs, references to the Cloud Foundry CLI are now updated to the IBM Cloud CLI! The IBM Cloud CLI has the same familiar Cloud Foundry commands, but with better integration with IBM Cloud accounts and other services. Learn more about getting started with the IBM Cloud CLI in this tutorial.

**Before you begin**

You'll need the following:

- [IBM Cloud account](#)
- [IBM Cloud CLI](#)
- [Git](#)
- [Python](#)

**Step 1: Clone the sample app**

First, clone the repo and change to the directory where the sample app is located.

```
git clone https://github.com/IBM-Cloud/get-started-python
```

**6. On navigating to dashboard a new service is created as shown below :**

The screenshot shows the IBM Cloud Foundry Public dashboard. At the top, there is a message: "IBM Cloud Foundry Public is updating some important pricing details. Please see full details." Below this, there is a table with the following data:

Name	Group	Location	Offering	Status	Tags
python-helloworld-abhilashkkale	@gmail.com / dev	London	Python	Started	-

**7. Clone the python-helloworld exercise repo, from  
[https://github.com/udacity/nd064\\_course\\_1\\_cloud\\_foundry.git](https://github.com/udacity/nd064_course_1_cloud_foundry.git)**

**8. Open the code in editor, I have opened it in IntelliJ, and the manifest.yml file under the cloned repository looks like as below :**

```
nd064_course_1_cloud_foundry > manifest.yml
Project > nd064_course_1_cloud_foundry > manifest.yml > manifest.yml > app.py
1 applications:
2   - name: python-helloworld
3     memory: 64M
4     disk_quota: 256M
5     buildpacks:
6       - python_buildpack
```

**9. Rename it to the app name created earlier ( in my case its python-helloworld-abhilashkkale)**

```
nd064_course_1_cloud_foundry > manifest.yml
Project  manifest.yml  Procfile  app.py
1 applications:
2   - name: python-helloworld-abhilashkkale
3     memory: 64M
4     disk_quota: 256M
5     buildpacks:
6       - python_buildpack
7
```

10. The port under app.py is changed to 8080 from 5000, because, the readiness probe fails otherwise hence :

```
nd064_course_1_cloud_foundry > app.py
Project  manifest.yml  Procfile  app.py
15
16     app.logger.info('Status request successfull')
17     return response
18
19 @app.route('/metrics')
20 def metrics():
21     response = app.response_class(
22         response=json.dumps({"status": "success", "code": 0, "data": {"UserCount": 140, "UserCountActive": 23}}),
23         status=200,
24         mimetype='application/json'
25     )
26
27     app.logger.info('Metrics request successfull')
28     return response
29
30 @app.route("/")
31 def hello():
32     app.logger.info('Main request successfull')
33
34     return "Hello World!"
35
36 if __name__ == "__main__":
37     ## stream logs to a file
38     logging.basicConfig(filename='app.log', level=logging.DEBUG)
39
40     app.run(host='0.0.0.0', port=8080)
41
```

11. Download IBM Cloud CLI from <https://cloud.ibm.com/docs/cli?topic=cli-getting-started>, install ( reboot your computer, if windows. Mine is Mac hence not required for me) :

The screenshot shows a web browser displaying the IBM Cloud CLI documentation at <https://cloud.ibm.com/docs/cli?topic=cli-getting-started>. The page is titled "Step 1: Run the installation command". It contains instructions for Mac OS and Linux, a curl command for Linux, a tip for manual installation, and instructions for Windows 10 Pro. Step 2: Verify the installation is also shown. A sidebar on the right lists navigation options like "Before you begin", "Step 1", "Step 2", "Step 3", and "Next steps".

## 12. Run the command as per step1 :

```
abhilashkkale@Abhilash-Kale ~ % curl -sL https://raw.githubusercontent.com/IBM-Cloud/ibm-cloud-developer-tools/master/linux-installer/idt-installer | bash
[main] ---=[ IBM Cloud Developer Tools for Linux/MacOS - Installer, v1.2.3 ]=---
[install] Starting Update...
[install] Note: You may be prompted for your 'sudo' password during install.
[install_darwin_deps] Checking for external dependency: brew
[install_darwin_deps] Installing/updating external dependency: git
[install_darwin_deps] Installing/updating external dependency: docker
[install_darwin_deps] Installing/updating external dependency: kubectl
[install_ibmcloud] Installing IBM Cloud 'ibmcloud' CLI for platform 'Darwin'...
[install_ibmcloud] Downloading and installing IBM Cloud 'ibmcloud' CLI from: https://clis.cloud.ibm.com/install/osx
Current platform is macOS. Downloading corresponding IBM Cloud CLI...
% Total    % Received % Xferd  Average Speed   Time   Time  Current
          Dload  Upload   Total Spent  Left  Speed
100  102     0    0      113      0 --:--:--:--:--:--:--:--  113
100 13.8M  100 13.8M     0  3627k      0  0:00:03  0:00:03 --:--:-- 6683K
Download complete. Executing installer...
Password:
installer: Package name is IBM Cloud Command Line Interface
installer: Installing at base path /
installer: The install was successful.
Install complete.
[install_ibmcloud] IBM Cloud 'ibmcloud' CLI install finished.
[install_ibmcloud] Running 'ibmcloud --version'...
ibmcloud version 2.0.0+5a84b9b-2021-06-23T20:06:11+00:00
[install_plugins] Installing/updating IBM Cloud CLI plugins...
[install_plugins] Checking status of plugin: cloud-functions
[install_plugins] Installing plugin 'cloud-functions'
Looking up 'cloud-functions' from repository 'IBM Cloud'...
Plug-in 'cloud-functions/wsk/functions/fn 1.0.56' found in repository 'IBM Cloud'
Attempting to download the binary file...
13.99 MiB / 13.99 MiB [=====] 100.00% 1s
14671200 bytes downloaded
Installing binary...
OK
Plug-in 'cloud-functions 1.0.56' was successfully installed into /Users/abhilashkkale/.bluemix/plugins/cloud-functions. Use 'ibmcloud plugin show cloud-functions' to show its details.
[install_plugins] Checking status of plugin: cloud-object-storage
[install_plugins] Installing plugin 'cloud-object-storage'
Looking up 'cloud-object-storage' from repository 'IBM Cloud'...
Plug-in 'cloud-object-storage 1.2.3' found in repository 'IBM Cloud'
Attempting to download the binary file...
12.22 MiB / 12.22 MiB [=====] 100.00% 1s
12809328 bytes downloaded
Installing binary...
OK
Plug-in 'cloud-object-storage 1.2.3' was successfully installed into /Users/abhilashkkale/.bluemix/plugins/cloud-object-storage. Use 'ibmcloud plugin show cloud-object-storage' to show its details
[install_plugins] Checking status of plugin: container-registry
[install_plugins] Installing plugin 'container-registry'
Looking up 'container-registry' from repository 'IBM Cloud'...
Plug-in 'container-registry 0.1.53e' found in repository 'IBM Cloud'
Attempting to download the binary file...
26.27 MiB / 26.27 MiB [=====] 100.00% 3s
27547088 bytes downloaded
Installing binary...
OK
```

**13. Ensure if installed by running command `ibmcloud dev help` and it populates details if installed properly as shown below :**

```
Installing binary...
OK
Plug-in 'container-service 1.0.295' was successfully installed into /Users/abhilashkkale/.bluemix/plugins/container-service. Use 'ibmcloud plugin show container-service' to show its details.
[install_plugins] Running 'ibmcloud plugin list'...
Listing installed plug-ins...

Plugin Name          Version  Status  Private endpoints supported
cloud-functions/wsk/functions/fn   1.0.56   false
cloud-object-storage           1.2.3    false
container-registry            0.1.536   true
container-service/kubernetes-service 1.0.295   false

[install_plugins] Finished installing/updating plugins
[env_setup] WARN: Please restart your shell to enable 'ic' alias for ibmcloud!
[install] Install finished.
[main] ---== Total time: 52 seconds ==---
abhilashkkale@abhilash-Kale ~ % ibmcloud dev help
NAME:
  ibmcloud dev - Create, develop, deploy, and monitor applications

USAGE:
  ibmcloud dev command [arguments...] [command options]

VERSION:
  2.8.0

COMMANDS:

App Commands
  build      Build the application in a local container
  code       Download the code from an application
  console    Opens the IBM Cloud console for an application
  create     Creates a new application and gives you the option to add services
  debug      Debug your application in a local container
  delete     Deletes an application from your resource group
  deploy     Deploy an application to IBM Cloud
  diag       This command displays version information about installed dependencies
  edit       Add or remove services for your application
  enable    [Beta] Add IBM Cloud files to an existing application
  get-credentials Gets credentials required by the application to enable use of connected services
  list       List all IBM Cloud applications in a resource group
  run        Run your application in a local container
  shell      Open a shell into a local container
  status    Check the status of the containers used by the CLI
  stop       Stop a container
  test       Test your application in a local container
  view       View the URL of your application

DevOps Commands
  pipeline-get  [Beta] Get details for a pipeline
  pipeline-log   Get logs for a pipeline, stage, job, or job execution
  pipeline-open   View a pipeline in the browser
  pipeline-run   [Beta] Run a pipeline
  toolchain-delete Delete a toolchain
  toolchain-get   [Beta] Get details for a toolchain in a resource group
  toolchain-open  View a toolchain in the browser
```

**14. Change folder path to cloned repo containing python-helloworld exercise :**

**15. Login to IBM Cloud by typing "`ibmcloud login`".**

**16. Enter your email and password to login and select region 7 as that of your IBM account app :**

```
[abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud login  
API endpoint: https://cloud.ibm.com
```

Email> [REDACTED]@gmail.com

[Password]>  
Authenticating...  
**OK**

Targeted account **Abhilash Kale's Account (e0351ecd698a4b209bdccb52a2362f55)**

Select a region (or press enter to skip):

1. au-syd
2. in-che
3. jp-osa
4. jp-tok
5. kr-seo
6. eu-de
7. eu-gb
8. ca-tor
9. us-south
10. us-east
11. br-sao

Enter a number> 7

Targeted region **eu-gb**

```
API endpoint: https://cloud.ibm.com  
Region: eu-gb  
User: [REDACTED]@gmail.com  
Account: Abhilash Kale's Account (e0351ecd698a4b209bdccb52a2362f55)  
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'  
CF API endpoint:  
Org:  
Space:
```

**17. Push/Deploy the git repo code to IBM cloud by `ibmcloud cf push`. In my case I got error as No CF API endpoint set.**

**18. I resolved that error by command `ibmcloud target --cf-api 'https://api.eu-gb.cf.cloud.ibm.com'` as shown below :**

```
[abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push  
FAILED  
No CF API endpoint set.  
Use 'ibmcloud target --cf-api ENDPOINT [-o ORG] [-s SPACE]' to target Cloud Foundry, or 'ibmcloud target --cf' to target it interactively.  
[abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud target --cf-api 'https://api.eu-gb.cf.cloud.ibm.com'  
Targeted Cloud Foundry (https://api.eu-gb.cf.cloud.ibm.com)
```

```
API endpoint: https://cloud.ibm.com  
Region: eu-gb  
User: [REDACTED]@gmail.com  
Account: Abhilash Kale's Account (e0351ecd698a4b209bdccb52a2362f55)  
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'  
CF API endpoint: https://api.eu-gb.cf.cloud.ibm.com (API version: 2.164.0)  
Org:  
Space:
```

**19. Later when retried to deploy, I got another error : The Cloud Foundry CLI isn't installed in the IBM Cloud CLI . I resolved that by `ibmcloud cf install` command as shown below :**

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push  
Invoking 'cf push'...
```

**FAILED**

The Cloud Foundry CLI isn't installed in the IBM Cloud CLI. Use '`ibmcloud cf install`' to install it.

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf install  
Attempting to download Cloud Foundry CLI...  
8.93 MiB / 8.93 MiB [=====]  
9359027 bytes downloaded  
Saved in /Users/abhilashkkale/.bluemix/tmp(cf_581599139/cf-cli_6.53.0_osx.tgz)  
Installing Cloud Foundry CLI...  
OK  
Cloud Foundry CLI is successfully installed
```

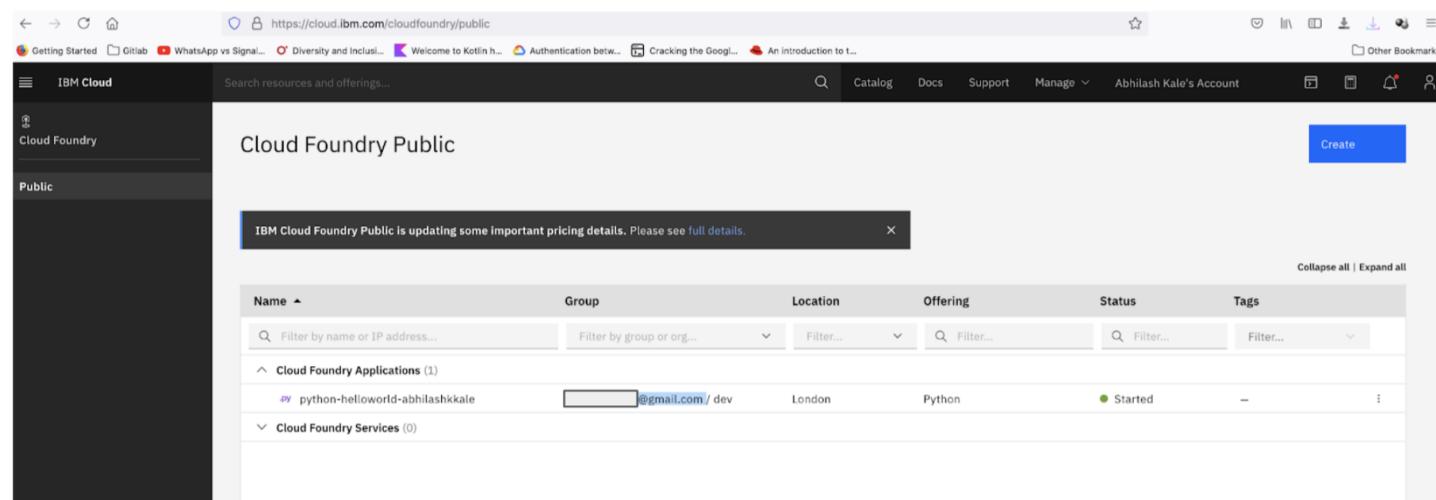
**20. Retrying to deploy again ended-up in next error : No org targeted, use 'cf target -o ORG' to target an org. :**

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push  
Invoking 'cf push'...
```

No org targeted, use 'cf target -o ORG' to target an org.

**FAILED**

**21. I resolved this error by checking the org name in my IBM cloud account which was my mail id**



Name	Group	Location	Offering	Status	Tags
python-helloworld-abhilashkkale	@gmail.com	dev	Python	Started	-

```
[abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud target -o [REDACTED]@gmail.com  
Targeted org [REDACTED]@gmail.com
```

API endpoint: <https://cloud.ibm.com>  
Region: eu-gb  
User: [REDACTED]@gmail.com  
Account: Abhilash Kale's Account (e0351ecd698a4b209bdccb52a2362f55)  
Resource group: No resource group targeted, use 'ibmcloud target -g RESOURCE\_GROUP'  
CF API endpoint: <https://api.eu-gb.cf.cloud.ibm.com> (API version: 2.164.0)  
Org: [REDACTED]@gmail.com  
Space:

**22. Retrying to deploy again ended-up in next error : No space targeted, use 'cf target -s SPACE' to target a space.**

**23. I found the space name under dashboard which is dev as highlighted below :**

The screenshot shows the IBM Cloud Foundry Public dashboard. On the left, there's a sidebar with 'IBM Cloud' and 'Cloud Foundry' sections, and a 'Public' tab is selected. The main area is titled 'Cloud Foundry Public'. A message at the top says 'IBM Cloud Foundry Public is updating some important pricing details. Please see full details.' Below this, there's a table with the following data:

Name	Group	Location	Offering	Status	Tags
python-helloworld-abhilashkkale	[REDACTED]@gmail.com / dev	London	Python	Started	-

There are also sections for 'Cloud Foundry Applications (1)' and 'Cloud Foundry Services (0)'.

## 24. So running command : *ibmcloud target -s dev* , resolved the error, as shown below :

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push  
Invoking 'cf push'...
```

```
No space targeted, use 'cf target -s SPACE' to target a space.
```

**FAILED**

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud target -s dev  
Targeted space dev
```

<b>API endpoint:</b>	<a href="https://cloud.ibm.com">https://cloud.ibm.com</a>
<b>Region:</b>	eu-gb
<b>User:</b>	[REDACTED]@gmail.com
<b>Account:</b>	Abhilash Kale's Account (e0351ecd698a4b209bdccb52a2362f55)
<b>Resource group:</b>	No resource group targeted, use ' <b>ibmcloud target -g RESOURCE_GROUP</b> '
<b>CF API endpoint:</b>	<a href="https://api.eu-gb.cf.cloud.ibm.com">https://api.eu-gb.cf.cloud.ibm.com</a> (API version: 2.164.0)
<b>Org:</b>	[REDACTED]@gmail.com
<b>Space:</b>	dev

## 25. The app deployment failed due to some error in my code

```
abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push  
Invoking 'cf push'...  
Pushing from manifest to org [REDACTED]@gmail.com / space dev as [REDACTED]@gmail.com...  
Using manifest file /Users/abhilashkkale/Documents/UDACITY/CLOUD-native-fundamentals/nd064_course_1_cloud_foundry/manifest.yml  
Getting app info...  
Updating app with these attributes...  
  name: python-helloworld-abhilashkkale  
  path: /Users/abhilashkkale/Documents/UDACITY/CLOUD-native-fundamentals/nd064_course_1_cloud_foundry  
  buildpacks:  
+  python_buildpack  
  command: python server.py  
-  disk_quota: 10  
+  disk_quota: 256M  
  health_check_type: port  
  instances: 1  
-  memory: 256M  
+  memory: 64M  
  stack: cflinuxfs3  
  routes:  
    python-helloworld-abhilashkkale.eu-gb.cf.appdomain.cloud  
  
Updating app python-helloworld-abhilashkkale...  
Mapping routes...  
Comparing local files to remote cache...  
Packaging files to upload...  
Uploading files...  
  4.01 KiB / 4.01 KiB [=====] 100.00% 1s  
Waiting for API to complete processing files...  
Stopping app...  
  
Staging app and tracing logs...  
  Downloading python_buildpack...  
  Downloaded python_buildpack  
  Cell 7f8c402c-73b7-4f13-be9d-cfb853fbdf51 creating container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be  
  Cell 7f8c402c-73b7-4f13-be9d-cfb853fbdf51 successfully created container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be  
  Downloading build artifacts cache...  
  Downloading app package...  
  Downloading app package (4K)  
  Downloaded build artifacts cache (56.8M)  
  ----> Python Buildpack version 1.7.37  
  ----> Supplying Python  
  ----> Installing python 3.8.9  
  Copy [/tmp/cache/final/dependencies/0778e658884e2117993ca2fa764d79eeef2305b04afe0cbc03ab550ad51a0f/python_3.8.9_linux_x64_cflinuxfs3_e9cbc67f.tgz]  
  ----> Installing pip-pop 0.1.5  
  Copy [/tmp/cache/final/dependencies/9cccaa4f7bf62ebaebcac7637839c718827190df8d438d6847fa00fc8841628d/pip-pop-0.1.5-b32efe86.tar.gz]  
  ----> Running Pip Install  
  Collecting Flask==1.1.1  
    Downloading Flask-1.1.1-py2.py3-none-any.whl (94 kB)  
  Collecting werkzeug==0.16.1  
    Downloading Werkzeug-0.16.1-py2.py3-none-any.whl (327 kB)  
  Collecting pytest==4.6.11  
    Downloading pytest-4.6.11-py2.py3-none-any.whl (231 kB)  
  Collecting Jinja2>=2.10.1  
    Downloading Jinja2-3.0.1-py3-none-any.whl (133 kB)
```

```

Copy [/tmp/cache/final/dependencies/9cceaa4f7bf62ebaebcac7637039c718827190df8d438d6847fa00fc8841628d/pip-pop-0.1.5-b32efe86.tar.gz]
----> Running Pip Install
Collecting Flask==1.1.1
  Downloading Flask-1.1.1-py2.py3-none-any.whl (94 kB)
Collecting werkzeug==0.16.1
  Downloading Werkzeug-0.16.1-py2.py3-none-any.whl (327 kB)
Collecting pytest==4.6.11
  Downloading pytest-4.6.11-py2.py3-none-any.whl (231 kB)
Collecting Jinja2>=2.10.1
  Downloading Jinja2-3.0.1-py3-none-any.whl (133 kB)
Collecting click>=5.1
  Downloading click-8.0.1-py3-none-any.whl (97 kB)
Collecting itsdangerous>=0.24
  Downloading itsdangerous-2.0.1-py3-none-any.whl (18 kB)
Collecting wcwidth
  Downloading wcwidth-0.2.5-py2.py3-none-any.whl (38 kB)
Collecting more_itertools>=4.0.0; python_version > "2.7"
  Downloading more_itertools-8.8.0-py3-none-any.whl (48 kB)
Collecting py>=1.5.0
  Downloading py-1.18.0-py2.py3-none-any.whl (97 kB)
Collecting packaging
  Downloading packaging-21.0-py3-none-any.whl (40 kB)
Collecting pluggy<1.0,>=0.12
  Downloading pluggy-0.13.1-py2.py3-none-any.whl (18 kB)
Collecting six>=1.10.0
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Collecting attrs>=17.4.0
  Downloading attrs-21.2.0-py2.py3-none-any.whl (53 kB)
Collecting atomicwrites>=1.0
  Downloading atomicwrites-1.4.0-py2.py3-none-any.whl (6.8 kB)
Collecting MarkupSafe>=2.0
  Downloading MarkupSafe-2.0.1-cp38-cp38-manylinux2010_x86_64.whl (30 kB)
Collecting pyparsing>=2.0.2
  Downloading pyparsing-2.4.7-py2.py3-none-any.whl (67 kB)
Installing collected packages: werkzeug, MarkupSafe, Jinja2, click, itsdangerous, Flask, wcwidth, more-itertools, py, pyparsing, packaging, pluggy, six, attrs, atomicwrites, pytest
WARNING: The script flask is installed in '/tmp/contents80072034/deps/0/python/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
WARNING: The scripts py.test and pytest are installed in '/tmp/contents80072034/deps/0/python/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed Flask-1.1.1 Jinja2-3.0.1 MarkupSafe-2.0.1 atomicwrites-1.4.0 attrs-21.2.0 click-8.0.1 itsdangerous-2.0.1 more-itertools-8.8.0 packaging-21.0 pluggy-0.13.1 py-1.10.0
0 pyparsing-2.4.7 pytest-4.6.11 six-1.16.0 wcwidth-0.2.5 werkzeug-0.16.1
Exit status 0
Uploading droplet, build artifacts cache...
Uploading droplet...
Uploading build artifacts cache...
Uploaded build artifacts cache (57.2M)
Uploaded droplet (58.5M)
Uploading complete
Cell 7f8c402c-73b7-4f13-be9d-cfb853fdb515 stopping instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
Cell 7f8c402c-73b7-4f13-be9d-cfb853fdb515 destroying container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
Cell 7f8c402c-73b7-4f13-be9d-cfb853fdb515 successfully destroyed container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be

Waiting for app to start...
Start unsuccessful
TIP: use 'cf logs python-helloworld-abhilashkkale --recent' for more information
FAILED
```

## 26. I fixed the error by investigating the logs using command :

*cf logs python-helloworld-abhilashkkale --recent*

```

abhilashkkale@Abhilash-Kale nd064_course_1.cloud.foundry % ibmcloud cf logs python-helloworld-abhilashkkale --recent
Invoking 'cf logs python-helloworld-abhilashkkale --recent'...
Retrieving logs for app python-helloworld-abhilashkkale in org [REDACTED]@gmail.com / space dev as [REDACTED]@gmail.com...
th_check_type="port", "instances">=1, "memory">>64, "name">>"python-helloworld-abhilashkkale", "space_guid">>"8a44b57e-8367-47dc-bbe5-67474affc5f"}
2021-07-05T17:54:55.02+0530 [API/5] OUT Uploading bits for app with guid bf375375-37a3-4720-a80b-c3618dd59f82 {"buildpack"=>"python_buildpack", "disk_quota"=>256, "health_check_http_endpoint"=>"", "health_check_type"=>"port", "instances"=>1, "memory"=>64, "name"=>"python-helloworld-abhilashkkale", "space_guid"=>"8a44b57e-8367-47dc-bbe5-67474affc5f"}
2021-07-05T17:54:55.09+0530 [API/21] OUT Creating build for app with guid bf375375-37a3-4720-a80b-c3618dd59f82 {"state"=>"STOPPED"}
2021-07-05T17:55:00.99+0530 [API/21] OUT Updated app with guid bf375375-37a3-4720-a80b-c3618dd59f82 {"state"=>"STARTED"}
2021-07-05T17:55:01.36+0530 [STG/0] OUT Downloading python_buildpack...
2021-07-05T17:55:01.36+0530 [STG/0] OUT Cell 7ff8c02c-73b7-4f13-be9d-cfb853fdb515 creating container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
2021-07-05T17:55:02.22+0530 [STG/0] OUT Cell 7ff8c02c-73b7-4f13-be9d-cfb853fdb515 successfully created container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
2021-07-05T17:55:02.52+0530 [STG/0] OUT Downloading build artifacts cache...
2021-07-05T17:55:02.52+0530 [STG/0] OUT Downloading app package...
2021-07-05T17:55:02.59+0530 [STG/0] OUT Downloaded app package (4K)
2021-07-05T17:55:04.92+0530 [STG/0] OUT Downloaded build artifacts cache (55.8M)
2021-07-05T17:55:05.12+0530 [STG/0] OUT ----> Python Buildpack version 1.7.37
2021-07-05T17:55:05.12+0530 [STG/0] OUT ----> Supplying Python
2021-07-05T17:55:05.13+0530 [STG/0] OUT ----> Installing python 3.8.9
2021-07-05T17:55:05.13+0530 [STG/0] OUT Copy [/tmp/cache/dependencies/0778e658884e2117993ca2fa764d79eee1f2305b04afe0cbc03ab55a0ad51a0f/python_3.8.9_linux_x64_cflinuxfs3_e9cbc67f.tg
z]
2021-07-05T17:55:10.21+0530 [STG/0] OUT ----> Installing pip-pop 0.1.5
2021-07-05T17:55:10.21+0530 [STG/0] OUT Copy [/tmp/cache/dependencies/9cceaa4f7bf62ebaebac7637039c718827190df8d438d6847fa00fc8841628d/pip-pop-0.1.5-b32fe86.tar.gz]
2021-07-05T17:55:15.58+0530 [STG/0] OUT ----> Running Pip Install
2021-07-05T17:55:16.46+0530 [STG/0] OUT Collecting Flask==1.1.1
2021-07-05T17:55:16.46+0530 [STG/0] OUT Downloading Flask-1.1.1-py2.py3-none-any.whl (94 kB)
2021-07-05T17:55:16.59+0530 [STG/0] OUT Collecting werkzeug==0.16.1
2021-07-05T17:55:16.68+0530 [STG/0] OUT Downloading Werkzeug-0.16.1-py2.py3-none-any.whl (327 kB)
2021-07-05T17:55:16.79+0530 [STG/0] OUT Collecting pytest==4.6.11
2021-07-05T17:55:16.88+0530 [STG/0] OUT Downloading pytest-4.6.11-py2.py3-none-any.whl (231 kB)
2021-07-05T17:55:17.09+0530 [STG/0] OUT Collecting Jinja2>=2.10.1
2021-07-05T17:55:17.09+0530 [STG/0] OUT Downloading Jinja2-3.0.1-py3-none-any.whl (133 kB)
2021-07-05T17:55:17.31+0530 [STG/0] OUT Collecting click==5.1
2021-07-05T17:55:17.33+0530 [STG/0] OUT Downloading click-8.0.1-py3-none-any.whl (97 kB)
2021-07-05T17:55:17.41+0530 [STG/0] OUT Collecting itsdangerous>=0.24
2021-07-05T17:55:17.43+0530 [STG/0] OUT Downloading itsdangerous-2.0.1-py3-none-any.whl (18 kB)
2021-07-05T17:55:17.61+0530 [STG/0] OUT Collecting wcidwidth
2021-07-05T17:55:17.61+0530 [STG/0] OUT Downloading wcidwidth-0.2.5-py2.py3-none-any.whl (38 kB)
2021-07-05T17:55:17.75+0530 [STG/0] OUT Collecting more-itertools>4.0.0; python_version > "2.7"
2021-07-05T17:55:17.76+0530 [STG/0] OUT Downloading more_itertools-8.8.0-py3-none-any.whl (48 kB)
2021-07-05T17:55:17.89+0530 [STG/0] OUT Collecting py>=1.5.0
2021-07-05T17:55:17.91+0530 [STG/0] OUT Downloading py-1.10.0-py2.py3-none-any.whl (97 kB)
2021-07-05T17:55:18.04+0530 [STG/0] OUT Collecting packaging
2021-07-05T17:55:18.06+0530 [STG/0] OUT Downloading packaging-21.0-py3-none-any.whl (40 kB)
2021-07-05T17:55:18.12+0530 [STG/0] OUT Collecting pluggy<1.0,>=0.12
2021-07-05T17:55:18.16+0530 [STG/0] OUT Downloading pluggy-0.13.1-py2.py3-none-any.whl (18 kB)
2021-07-05T17:55:18.23+0530 [STG/0] OUT Collecting six=>1.10.0
2021-07-05T17:55:18.25+0530 [STG/0] OUT Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
2021-07-05T17:55:18.37+0530 [STG/0] OUT Collecting attrs=>17.4.0
2021-07-05T17:55:18.58+0530 [STG/0] OUT Downloading attrs-21.2.0-py2.py3-none-any.whl (53 kB)
2021-07-05T17:55:18.53+0530 [STG/0] OUT Collecting atomicwrites=<1.0
2021-07-05T17:55:18.73+0530 [STG/0] OUT Downloading atomicwrites-1.4.0-py2.py3-none-any.whl (6.8 kB)
2021-07-05T17:55:18.75+0530 [STG/0] OUT Collecting MarkupSafe=>2.0
2021-07-05T17:55:18.75+0530 [STG/0] OUT Downloading MarkupSafe-2.0.1-cp38-cp38-manylinux2018_x86_64.whl (30 kB)

2021-07-05T17:55:22.17+0530 [STG/0] OUT Successfully installed Flask-1.1.1 Jinja2-3.0.1 MarkupSafe-2.0.1 atomicwrites-1.4.0 attrs-21.2.0 click-8.0.1 itsdangerous-2.0.1 more-itertools-8.8.0 packaging-21.0 pluggy<0.13.1 py>1.10.0 pyparsing-2.4.7 pytest-4.6.11 six-1.16.0 wcwidth-0.2.5 werkzeug-0.16.1
2021-07-05T17:55:40.37+0530 [STG/0] OUT Exit status 0
2021-07-05T17:55:40.37+0530 [STG/0] OUT Uploading droplet, build artifacts cache...
2021-07-05T17:55:40.37+0530 [STG/0] OUT Uploading droplet...
2021-07-05T17:55:40.37+0530 [STG/0] OUT Uploading build artifacts cache...
2021-07-05T17:55:41.46+0530 [STG/0] OUT Uploaded build artifacts cache (57.2M)
2021-07-05T17:55:41.58+0530 [API/4] OUT Creating droplet for app with guid bf375375-37a3-4720-a80b-c3618dd59f82
2021-07-05T17:55:46.79+0530 [STG/0] OUT Uploaded droplet (58.5M)
2021-07-05T17:55:46.80+0530 [STG/0] OUT Uploading complete
2021-07-05T17:55:46.93+0530 [STG/0] OUT Cell 7ff8c02c-73b7-4f13-be9d-cfb853fdb515 stopping instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
2021-07-05T17:55:46.93+0530 [STG/0] OUT Cell 7ff8c02c-73b7-4f13-be9d-cfb853fdb515 destroying container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
2021-07-05T17:55:47.86+0530 [CELL/0] OUT Cell 3106ccb6-6cd1-4713-8318-830880625b0c creating container for instance 5099c291-91c4-4ee7-7f1e-6bcb
2021-07-05T17:55:48.07+0530 [STG/0] OUT Cell 7ff8c02c-73b7-4f13-be9d-cfb853fdb515 successfully destroyed container for instance f141e2c4-1993-4f82-9b6c-aa838e5ec2be
2021-07-05T17:55:49.03+0530 [CELL/0] OUT Cell 3106ccb6-6cd1-4713-8318-830880625b0c successfully created container for instance 5099c291-91c4-4ee7-7f1e-6bcb
2021-07-05T17:55:49.42+0530 [CELL/0] OUT Downloading droplet...
2021-07-05T17:55:49.57+0530 [CELL/0] OUT Downloaded droplet (58.5M)
2021-07-05T17:55:55.55+0530 [CELL/0] OUT Starting health monitoring of container
2021-07-05T17:55:57.30+0530 [APP/PROC/WEB/0] ERR File "./app.py", line 30
2021-07-05T17:55:57.30+0530 [APP/PROC/WEB/0] ERR @app.route("/") ibmcloud cf push
2021-07-05T17:55:57.30+0530 [APP/PROC/WEB/0] ERR ^
2021-07-05T17:55:57.30+0530 [APP/PROC/WEB/0] ERR SyntaxError: invalid syntax
2021-07-05T17:55:57.31+0530 [APP/PROC/WEB/0] OUT Exit status 1
2021-07-05T17:55:57.32+0530 [CELL/SSH/0] OUT Exit status 0
2021-07-05T17:56:03.90+0530 [CELL/0] OUT Cell 3106ccb6-6cd1-4713-8318-830880625b0c stopping instance 5099c291-91c4-4ee7-7f1e-6bcb
2021-07-05T17:56:03.90+0530 [CELL/0] OUT Cell 3106ccb6-6cd1-4713-8318-830880625b0c destroying container for instance 5099c291-91c4-4ee7-7f1e-6bcb
2021-07-05T17:56:03.98+0530 [API/7] OUT Process has crashed with type: "web"
2021-07-05T17:56:04.02+0530 [API/7] OUT App instance exited with guid bf375375-37a3-4720-a80b-c3618dd59f82 payload: {"instance"=>"5099c291-91c4-4ee7-7f1e-6bcb", "index"=>0, "cell_id"=>"3106ccb6-6cd1-4713-8318-830880625b0c", "reason"=>"CRASHED", "exit_description"=>"APP/PROC/WEB: Exited with status 1", "crash_count"=>2, "crash_timestamp"=>1625487963868490902, "version"=>"794adb0e-6e48-51-b4ab-55a06dd9eb9b99"}
2021-07-05T17:56:04.22+0530 [PROXY/0] OUT Exit status 137
2021-07-05T17:56:04.28+0530 [CELL/0] OUT Cell 1a366d16-c0da-41ba-8bf9-b03b18fb6da9 creating container for instance ea3ffea7-3b57-429a-47d5-dd0b
2021-07-05T17:56:05.62+0530 [CELL/0] OUT Cell 3106ccb6-6cd1-4713-8318-830880625b0c successfully destroyed container for instance 5099c291-91c4-4ee7-7f1e-6bcb
2021-07-05T17:56:05.94+0530 [CELL/0] OUT Cell 1a366d16-c0da-41ba-8bf9-b03b18fb6da9 successfully created container for instance ea3ffea7-3b57-429a-47d5-dd0b
2021-07-05T17:56:06.21+0530 [CELL/0] OUT Downloading droplet...
2021-07-05T17:56:06.38+0530 [CELL/0] OUT Cell 2f3ef3ee-0ab5-4aa1-b01c-9f51bf34d895 stopping instance 2d433e44-a840-4022-5f71-4b6e
2021-07-05T17:56:11.63+0530 [CELL/SSH/0] OUT Exit status 0
2021-07-05T17:56:11.64+0530 [APP/PROC/WEB/0] OUT Exit status 143
2021-07-05T17:56:11.80+0530 [CELL/0] OUT Cell 2f3ef3ee-0ab5-4aa1-b01c-9f51bf34d895 destroying container for instance 2d433e44-a840-4022-5f71-4b6e
2021-07-05T17:56:12.04+0530 [PROXY/0] OUT Exit status 137
2021-07-05T17:56:12.91+0530 [CELL/0] OUT Downloaded droplet (58.5M)
2021-07-05T17:56:12.91+0530 [CELL/0] OUT Starting health monitoring of container
2021-07-05T17:56:13.05+0530 [CELL/0] OUT Cell 2f3ef3ee-0ab5-4aa1-b01c-9f51bf34d895 successfully destroyed container for instance 2d433e44-a840-4022-5f71-4b6e
2021-07-05T17:56:14.77+0530 [APP/PROC/WEB/0] ERR File "./app.py", line 30
2021-07-05T17:56:14.77+0530 [APP/PROC/WEB/0] ERR @app.route("/") ibmcloud cf push
2021-07-05T17:56:14.77+0530 [APP/PROC/WEB/0] ERR ^
2021-07-05T17:56:14.77+0530 [APP/PROC/WEB/0] ERR SyntaxError: invalid syntax
2021-07-05T17:56:14.79+0530 [APP/PROC/WEB/0] OUT Exit status 1
2021-07-05T17:56:14.81+0530 [CELL/SSH/0] OUT Exit status 0
2021-07-05T17:56:21.32+0530 [CELL/0] OUT Cell 1a366d16-c0da-41ba-8bf9-b03b18fb6da9 stopping instance ea3ffea7-3b57-429a-47d5-dd0b
2021-07-05T17:56:21.33+0530 [CELL/0] OUT Cell 1a366d16-c0da-41ba-8bf9-b03b18fb6da9 destroying container for instance ea3ffea7-3b57-429a-47d5-dd0b
2021-07-05T17:56:21.37+0530 [API/1] OUT App instance exited with guid bf375375-37a3-4720-a80b-c3618dd59f82 payload: {"instance"=>"ea3ffea7-3b57-429a-47d5-dd0b", "index"=>0, "cell_id"=>"1a366d16-c0da-41ba-8bf9-b03b18fb6da9", "reason"=>"CRASHED", "exit_description"=>"APP/PROC/WEB: Exited with status 1", "crash_count"=>2, "crash_timestamp"=>1625487981279374949, "version"=>"794adb0e-6e48-51-b4ab-55a06dd9eb9b99"}
2021-07-05T17:56:21.60+0530 [CELL/0] OUT Cell d66962b4-a5e2-4551-9eda-e544ade72bb creating container for instance 7c9fe721-9211-4a1a-496a-f059
2021-07-05T17:56:21.88+0530 [PROXY/0] OUT Exit status 137

```

- Check the highlighted text.

- I added below text in my code highlighted by mistake which was causing issue

```

nd064_course_1_cloud_foundry > app.py
Project  manifest.yml  Profile  app.py
1: Project < 1: nd064_course_1_cloud_foundry ~/Documents/UDACITY/CLOUDFOUNDRY
> .idea
  app.py
  manifest.yml
  Profile
  README.md
  requirements.txt
> External Libraries
> Scratches and Consoles

15
16     app.logger.info('Status request successfull')
17     return response
18
19 @app.route('/metrics')
20 def metrics():
21     response = app.response_class(
22         response=json.dumps({"status":"success", "code":0, "data":{"UserCount":140,"UserCountActive":23}}),
23         status=200,
24         mimetype='application/json'
25     )
26
27     app.logger.info('Metrics request successfull')
28     return response
29
30 @app.route("/")
31 def hello():
32     app.logger.info('Main request successfull')
33
34     return "Hello World!"
35
36 if __name__ == "__main__":
37     ## stream logs to a file
38     logging.basicConfig(filename='app.log',level=logging.DEBUG)
39
40     app.run(host='0.0.0.0', port=8080)
41

```

- I removed that text and corrected the code as below :

```

nd064_course_1_cloud_foundry > app.py
Project  manifest.yml  Profile  app.py
1: Project < 1: nd064_course_1_cloud_foundry ~/Documents/UDACITY/CLOUDFOUNDRY
> .idea
  app.py
  manifest.yml
  Profile
  README.md
  requirements.txt
> External Libraries
> Scratches and Consoles

15
16     app.logger.info('Status request successfull')
17     return response
18
19 @app.route('/metrics')
20 def metrics():
21     response = app.response_class(
22         response=json.dumps({"status":"success", "code":0, "data":{"UserCount":140,"UserCountActive":23}}),
23         status=200,
24         mimetype='application/json'
25     )
26
27     app.logger.info('Metrics request successfull')
28     return response
29
30 @app.route("/")
31 def hello():
32     app.logger.info('Main request successfull')
33
34     return "Hello World!"
35
36 if __name__ == "__main__":
37     ## stream logs to a file
38     logging.basicConfig(filename='app.log',level=logging.DEBUG)
39
40     app.run(host='0.0.0.0', port=8080)
41

```

## 27. Redeployed the app and it succeeded :

```
[abhilashkkale@Abhilash-Kale nd064_course_1_cloud_foundry % ibmcloud cf push
Invoking 'cf push'...
Pushing from manifest to org [REDACTED]@gmail.com / space dev as [REDACTED]@gmail.com...
Using manifest file /Users/abhilashkkale/Documents/UDACITY/CLOUD-native-fundamentals/nd064_course_1_cloud_foundry/manifest.yml
Getting app info...
Updating app with these attributes...
  name:          python-helloworld-abhilashkkale
  path:          /Users/abhilashkkale/Documents/UDACITY/CLOUD-native-fundamentals/nd064_course_1_cloud_foundry
  buildpacks:
    python_buildpack
  command:       python ./app.py
  disk quota:   256M
  health check type: port
  instances:    1
  memory:       64M
  stack:        cflinuxfs3
  routes:
    python-helloworld-abhilashkkale.eu-gb.cf.appdomain.cloud

Updating app python-helloworld-abhilashkkale...
Mapping routes...
Comparing local files to remote cache...
Packaging files to upload...
Uploading files...
3.99 KiB / 3.99 KiB [=====] 100.00% is
Waiting for API to complete processing files...

Stopping app...

Staging app and tracing logs...
  Downloading python_buildpack...
  Downloaded python_buildpack
  Cell f4198bdc-e76a-44cf-a21d-7a7d24072eaa creating container for instance 445d0a8f-a9b6-4746-9450-d7f16a70bd8a
  Cell f4198bdc-e76a-44cf-a21d-7a7d24072eaa successfully created container for instance 445d0a8f-a9b6-4746-9450-d7f16a70bd8a
  Downloading build artifacts cache...
  Downloading app package...
  Downloaded app package (4K)
  Downloaded build artifacts cache (57.2M)
  ----> Python Buildpack version 1.7.37
  ----> Supplying Python
  ----> Installing python 3.8.9
  Copy [/tmp/cache/final/dependencies/0770e658884e2117993ca2fa764d79eee1f2305b04afe0cbc03ab55a0ad51a0f/python_3.8.9_linux_x64_cflinuxfs3_e9cbc67f.tgz]
  ----> Installing pip-pop 0.1.5
  Copy [/tmp/cache/final/dependencies/9cceaa4f7bf62ebaebcac7637039c718827190df8d438d6847fa00fc8841628d/pip-pop-0.1.5-b32efe86.tar.gz]
  ----> Running Pip Install
  Collecting Flask==1.1.1
  Using cached Flask-1.1.1-py2.py3-none-any.whl (94 kB)
  Collecting werkzeug==0.16.1
  Using cached Werkzeug-0.16.1-py2.py3-none-any.whl (327 kB)
  Collecting pytest=4.6.11
  Using cached pytest-4.6.11-py2.py3-none-any.whl (231 kB)

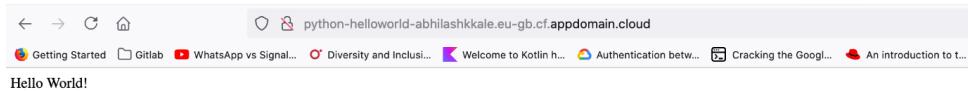
  Collecting click>=5.1
  Using cached click-8.0.1-py3-none-any.whl (97 kB)
  Collecting six>=1.10.0
  Using cached six-1.16.0-py2.py3-none-any.whl (11 kB)
  Collecting atomicwrites>1.0
  Using cached atomicwrites-1.4.0-py2.py3-none-any.whl (6.8 kB)
  Collecting pluggy<1.0,>=0.12
  Using cached pluggy-0.13.1-py2.py3-none-any.whl (18 kB)
  Collecting py>1.5.0
  Using cached py-1.10.0-py2.py3-none-any.whl (97 kB)
  Collecting wcwidth
  Using cached wcwidth-0.2.5-py2.py3-none-any.whl (30 kB)
  Collecting attrs>=17.4.0
  Using cached attrs-21.2.0-py2.py3-none-any.whl (53 kB)
  Collecting packaging
  Using cached packaging-21.0-py3-none-any.whl (48 kB)
  Collecting more-itertools>4.0.0; python_version > "2.7"
  Using cached more_itertools-8.8.0-py3-none-any.whl (48 kB)
  Collecting MarkupSafe>=2.0
  Using cached MarkupSafe-2.0.1-cp38-cp38-manylinux2010_x86_64.whl (30 kB)
  Collecting pyparsing=2.2.0
  Using cached pyparsing-2.4.7-py2.py3-none-any.whl (67 kB)
  Installing collected packages: itsdangerous, werkzeug, MarkupSafe, Jinja2, click, Flask, six, atomicwrites, pluggy, py, wcwidth, attrs, pyparsing, packaging, more-itertools, pytest
  WARNING: The script flask is installed in '/tmp/contents946866386deps0/python/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
  WARNING: The scripts py.test and pytest are installed in '/tmp/contents946866386deps0/python/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
  Successfully installed Flask-1.1.1 Jinja2-3.0.1 MarkupSafe-2.0.1 atomicwrites-1.4.0 attrs-21.2.0 click-8.0.1 itsdangerous-2.0.1 more-itertools-8.8.0 packaging-21.0 pluggy-0.13.1 py-1.10.
0 pyparsing-2.4.7 pytest-4.6.11 six-1.16.0 wcwidth-0.2.5 werkzeug-0.16.1
  Exit status 0
  Uploading droplet, build artifacts cache...
  Uploading build artifacts cache...
  Uploading droplet...
  Uploaded build artifacts cache (57.2M)
  Uploaded droplet (58.5M)
  Uploading complete
  Cell f4198bdc-e76a-44cf-a21d-7a7d24072eaa stopping instance 445d0a8f-a9b6-4746-9450-d7f16a70bd8a
  Cell f4198bdc-e76a-44cf-a21d-7a7d24072eaa destroying container for instance 445d0a8f-a9b6-4746-9450-d7f16a70bd8a
  Cell f4198bdc-e76a-44cf-a21d-7a7d24072eaa successfully destroyed container for instance 445d0a8f-a9b6-4746-9450-d7f16a70bd8a

Waiting for app to start...
  name:          python-helloworld-abhilashkkale
  requested state: started
  routes:        python-helloworld-abhilashkkale.eu-gb.cf.appdomain.cloud
  last uploaded: Mon 05 Jul 18:01:56 IST 2021
  stack:         cflinuxfs3
  buildpacks:    python

  type:          web
  instances:    1/1
  memory usage: 64M
  start command: python ./app.py
  state:        since           cpu      memory     disk      details
#0  running   2021-07-05T12:32:16Z  0.0%  0 of 0  0 of 0
```

**28. Check the routes mentioned above, and hit that url in your browser, you should see hello world**

:



**29. You can also access the url by clicking Visit App URL as below :**

A screenshot of the IBM Cloud dashboard. The top navigation bar shows the URL 'https://cloud.ibm.com/apps/3407e2eb-a5ed-4943-86a7-cca24cf73781?ace\_config={"region": "eu-gb", "crn": "crn%3Av1%3Abuemix%3Apublic%3Acf%3A...}' and other bookmarked links. The main view shows the app 'python-helloworld-abhilashkkale' with status 'Running', 1 instance, 100% health, and 192 MB available memory. A circular chart shows 64 MB total allocation with 192 MB still available. The 'Runtime cost' section shows US\$ 0.00 for the current billing period. The 'Connections' section shows 0 connections. The 'Activity feed' shows a recent event: 'started python-helloworld-abhilashkkale app'.

### 30. Can access other app endpoints as well and those should work as below :

The image contains two screenshots of a web browser displaying JSON data. Both screenshots have a similar layout with a header bar, a toolbar with various icons, and a main content area.

**Screenshot 1 (Top):** The URL is `python-helloworld-abhilashkkale.eu-gb.cf.appdomain.cloud/metrics`. The JSON response shows:

```
code: 0
data:
  UserCount: 140
  UserCountActive: 23
status: "success"
```

**Screenshot 2 (Bottom):** The URL is `python-helloworld-abhilashkkale.eu-gb.cf.appdomain.cloud/status`. The JSON response shows:

```
result: "OK - healthy"
```

**NOTE : I have tested this in Firefox hence the response view may vary in other browsers. So don't get confused.**

### 31. That's it. App deployed to IBM cloud successfully. Can delete that any time via options in the dashboard as below :

The image shows the IBM Cloud dashboard at `https://cloud.ibm.com/cloudfoundry/public`. On the left, there is a sidebar with sections like 'Cloud Foundry' and 'Public'. The main area is titled 'Cloud Foundry Public' and lists an application named 'python-helloworld-abhilashkkale'. A context menu is open over this application, showing options: 'Stop', 'Restart', 'Edit name', 'Add tags', and 'Delete'.