

List of Assignments

1. Install Google App Engine. Create hello world app and other simple web applications using python/java
2. Use GAE launcher to launch the web applications
3. Find a procedure to transfer the files from one virtual machine to another virtual machine
4. Find a procedure to launch virtual machine using Aws/Azure/GCP
5. Design and deploy a web application in a PaaS environment
6. Design an Assignment to retrieve, verify, and store user credentials using Firebase Authentication, the Google App Engine standard environment, and Google Cloud Data store

Assignment No.1

Title-

Install Google App Engine. Create hello world app and other simple web applications using python/java

Steps-

- a. Download python from-<https://www.python.org/downloads/>
- b. Download Google Cloud SDK from-
<https://cloud.google.com/sdk/docs/install#windows>
- c. Launch the installer and follow the prompts
- d. Perform initial setup by running *gcloud init*
- e. Grant authorization to Cloud SDK tools to access Google Cloud
- f. Write python file with hello world statement
- g. Write app.yaml configuration file
- h. Open the shell
- i. Run the application with the following command in shell:
- j. *cmd> py google-cloud-sdk\bin\dev_appserver.py <path to the directory where application reside>*
- k. Open the web browser and type *http://localhost:8000*

Video Link-

<https://www.youtube.com/watch?v=7UtlfGnmh1U>

Assignment No.2

Title-

Use GAE launcher to launch the web applications

Steps-

- a. Already you have installed google cloud SDK and python
- b. Write the configuration file
- c. Write the web application file
- d. Deploy and run it

Video Link-

<https://www.youtube.com/watch?v=KrN7yg2Kqxo>

Assignment No.3**Title-**

Find a procedure to transfer the files from one virtual machine to another virtual machine

Steps-

- a. Download and install Oracle's Virtual Box-
<https://www.virtualbox.org/wiki/Downloads>
- b. Download Ubuntu VMDK Image-
<https://app.vagrantup.com/bento/boxes/ubuntu-18.04>
- c. Launch Virtualbox and create a new VM
- d. Click on new and mention the Name and the machine folder along with the Type and Version of the Machine to be created.
- e. Assign memory size for our VM (1024 MB sufficient for now).
- f. Select the option *Use an existing virtual hard disk file* and locate the downloaded VMDK image and create VM
- g. Now we have to create a NAT Network so go to *File -> Preferences -> Network -> Add a New NAT Network (Click on +)*
- h. Right click and edit the Network name and CIDR if needed.
- i. Repeat the process of launching the VM for 2 instances
- j. Now go to the setting, go to the network setting and change the adapter to NAT Network and select the NAT Network you made
- k. Launch the VM now
- l. Install the net-tools to know the IP's of the instance
- m. create a file and write something into it

- n. If your file is on the VM with IP ****172.168.2.4**** and the second VM's IP is ****172.168.2.5****.
- o. Transfer the file using ****SCP****
- p. \$ scp tranfer.txt vagrant@172.168.2.5:/home/vagrant
- q. Check for the file in the Second VM under the ****/home/vagrant**** directory

Video Link-

<https://www.youtube.com/watch?v=0MaS0nZCTZc>

Assignment No.4

Title-

Find a procedure to launch virtual machine using try stack (Online Open stack Demo Version)

References-

- a. <https://www.amazonaws.cn/en/getting-started/tutorials/launch-a-virtual-machine/>
- b. <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/quick-create-portal>
- c. <https://cloud.google.com/compute/docs/instances/create-start-instance>

Steps-

- a. Launch an Amazon EC2 Instance
- b. Configure your Instance
- c. Connect to your Instance
- d. Terminate Your Instance

Video Link-

<https://www.youtube.com/watch?v=i-Od-CELQoI>

Assignment No.5

Title-

Design and deploy a web application in a PaaS environment

Steps-

- a. Login to the AWS console
- b. Find for AWS Amplify in the services
- c. Get Started with Amplify service
- d. Click on Host a Web App
- e. Then choose to launch it with Github and authenticate your GitHub account for the same

- f. After that choose the Repository containing your source code
- g. Then Launch the application with the default configurations provided by AWS Amplify

Video Link-

<https://www.youtube.com/watch?v=12Thoc5MsF8>

Assignment No.6

Title-

Design an Assignment to retrieve, verify, and store user credentials using Firebase Authentication, the Google App Engine standard environment, and Google Cloud Data store

Steps-

- a. Install required software's as per the requirement
- b. Install all the packages which are needed for firebase (firebase-admin , express etc)
- c. And follow the steps as per the references-

References-

<https://firebase.google.com/docs/reference/admin>

<https://firebase.google.com/docs/auth/admin>

<https://firebase.google.com/docs/admin/setup>

<https://cloud.google.com/appengine/docs/standard/python/configuration-files>

<https://livebook.manning.com/book/google-cloud-platform-in-action/chapter-11/>