**EX-3 Install GAE**

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**>app.yaml<**

runtime: python27

api\_version: 1

threadsafe: false

handlers:

- url: /

static\_files: index.html

upload: index.html

**>index.html<**

<!DOCTYPE html>

<html>

<head>

<title>Html Web Page</title>

</head>

<body>

<h1>Hello Students</h1>

<p>welcome to cloud Laboratory</p>

</body>

</html>

**>app.yaml<**

runtime: python27

api\_version: 1

threadsafe: false

handlers:

- url: /

script: index.py

**>index.py<**

print("hello world")

**run command ->** google-cloud-sdk\bin\dev\_appserver.py "folder path"

**EX\_4 launch web application**

**Commaned:**

gcloud projects list

gcloud config set project **<project\_id>**

gcloud app create

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Git clone <https://github.com/GoogleCloudPlatform/python-docs-samples>

cd appengine

cd standard\_python3

cd hello\_world

python main.py

go to this link -> <http://127.0.0.1:8080>

**EX\_5 cloud sim**

<https://github.com/michaelfahmy/cloudsim-task-scheduling>

go this link 🡪 <https://code.google.com/archive/p/cloudsim/downloads>

download this 🡪 [cloudsim-3.0.3.zip](https://storage.googleapis.com/google-code-archive-downloads/v2/code.google.com/cloudsim/cloudsim-3.0.3.zip)

**EX\_8 Docker**

**Push**

mkdir doc

cd doc

nano sam.java

**public class sam{**

**public static void main(String args[]){**

**System.out.println(“Hello student”);**

**}**

**}**

Javac sam.java

Java sam.java

**FROM openjdk:11-jdk-slim**

**WORKDIR /doc**

**COPY sam.java .**

**RUN javac sam.java**

**CMD[“java”,”sam”]**

Save it as name **docker**

sudo docker build -t sam-java

sudo docker images

sudo docker run sam-java

sudo docker tag sam-java username/sam-java

sudo docker push username/sam-java

**PULL**

sudo docker pull username/sam-java

sudo docker run username/sam-java

**Hadoop**

sudo apt update

sudo apt install openjdk-11-jdk

java -version

sudo adduser hadoop

su - hadoop

ssh-keygen -t rsa

cat ~/.ssh/id\_rsa.pub >> ~/.ssh/authorized\_keys

chmod 640 ~/.ssh/authorized\_keys

ssh localhost

su - hadoop

wget https://downloads.apache.org/hadoop/common/hadoop-3.3.2/hadoop-3.3.2.tar.gz

tar -xvzf hadoop-3.3.2.tar.gz

mv hadoop-3.3.2 hadoop

nano ~/.bashrc

export JAVA\_HOME=/usr/lib/jvm/java-11-openjdk-amd64

export HADOOP\_HOME=/home/hadoop/hadoop

export HADOOP\_INSTALL=$HADOOP\_HOME

export HADOOP\_MAPRED\_HOME=$HADOOP\_HOME

export HADOOP\_COMMON\_HOME=$HADOOP\_HOME

export HADOOP\_HDFS\_HOME=$HADOOP\_HOME

export HADOOP\_YARN\_HOME=$HADOOP\_HOME

export HADOOP\_COMMON\_LIB\_NATIVE\_DIR=$HADOOP\_HOME/lib/native

export PATH=$PATH:$HADOOP\_HOME/sbin:$HADOOP\_HOME/bin

export HADOOP\_OPTS="-Djava.library.path=$HADOOP\_HOME/lib/native"

source ~/.bashrc

nano $HADOOP\_HOME/etc/hadoop/hadoop-env.sh

export JAVA\_HOME=/usr/lib/jvm/java-11-openjdk-amd64

mkdir -p ~/hadoopdata/hdfs/namenode

mkdir -p ~/hadoopdata/hdfs/datanode

sudo nano $HADOOP\_HOME/etc/hadoop/core-site.xml

<configuration>  
<property>  
<name>fs.defaultFS</name>  
<value>hdfs://localhost:9000</value>  
</property>  
</configuration>

sudo nano $HADOOP\_HOME/etc/hadoop/hdfs-site.xml

<configuration> <property>  
 <name>dfs.replication</name>  
 <value>1</value>  
 </property> <property>  
 <name>dfs.name.dir</name>  
 <value>file:///home/hadoop/hadoopdata/hdfs/namenode</value>  
 </property> <property>  
 <name>dfs.data.dir</name>  
 <value>file:///home/hadoop/hadoopdata/hdfs/datanode</value>  
 </property>  
</configuration>

sudo nano $HADOOP\_HOME/etc/hadoop/mapred-site.xml

<configuration>   
<property>   
<name>mapreduce.framework.name</name>   
<value>yarn</value>   
</property>   
</configuration>

sudo nano $HADOOP\_HOME/etc/hadoop/yarn-site.xml

<configuration>  
<property>  
<name>yarn.nodemanager.aux-services</name>  
<value>mapreduce\_shuffle</value>  
</property>  
</configuration>

hdfs namenode -format

start-dfs.sh

start-yarn.sh

jps

[http://localhost:9870](http://localhost:9870/)

[http://localhost:9864](http://localhost:9864/)

[http://localhost:8088](http://localhost:8088/)