**DOCKER**

**What is Docker?**

* Docker is a software platform that allows you to build, test, and deploy applications quickly.
* Docker packages software into standardized units called containers that have everything the software needs to run including libraries, system tools, code, and runtime.
* The value of Docker for DevOps continues as it enables an entirely isolated application to be deployed to multiple servers.
* As it spreads to the servers, no other applications can access it. The only exposure of the container is to the internet and the Docker client.

**How to install Docker in an Ubuntu EC2 instance?**

Step 1: Launch an EC2 instance with the Ubuntu Operating system.

Step 2: Connect with your instance.

Step 3: Install Docker.

* Update the installed packages on your instance with the below command:

**$ sudo apt-get update**

* Add the GPG key to your instance for the official Docker repository:

**$** **curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add** -

* Add the Docker repository to the APT sources:

**$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu $(lsb\_release -cs) stable"**

* Update the packages from the newly added repo:

**$ sudo apt-get update**

* Install it from Docker repo instead of the default Ubuntu 16.04 repo:

**$ apt-cache policy docker-ce**

* Install Docker:

**$ sudo apt-get install -y docker-ce**

* Start the docker service:

**$ sudo service docker start**

* Check the status of docker:

**$ sudo service docker status**

* The output should display the service is active and running

**How to install Ubuntu/apache2 and nginx application inside Docker**

After installing docker run the below commands to install ubuntu/apache2 applications.

* **$ docker info**
* **$ sudo su**
* **# docker ps**
* **# docker images**
* **# docker pull ubuntu/apache2**
* **# docker images**
* **# docker run -it -p 8888:80 -d ubuntu/apache2**
* **# docker ps**

Once you run port 8888:80 need to add this port to the EC2 instance security group.

* On the EC2 page click on to your instance.
* Go to security> security groups>inbound rules>click on edit inbound rules
* Click on Add rule
* Add your port with custom TCP and Anywhere IP4.
* Once it is done take your public IP address and open a new tab in windows paste the IP address with the port number. You will see the ubuntu/apache2.

After installing docker run the below commands to install nginx applications.

* **# docker ps**
* **# docker images**
* **# docker pull images**
* **# docker images**
* **# docker run -it -p 8889:80 -d nginx**
* **# docker ps**

Once you run port 8889:80 need to add this port to the EC2 instance security group.

* On the EC2 page click on to your instance.
* Go to security> security groups>inbound rules>click on edit inbound rules
* Click on Add rule
* Add your port with custom TCP and Anywhere IP4.
* Once it is done take your public IP address and open a new tab in windows paste the IP address with the port number. You will see the nginx page.