Output :-

Resource Group : Faheem

Status : Available

Location : South India

Subscription : Azure for Students

Server admin : Faheem

Networking : Show Networking

Active Directory admin : Configured

Server Name : faheem.database.window.net

## Experiment - 21

Aim :-

To create database as a service (Daas) create and configure a new VM image in any public cloud service provider.

Procedure :-

→ Open azure service provider.
→ Login to the azure (free for students).
→ All cloud services will be displayed.
→ First we have to create a resource.
→ Provide region and resource group name.
→ Click on create, the resource will be created.
→ Then go to Sql database.
→ Now create the sql database.
→ Select the resource group and enter the server name that applicable.
→ In networking select allow azure services and resource to access this server.
→ In additional settings select sample.
→ The Sql database is deployed.

Result :-

Thus the demonstration of storge as a service (Saas) by using public cloud service provided was successfully completed.

## Experiment-22 Installing Hadoop

### Aim:-

To perform the basic configured Setup for installing hadoop 2.x like creating the hd user & SSH local host.

### Procedure :-

* System update
  $ Sudo aplt-get update.

* Install Java & Set JAVA - Home
$ Sudo apt-add-repository ppa: webupd
8 team / java

$ Sudo apt-get update
$ Sudo apt-get install oracle-java 8-installer
$ Sudo apt-get install default-jdk
$ java version.

* Add a dedicated Hadoop user.
$ Sudo add group hadoop.
$ Sudo addressex ... in group hadoop hd user.
$ Sudo addressex hd user Sudo.

* Install SSH and create certificates.
$ Sudo apt-get install ssh
$ Su hd user
$ SSh -keygen- trsa -p ""
$ cat $ Home / . SSh / id-rsa -pub >> $ Home / SSh / authorised - keys

* Check if SSH works

  $ ssh local host.

* Install Hadoop

  $ Sudo tar xvzf hadoof - 272 . tar . gz

  $ Sudo mkdir - plusr / local / hadoop

  $ Sudo mv hadoop - 2 . 7 . 2 / usr / local / hadoop

  $ Sudo clown -R hd user : hadoop / usr / local / hadoop

## Experiment-23 Configure Data Node & Name Node

**Aim:-** Install hadoop 2.x and configure the name node & data node.

**Procedure:-**

* After the installing of hadoop.
* Modify Hadoop config files

```
$ Sudo nano ~/.bashrc
$ cd /usr/local/hadoop/hadoop-2.7.2/etc/hadoop
$ Sudo nano hadoop-env.sh
$ Sudo mkdir -p /user/local/hadoop-tmp/
        hdfs/name node
$ Sudo chown -R hd user: hadoop /usr/local/
        hadoop-tmp
$ Sudo nano hdfs-site.XML
$ Sudo nano core-site.XML
$ Sudo nano yarn-site.xml
$ Sp/user/local/hadoop/hadoop-2.7.2/etc/
    hadoop/mapred-site xml.template
$ Sudo nano mapred-site.xml
```

* Formal Hadoop File System.

```
$ cd /usr/local/hadoop/hadoop-2.7.2/bin
$ hadoop name node - format.
```

* Start Hadoop

```
$ cd /usr/local/hadoop/hadoop-2.7.2/s bin
$ Start-dfs.sh
```

$ start-yarn.sh

$ jps

* Check Hadoop through web UI

http://localhost:8088

http://localhost:50070

* Stop Hadoop

$ stop-dfs.sh

$ stop-yarn.sh

## Experiment - 24 Test the MAP REDUCE Platform

**Aim:** To Create a hadoop 2.x & test the Map reduce platform with hadoop.

**Procedure :-**

→ Open Terminal

```
$ su
hd user
Password:
```

→ Start dfs & map reduce Services

```
$ cd /usr/local/hadoop/hadoop-2.7.2/sbin
$ start-dfs.sh
$ start-yarn.sh
$ jps
```

→ Check Hadoop through web UI

```
http://localhost:8088
http://localhost:50070
```

→ Open new Terminal

```
$ cd Desktop/
$ mkdir input data
$ cd input data/
$ echo "Hi, Hello, How are you?
        How is your health?"
        >> hello.txt

$ cat >> hello.text.
```

→ Go back to old Terminal

$ hadoop fs - copy from local /home / hd user / Desktop / input / hello . txt / folder / hd user

→ Download & open eclipse by creating workspace.

→ Create a new java project.

→ Add for the project.

## Experiment - 25 MAP REDUCE for Word Count

**Aim** :- Launch the Hadoop 2x & perform map reduce program for a word count problem.

**Procedure** :-

→ Open Terminal

```
$ su
hd user :
Password :
```

→ Start dfs & map reduce Services

```
$ cd /user/local/hadoop/hadoop-2.7.2/sbin
$ start-dfs.sh
$ start-yarn.sh
$ jps
```

→ Check the hadoop through web UI

```
https://localhost:8088
https://localhost:50070
```

→ Open New Terminal

```
$ cd Desktop/
$ mkdir Input data
$ cd input data/
$ echo "Hi, Hello, How are you?"
        >> hello.txt

$ cat >> hello.txt
```

→ Go back to the old Terminal

```
$ hadoop fs -copy from local /home/hd user/
  Desktop/input data/hello.txt/ folder/hd user
```

→ Download and open eclipse by creating workspace.

Creating a New java project.

→ Add java to the project.

→ Word Count program

Create 3 java files

* Word Count.java
* Word Count mapper.java
* Word Count Reducer.java.