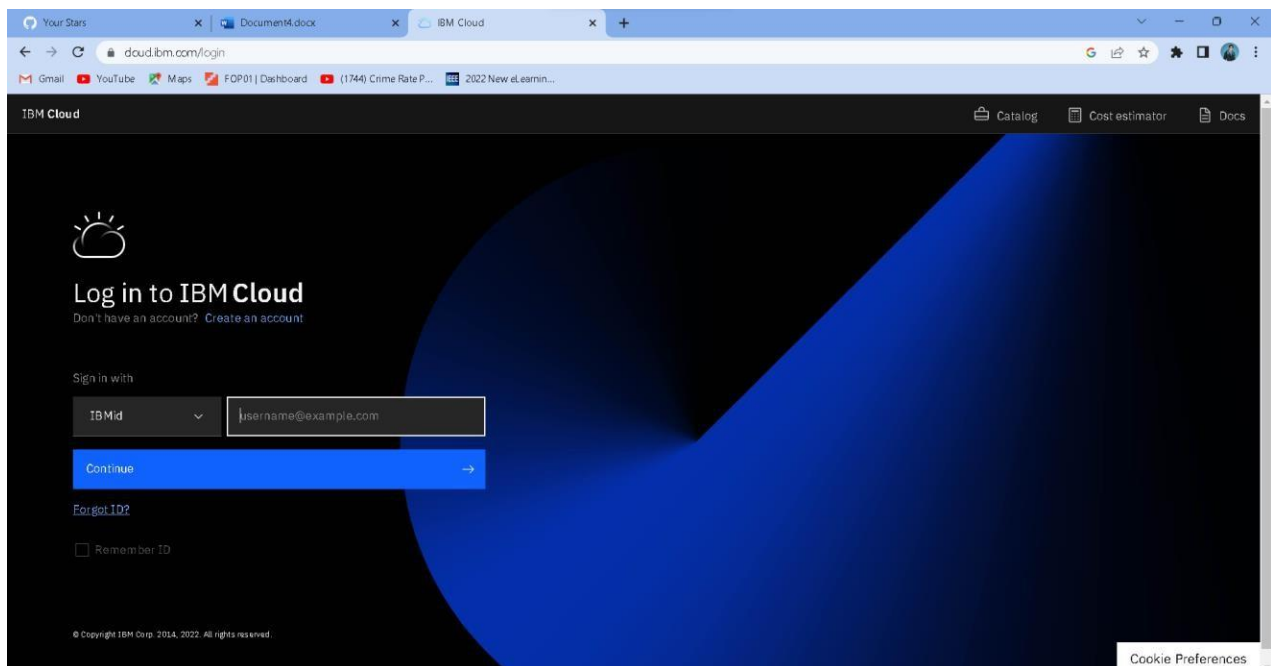


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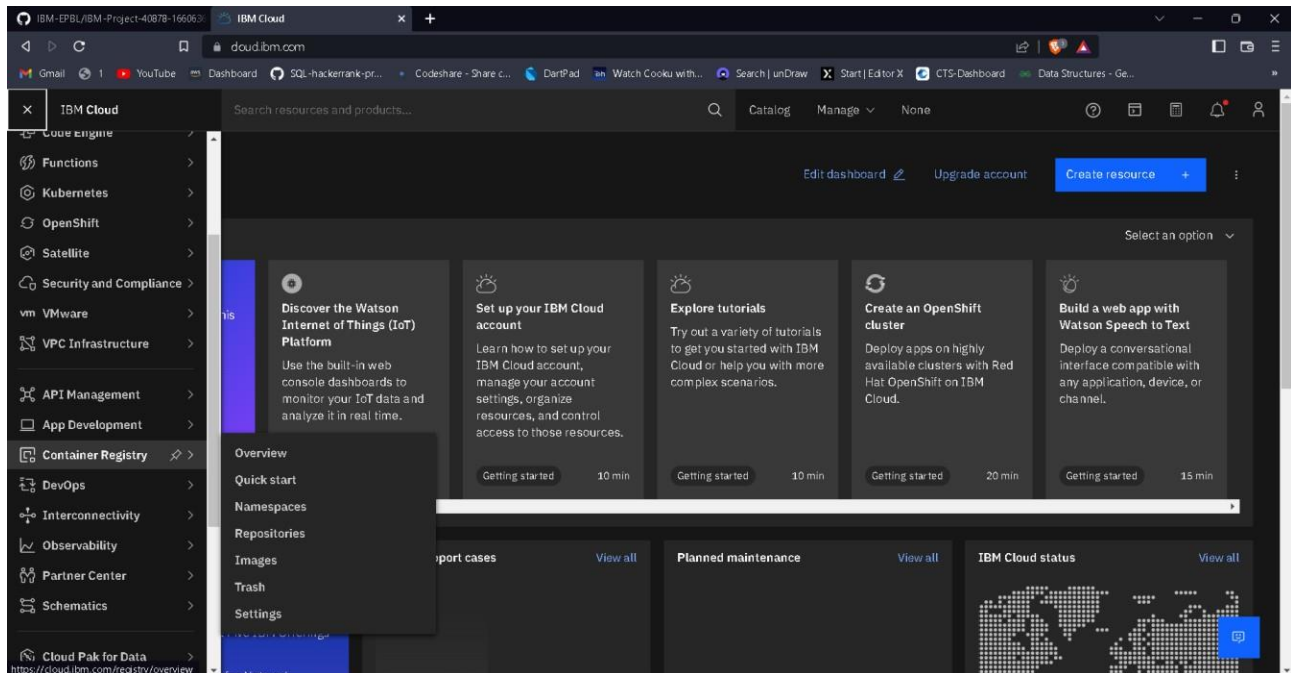
## SETTING UP AN APPLICATION ENVIRONMENT

### 1. IBM CLOUD CLI INSTALLATION:

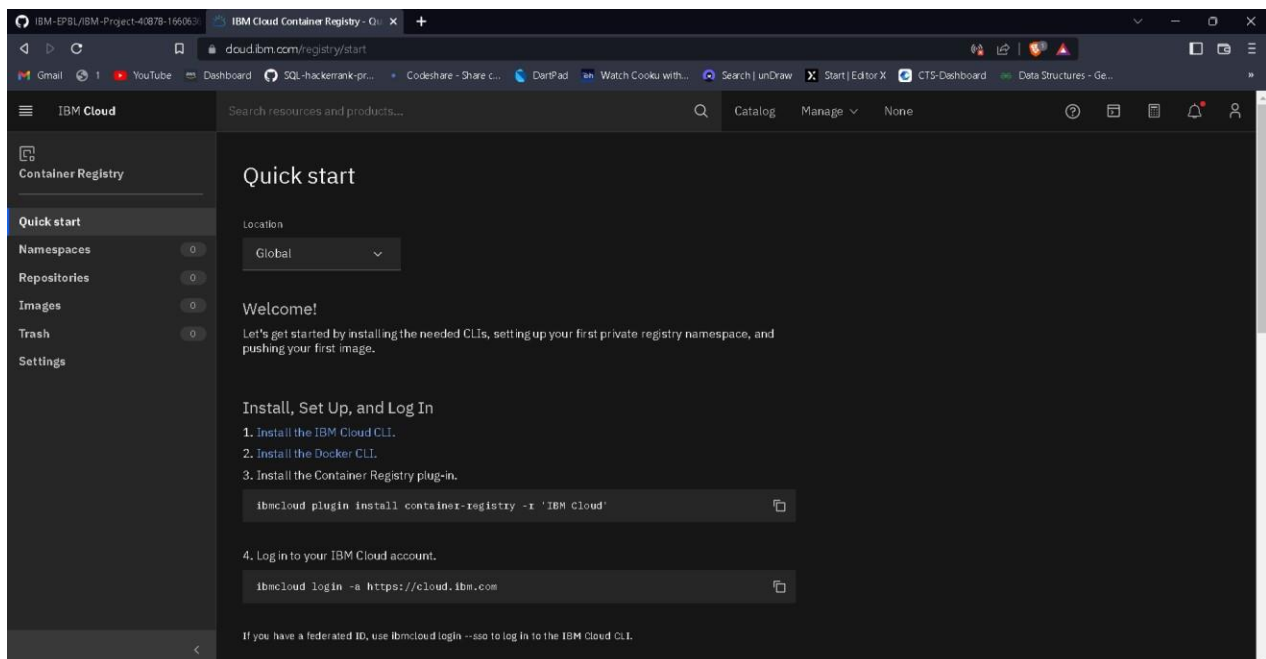
Step1: Log in to the IBM cloud



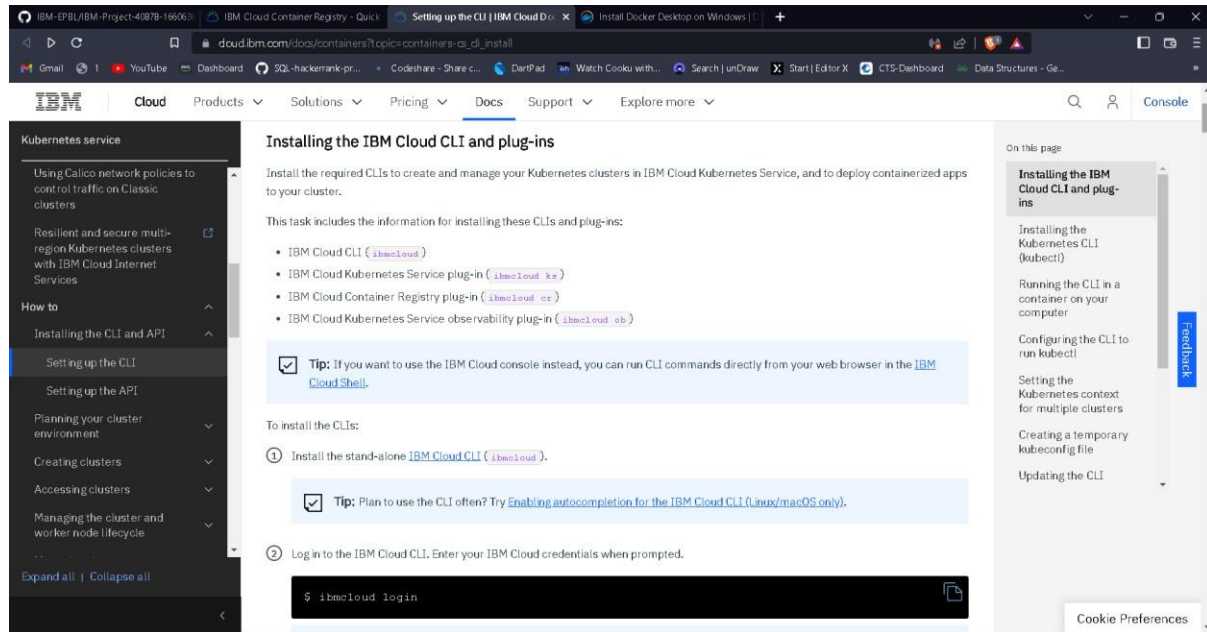
## Step 2: Select container registry



## Step3: Select QuickStart to open container registry and click on installIBM Cloud CLI

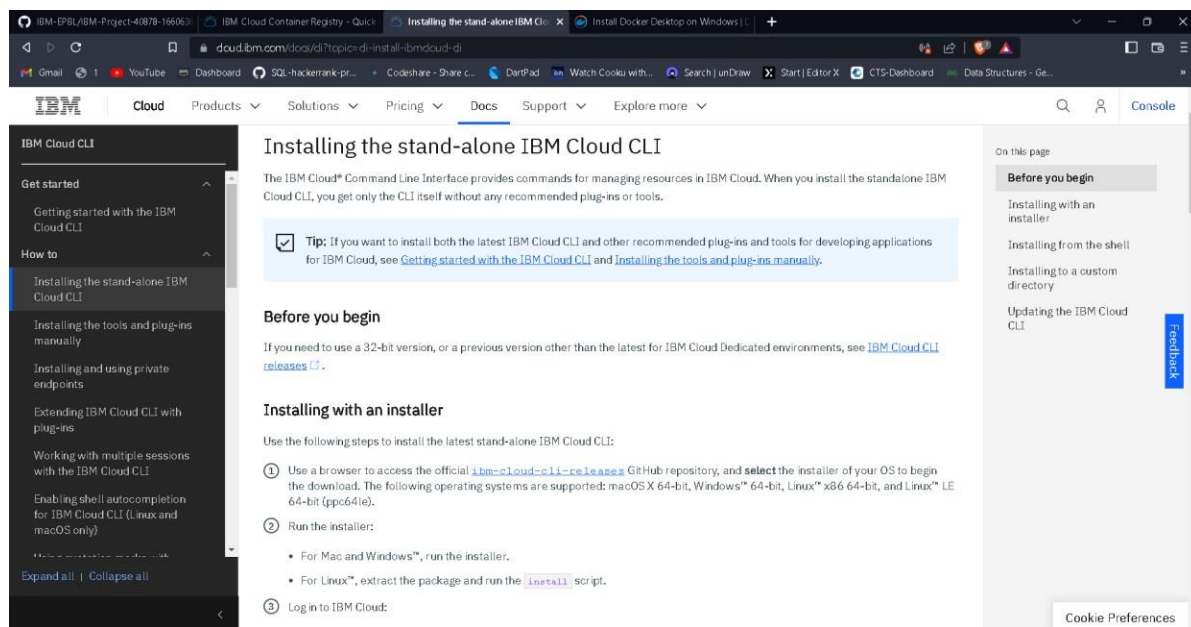


## Step 4: Click on IBM Cloud CLI



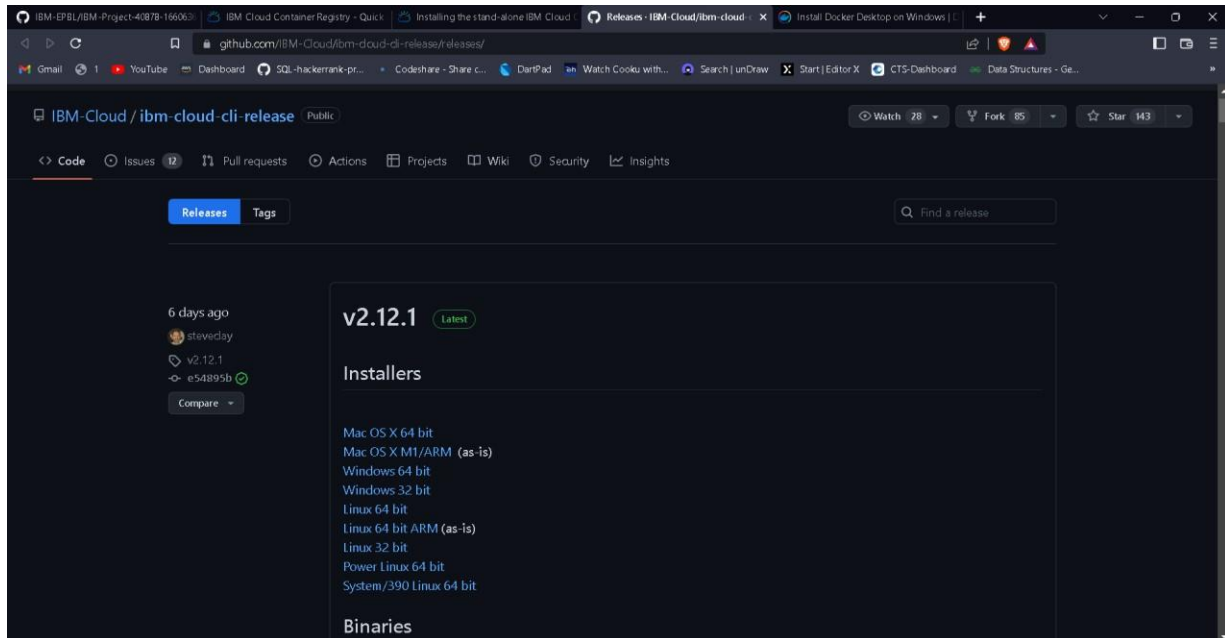
The screenshot shows the IBM Cloud CLI installation page. The left sidebar contains a navigation menu with the following items: Kubernetes service, Using Calico network policies to control traffic on Classic clusters, Resilient and secure multi-region Kubernetes clusters with IBM Cloud Internet Services, How to, Installing the CLI and API, Setting up the CLI, Setting up the API, Planning your cluster environment, Creating clusters, Accessing clusters, Managing the cluster and worker node lifecycle, and Expand all | Collapse all. The main content area is titled "Installing the IBM Cloud CLI and plug-ins" and includes the following text: "Install the required CLIs to create and manage your Kubernetes clusters in IBM Cloud Kubernetes Service, and to deploy containerized apps to your cluster. This task includes the information for installing these CLIs and plug-ins: IBM Cloud CLI (ibmcloud), IBM Cloud Kubernetes Service plug-in (ibmcloud ks), IBM Cloud Container Registry plug-in (ibmcloud cr), and IBM Cloud Kubernetes Service observability plug-in (ibmcloud ob). A tip states: "If you want to use the IBM Cloud console instead, you can run CLI commands directly from your web browser in the IBM Cloud Shell." The steps to install the CLIs are: 1. Install the stand-alone IBM Cloud CLI (ibmcloud), and 2. Log in to the IBM Cloud CLI. Enter your IBM Cloud credentials when prompted. A code block shows the command: \$ ibmcloud login. The right sidebar contains a table of contents for the page, including: Installing the IBM Cloud CLI and plug-ins, Installing the Kubernetes CLI (kubectl), Running the CLI in a container on your computer, Configuring the CLI to run kubectl, Setting the Kubernetes context for multiple clusters, Creating a temporary kubeconfig file, and Updating the CLI. A "Feedback" button is located at the bottom of the right sidebar.

## Step 5: And then, Click on IBM Cloud CLI releases

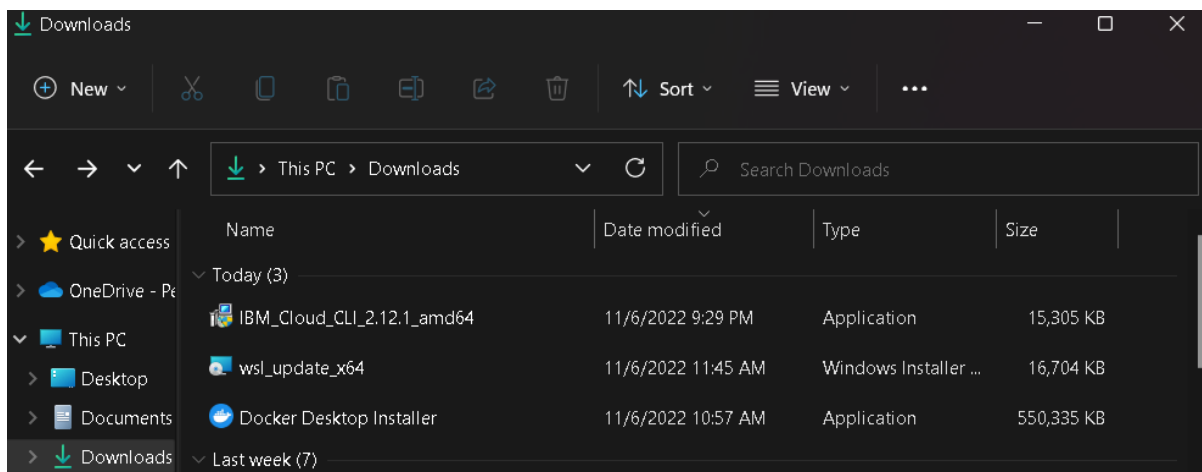


The screenshot shows the IBM Cloud CLI releases page. The left sidebar contains a navigation menu with the following items: IBM Cloud CLI, Get started, Getting started with the IBM Cloud CLI, How to, Installing the stand-alone IBM Cloud CLI, Installing the tools and plug-ins manually, Installing and using private endpoints, Extending IBM Cloud CLI with plug-ins, Working with multiple sessions with the IBM Cloud CLI, Enabling shell autocompletion for IBM Cloud CLI (Linux and macOS only), and Expand all | Collapse all. The main content area is titled "Installing the stand-alone IBM Cloud CLI" and includes the following text: "The IBM Cloud\* Command Line Interface provides commands for managing resources in IBM Cloud. When you install the standalone IBM Cloud CLI, you get only the CLI itself without any recommended plug-ins or tools. A tip states: "If you want to install both the latest IBM Cloud CLI and other recommended plug-ins and tools for developing applications for IBM Cloud, see Getting started with the IBM Cloud CLI and Installing the tools and plug-ins manually." The "Before you begin" section states: "If you need to use a 32-bit version, or a previous version other than the latest for IBM Cloud Dedicated environments, see IBM Cloud CLI releases." The "Installing with an installer" section includes the following steps: 1. Use a browser to access the official ibm-cloud-cli-releases GitHub repository, and select the installer of your OS to begin the download. The following operating systems are supported: macOS X 64-bit, Windows\* 64-bit, Linux\* x86 64-bit, and Linux\* LE 64-bit (ppc64le). 2. Run the installer: For Mac and Windows\*, run the installer. For Linux\*, extract the package and run the install script. 3. Log in to IBM Cloud.

Step 6: After that, the GitHub page will open and download the IBMCLI installer by selecting as per your system required installer.

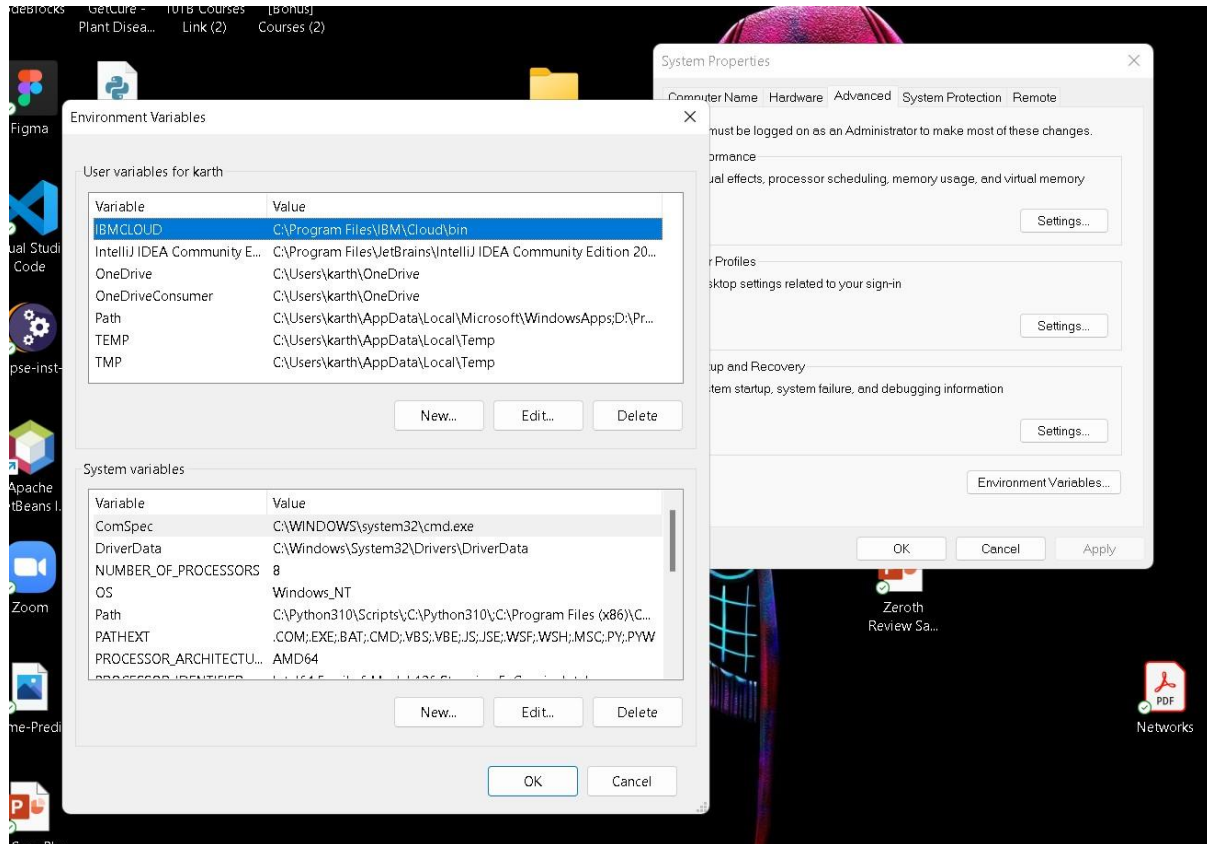


Step 7: After the download, Click the downloaded setup to run the installer.



Step 8: After the installation set environment variable and then openCMD (Windows). Type this command to login in IBM cloud

“ibmcloud login”



In the variable name, name it as “IBM Cloud” and in variable value the path location of the IBM.

Step 9: Enter your IBM cloud email id and password, then it will authenticate and signals “OK”. The number of regions will display,select one of them for your targeted account.

```
C:\Users\karth>ibmcloud login
API endpoint: https://cloud.ibm.com
```

```
C:\Users\karth>ibmcloud login
API endpoint: https://cloud.ibm.com
Region: us-east

Email> donaldvj17@gmail.com

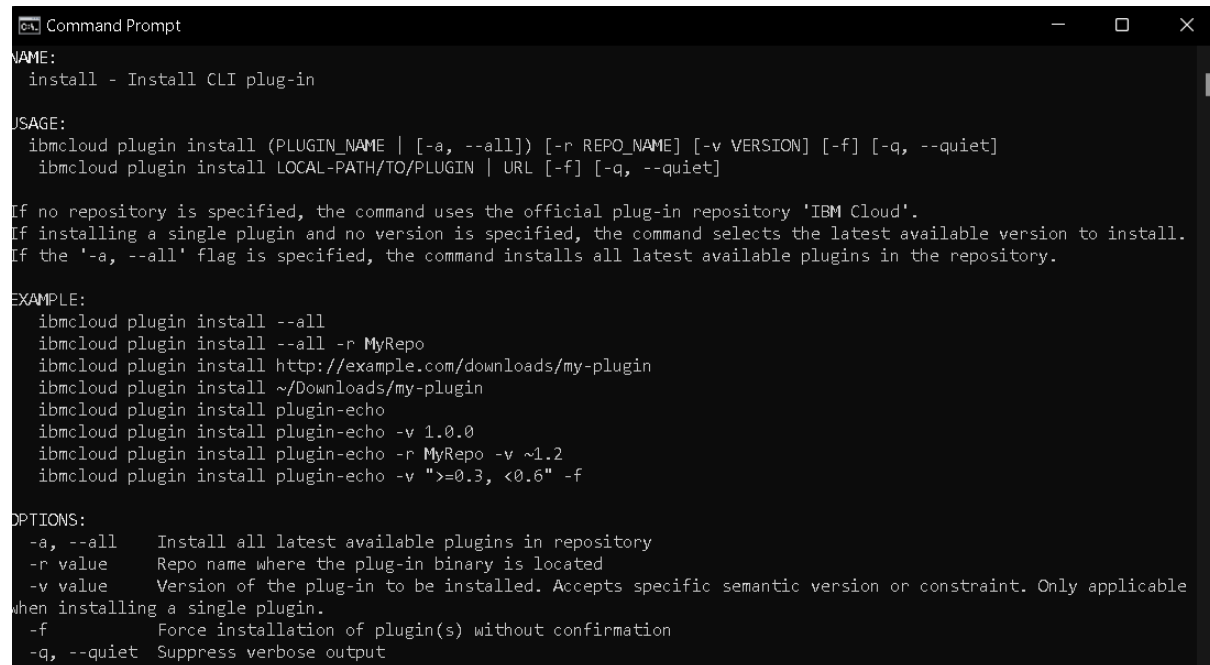
Password>
Authenticating...
OK

Targeted account None (3de90de6135b45488710630b2d0e4372)

API endpoint:      https://cloud.ibm.com
Region:           us-east
User:             donaldvj17@gmail.com
Account:          None (3de90de6135b45488710630b2d0e4372)
Resource group:   No resource group targeted, use 'ibmcloud target -g RESOURCE_GROUP'
CF API endpoint:
Org:
Space:
```

Step 10: Then copy the plugin command in your container registry(where the command displayed in your container registry which is opened on web browser) and paste and run it on cmd.

“ibmcloud plugin install container-registry -r”



```
Command Prompt
NAME:
  install - Install CLI plug-in

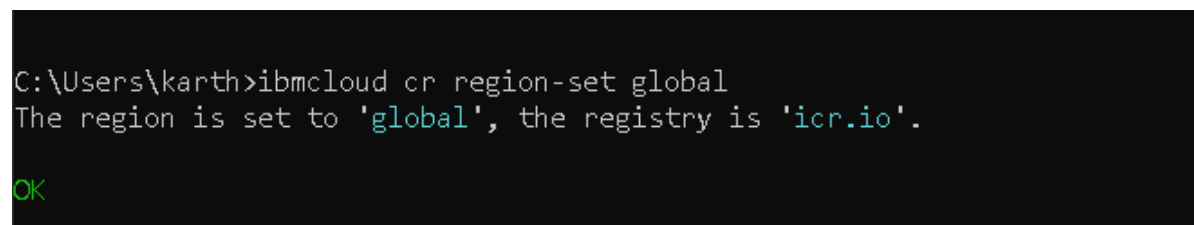
USAGE:
  ibmcloud plugin install (PLUGIN_NAME | [-a, --all]) [-r REPO_NAME] [-v VERSION] [-f] [-q, --quiet]
  ibmcloud plugin install LOCAL-PATH/TO/PLUGIN | URL [-f] [-q, --quiet]

If no repository is specified, the command uses the official plug-in repository 'IBM Cloud'.
If installing a single plugin and no version is specified, the command selects the latest available version to install.
If the '-a, --all' flag is specified, the command installs all latest available plugins in the repository.

EXAMPLE:
  ibmcloud plugin install --all
  ibmcloud plugin install --all -r MyRepo
  ibmcloud plugin install http://example.com/downloads/my-plugin
  ibmcloud plugin install ~/Downloads/my-plugin
  ibmcloud plugin install plugin-echo
  ibmcloud plugin install plugin-echo -v 1.0.0
  ibmcloud plugin install plugin-echo -r MyRepo -v ~1.2
  ibmcloud plugin install plugin-echo -v ">=0.3, <0.6" -f

OPTIONS:
  -a, --all      Install all latest available plugins in repository
  -r value       Repo name where the plug-in binary is located
  -v value       Version of the plug-in to be installed. Accepts specific semantic version or constraint. Only applicable
when installing a single plugin.
  -f             Force installation of plugin(s) without confirmation
  -q, --quiet    Suppress verbose output
```

Step 11: Set your region to global.“ibmcloud cr region-set global”



```
C:\Users\karth>ibmcloud cr region-set global
The region is set to 'global', the registry is 'icr.io'.

OK
```

## Step 12: Create namespace in your container registry

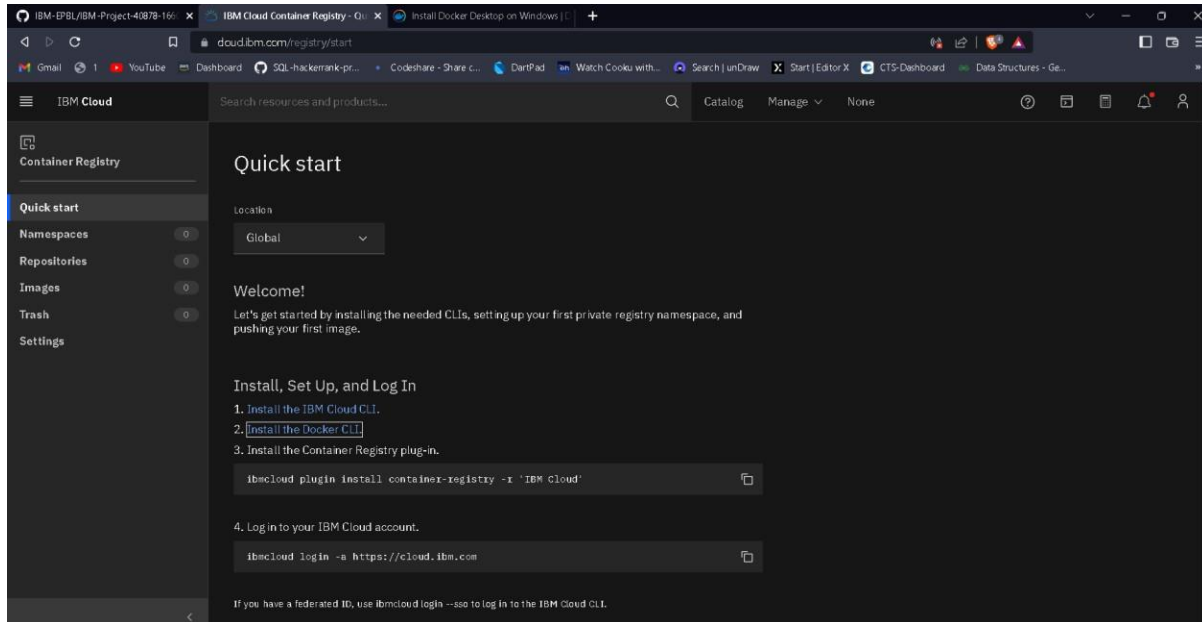
The screenshot shows the IBM Cloud Container Registry interface. The left sidebar contains a 'Quick start' menu with 'Namespaces' selected, showing a count of 1. The main content area is titled 'Namespaces' and features a 'Location' dropdown set to 'Global'. Below this is a table with columns: Name, Resource group, Repository count, Image count, and Retention policy. A single namespace is listed with the name '4b16c86-2ec5-4938-ad32-3e8d770' and a resource group of 'Default'. The table shows 0 repositories and 0 images. At the bottom of the table, it indicates 'Items per page: 25' and '1-1 of 1 item'. A 'Create' button is visible in the top right corner of the table area.

Name	Resource group	Repository count	Image count	Retention policy
4b16c86-2ec5-4938-ad32-3e8d770	Default	0	0	

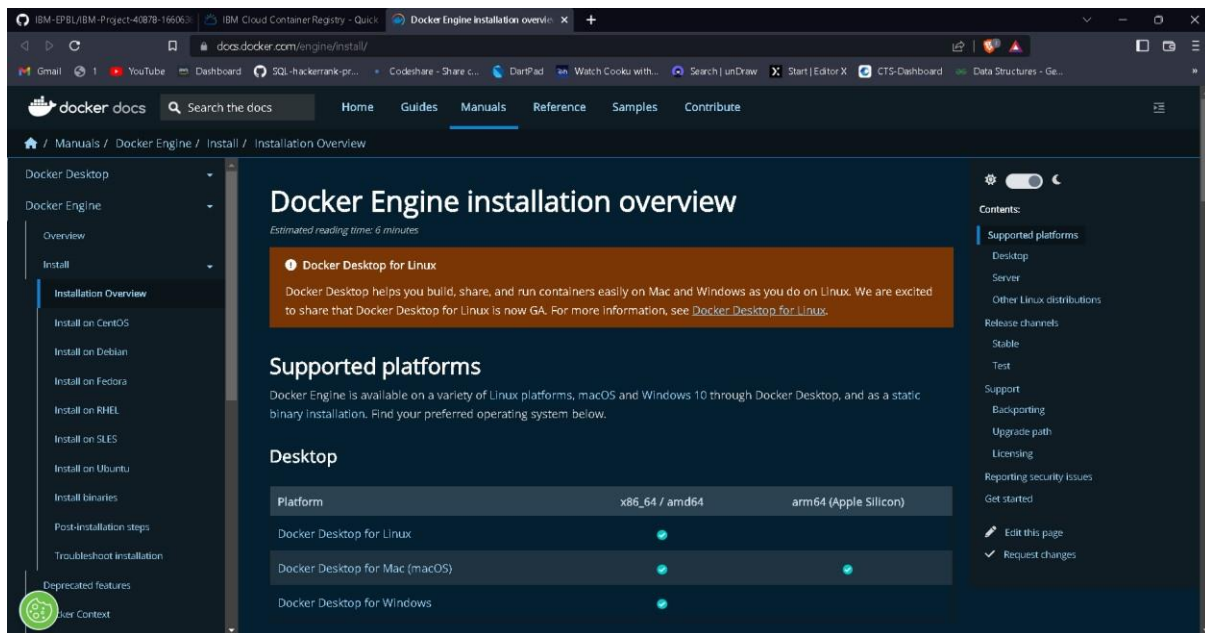


## 2. DOCKER CLI INSTALLATION:

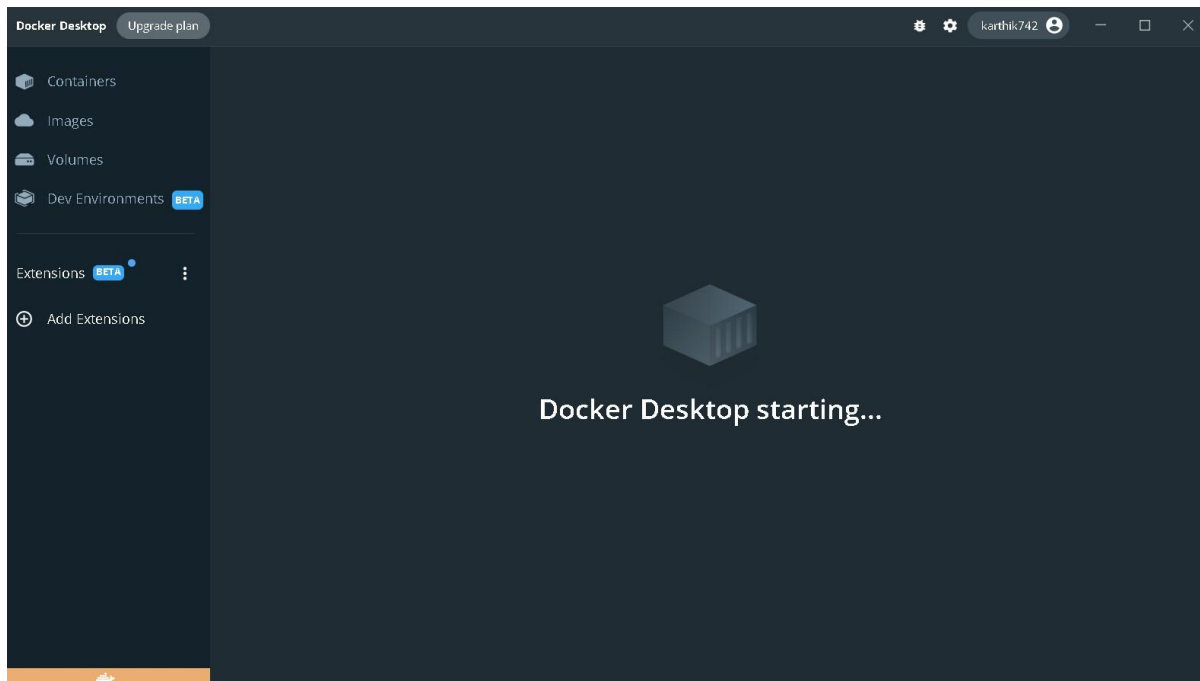
Step1: Open container registry in IBM cloud and click on Install DockerCLI.



Step 2: Then, click on required installer for your specified system and download it.

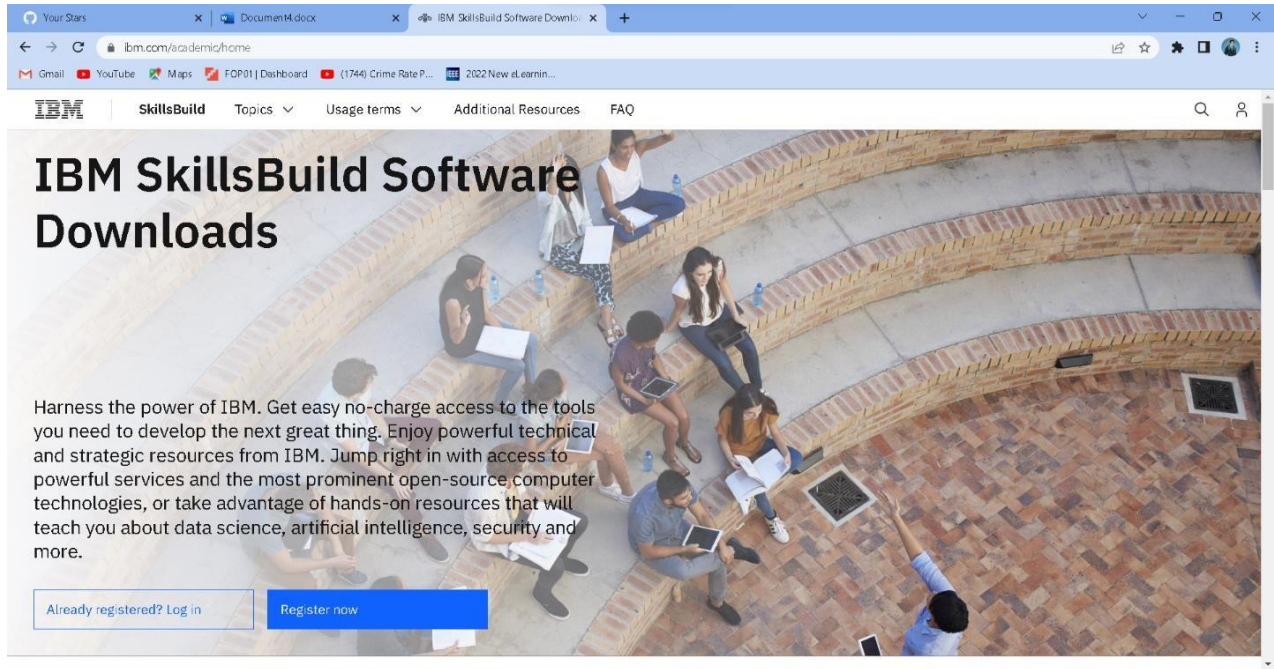


Step 3: After the setup download, run the setup and then open it and push the images, create the repositories.



### 3.IBM CLOUD ACCOUNT CREATION:

Step 1: Search for “ibm.com/academic” in the browser.



Step 2: Enter the mail issued by the academic institution and follow the procedure for entering the details which is provided as video link in your IBM profile.



## Enter your academic institution issued email to begin

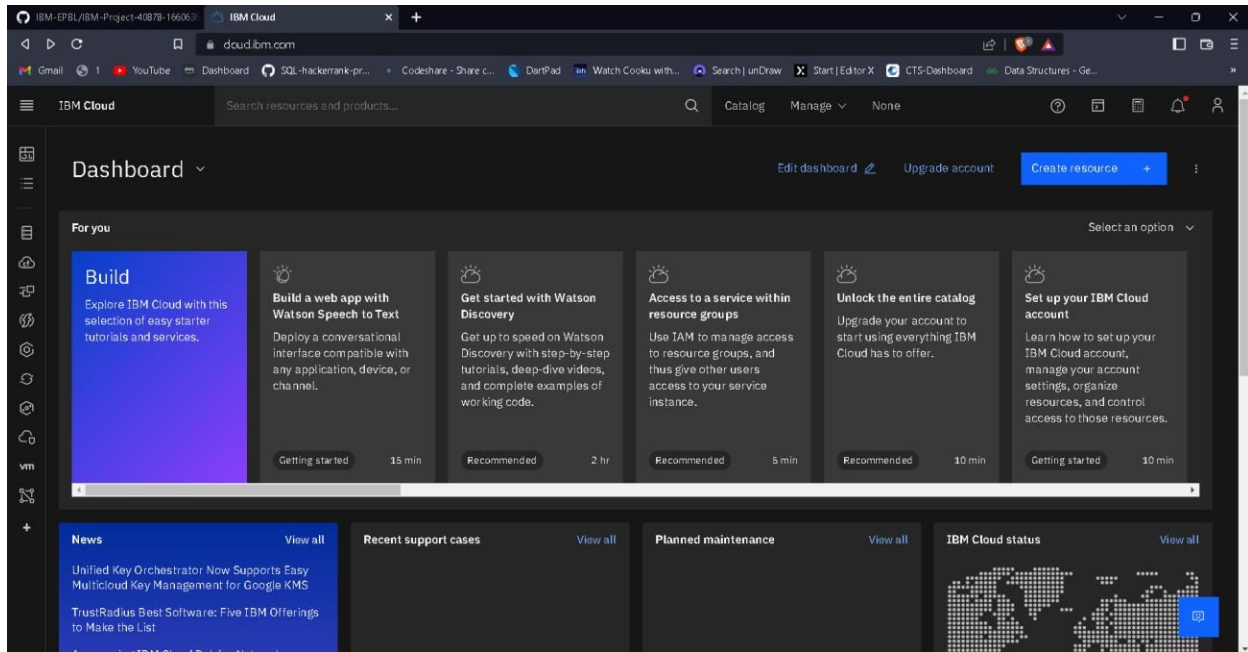
Only the students and faculty of participating academic institutions are eligible to access this website. Please enter your academic institution issued email below to register.

Your academic institution issued email

[Find answers in our frequently asked questions](#)

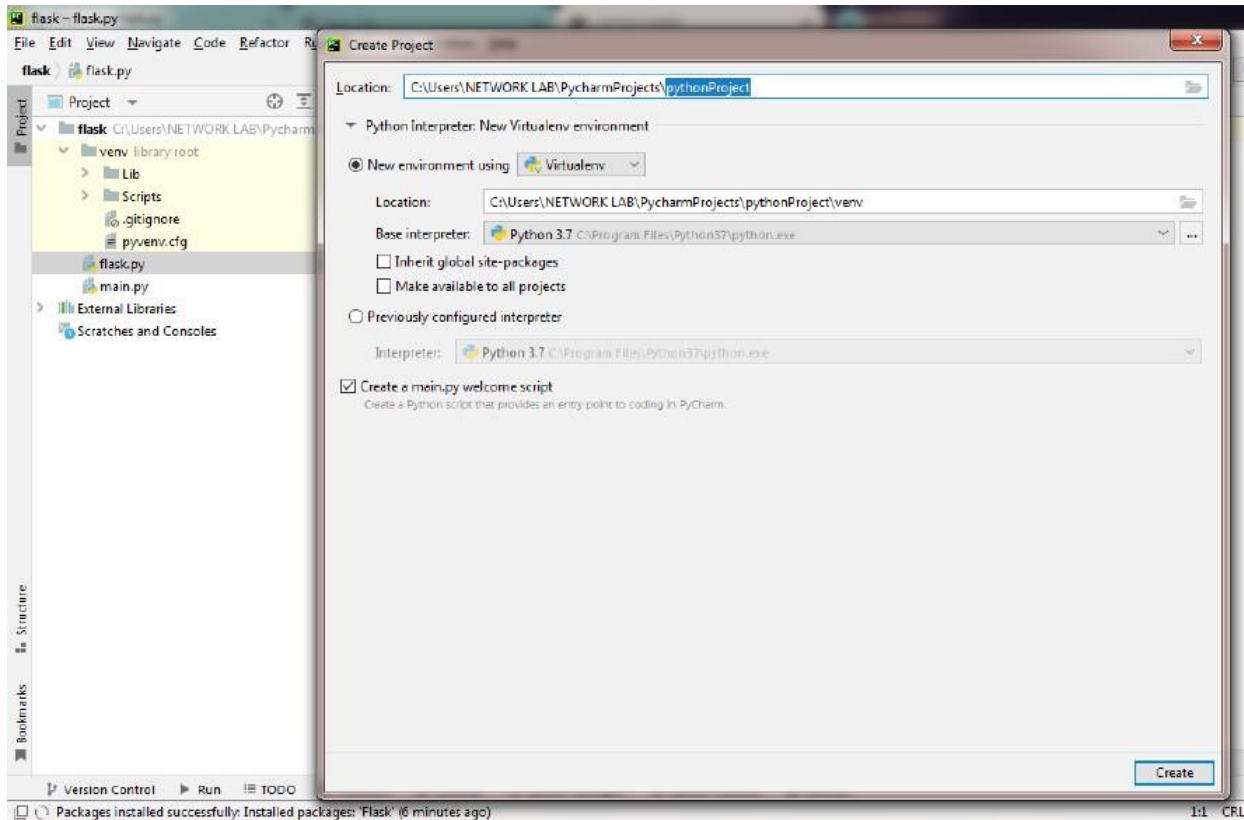
Submit

Step 3: After following the procedure that is given in reference video, your IBM cloud account will be created.



## 4. CREATING A FLASK PROJECT:

Step1: Open PyCharm in your desktop and create new project folder



Step 2: Enter the following code to create the flask

```
projectfrom flask import Flask
```

```
app = Flask(__name__)
```

```
@app.route("/")
```

```
def hello():
```

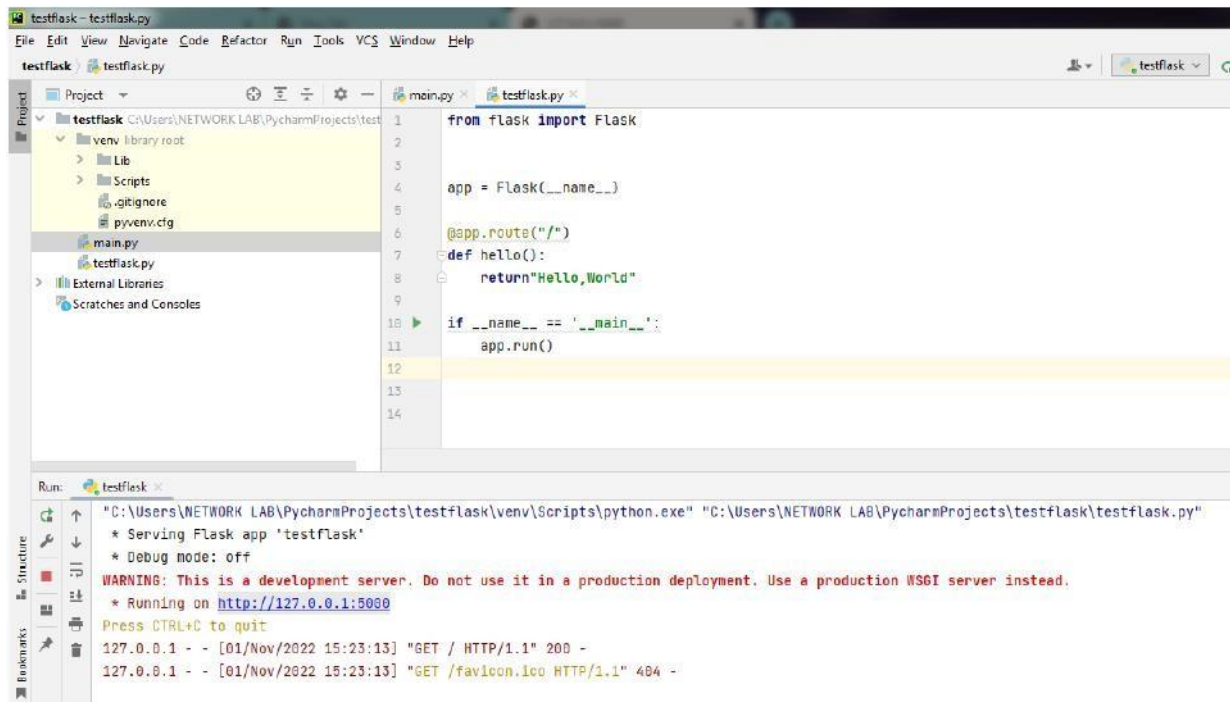
```
    return "Hello,World"
```

```
" if __name__ == '__main__':
```

```
    __main__:
```

```
app.run()
```

Step 3: Then run the code, it will show website link in terminal.



The screenshot shows the PyCharm IDE interface. The top menu bar includes File, Edit, View, Navigate, Code, Refactor, Run, Tools, VCS, Window, and Help. The left sidebar shows the Project view with a tree structure: testflask (containing venv, Lib, Scripts, .gitignore, pyvenv.cfg, main.py, testflask.py, External Libraries, and Scratches and Consoles). The main editor window displays the testflask.py file with the following code:

```
1 from flask import Flask
2
3
4 app = Flask(__name__)
5
6 @app.route("/")
7 def hello():
8     return "Hello, World!"
9
10 if __name__ == '__main__':
11     app.run()
12
13
14
```

The bottom panel shows the Run view for the testflask.py file. The command executed is: "C:\Users\NETWORK LAB\PycharmProjects\testflask\venv\Scripts\python.exe" "C:\Users\NETWORK LAB\PycharmProjects\testflask\testflask.py". The output shows the Flask application running on http://127.0.0.1:5000. A warning message states: "WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead." The terminal also shows two GET requests: "GET / HTTP/1.1" 200 - and "GET /favicon.ico HTTP/1.1" 404 -.

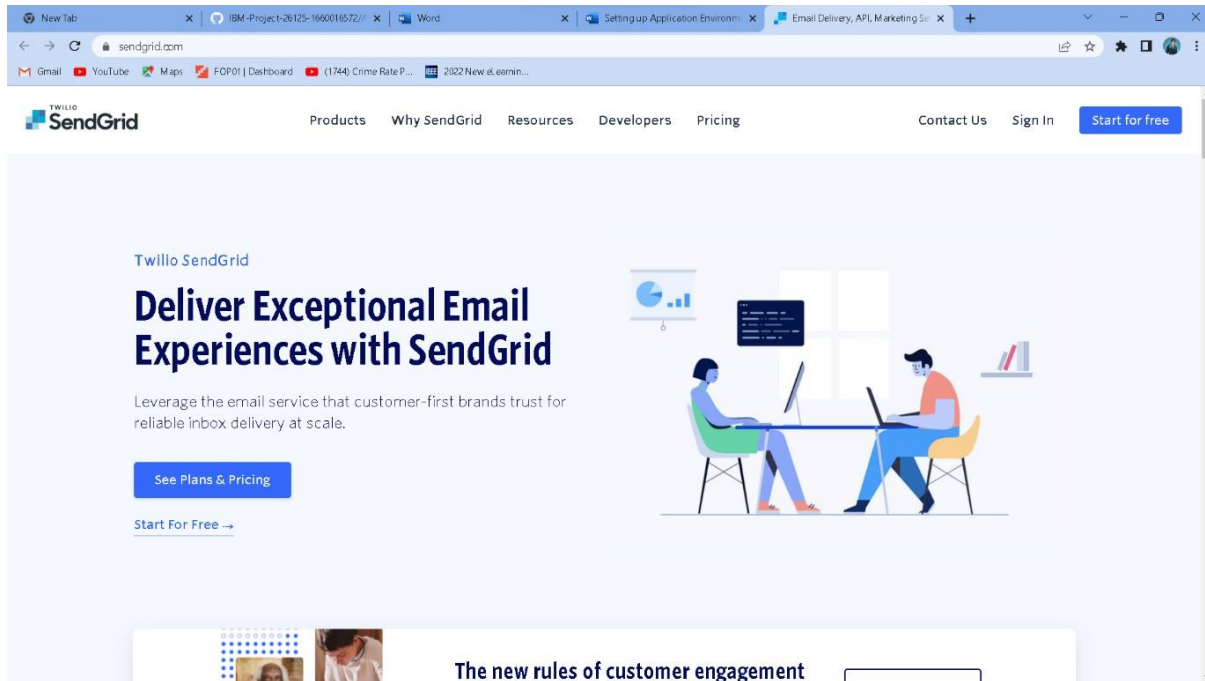
Step 4: By clicking the link in terminal, it will show "Hello World" in the browser page.





## 5. SENDGRID ACCOUNT CREATION:

Step1: Search for the SendGrid <https://sendgrid.com/>



Step 2: Registering new account and account is created.

New Tab × IBM-Project-26125-1660016572/ × Word × Setting up Application Environm... × New Account | SendGrid ×

← → ↻ signup.sendgrid.com/account\_details

Gmail YouTube Maps POP01 | Dashboard (1744) Crime Rate P... 2022 New eLearnin...

SENDGRID

SendGrid

## Tell Us About Yourself

This information will help us serve you better.

First Name \*

Last Name \*

Company Name \*

Company Website \*

Country Code  
USA (+1)

Phone Number

What is your role? \*

☐ Developer

☐ CEO

☐ Marketer

☐ Other

How many emails do you send per month? \*

☐ 0 to 100,000

☐ 100,000 to 700,000

☐ 700,000 to 1,500,000

☐ 1,500,000 to 10,000,000

☐ 10,000,000 to 50,000,000

☐ 50,000,000 to 100,000,000

☐ 100,000,000+

How many employees work at your company? \*

☐ 1 - 500

☐ 1,001 - 5,000

Privacy - Terms