

DEVOPS ESSENTIALS

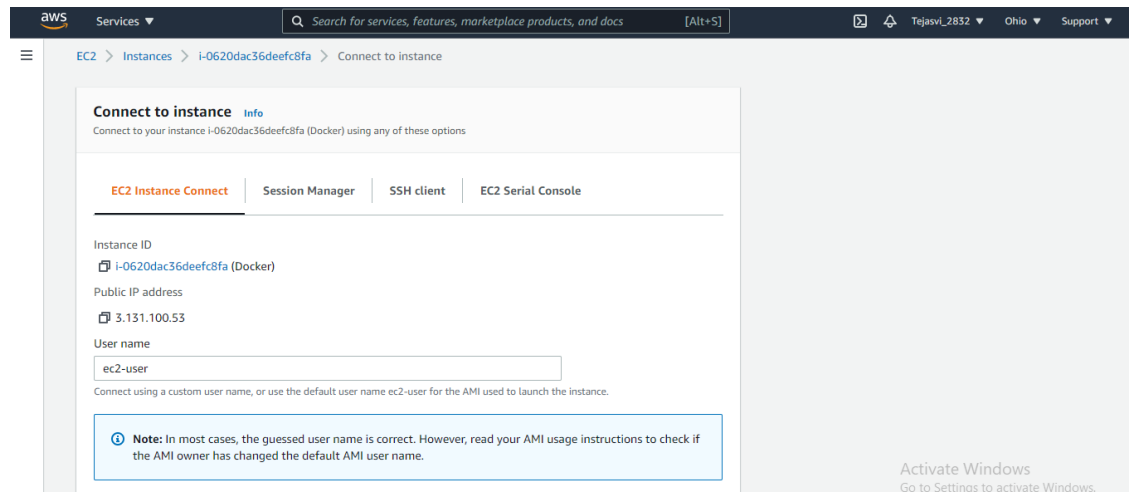
ASSIGNMENT-2

WORKING WITH DOCKER

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1. CREATING AWS EC2 INSTANCE



2. SUDO YUM UPDATE

```
[ec2-user@ip-172-31-28-32 ~]$ sudo yum update
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package curl.x86_64 0:7.61.1-12.amzn2.0.4 will be updated
--> Package curl.x86_64 0:7.76.1-4.amzn2.0.1 will be an update
--> Package ec2-utils.noarch 0:1.2-44.amzn2 will be updated
--> Package ec2-utils.noarch 0:1.2-45.amzn2 will be an update
--> Package grub2.x86_64 1:2.06-2.amzn2.0.1 will be obsoleted
--> Package grub2.x86_64 1:2.06-2.amzn2.0.3 will be obsoleting
--> Package grub2-common.noarch 1:2.06-2.amzn2.0.1 will be updated
--> Package grub2-common.noarch 1:2.06-2.amzn2.0.3 will be an update
--> Package grub2-efi-x64-ec2.x86_64 1:2.06-2.amzn2.0.1 will be updated
--> Package grub2-efi-x64-ec2.x86_64 1:2.06-2.amzn2.0.3 will be an update
--> Package grub2-pc.x86_64 1:2.06-2.amzn2.0.1 will be updated
--> Package grub2-pc.x86_64 1:2.06-2.amzn2.0.3 will be obsoleting
--> Package grub2-pc-modules.noarch 1:2.06-2.amzn2.0.1 will be updated
--> Package grub2-pc-modules.noarch 1:2.06-2.amzn2.0.3 will be an update
--> Package grub2-tools.x86_64 1:2.06-2.amzn2.0.1 will be obsoleted
--> Package grub2-tools.x86_64 1:2.06-2.amzn2.0.3 will be obsoleting
--> Package grub2-tools-efi.x86_64 1:2.06-2.amzn2.0.3 will be obsoleting
--> Package grub2-tools-extra.x86_64 1:2.06-2.amzn2.0.3 will be obsoleting
--> Package grub2-tools-minimal.x86_64 1:2.06-2.amzn2.0.1 will be updated
```

3. SUDO YUM INSTALL DOCKER

```
[ec2-user@ip-172-31-33-49 ~]$ sudo yum install docker
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package docker.x86_64 0:20.10.4-1.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
docker x86_64 20.10.4-1.amzn2 amzn2extra-docker 32 M
Transaction Summary
=====
Install 1 Package

Total download size: 32 M
Installed size: 136 M
Is this ok [y/d/N]: y
Downloading packages:
```

4. DOCKER

```
[ec2-user@ip-172-31-33-49 ~]$ docker
Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Options:
  --config string      Location of client config files (default "/home/ec2-user/.docker")
  -c, --context string  Name of the context to use to connect to the daemon (overrides DOCKER_HOST env var and default context set with "docker context use")
  -D, --debug           Enable debug mode
  -H, --host list       Daemon socket(s) to connect to
  -l, --log-level string Set the logging level ("debug"|"info"|"warn"|"error"|"fatal") (default "info")
  --tls                Use TLS; implied by --tlsverify
  --tlscacert string    Trust certs signed only by this CA (default "/home/ec2-user/.docker/ca.pem")
  --tlscert string       Path to TLS certificate file (default "/home/ec2-user/.docker/cert.pem")
  --tlskey string        Path to TLS key file (default "/home/ec2-user/.docker/key.pem")
  --tlsverify           Use TLS and verify the remote
  -v, --version         Print version information and quit

Management Commands:
  builder      Manage builds
  config       Manage Docker configs
  container    Manage containers
```

5. DOCKER --VERSION

```
[ec2-user@ip-172-31-33-49 ~]$ sudo docker --version
Docker version 20.10.4, build d3cb89e
```

6. SERVICE DOCKER START

```
[ec2-user@ip-172-31-33-49 ~]$ sudo service docker start
Redirecting to /bin/systemctl start docker.service
```

7. SERVICE DOCKER STOP

```
[ec2-user@ip-172-31-33-49 ~]$ sudo service docker stop
Redirecting to /bin/systemctl stop docker.service
Warning: Stopping docker.service, but it can still be activated by:
docker.socket
```

8. SERVICE DOCKER STATUS

```
[ec2-user@ip-172-31-33-49 ~]$ sudo service docker status
Redirecting to /bin/systemctl status docker.service
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; disabled; vendor preset: disabled)
   Active: inactive (dead) since Tue 2021-08-17 15:30:52 UTC; 20s ago
     Docs: https://docs.docker.com
   Process: 8001 ExecStart=/usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock $OPTIONS $DOCKER_STORAGE_OPTIONS $DOCKER_ADD_RUNTIMES (code=exited, status=0/SUCCESS)
   Process: 7993 ExecStartPre=/usr/libexec/docker/docker-setup-runtimes.sh (code=exited, status=0/SUCCESS)
   Process: 7983 ExecStartPre=/bin/mkdir -p /run/docker (code=exited, status=0/SUCCESS)
  Main PID: 8001 (code=exited, status=0/SUCCESS)

Aug 17 15:11:03 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:11:03.334129948Z" level...4
Aug 17 15:11:03 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:11:03.334626143Z" level...n"
Aug 17 15:11:03 ip-172-31-33-49.us-east-2.compute.internal systemd[1]: Started Docker Application Container Engine.
Aug 17 15:11:03 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:11:03.359549426Z" level...k"
Aug 17 15:14:01 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:14:01.810574903Z" level...e"
Aug 17 15:30:52 ip-172-31-33-49.us-east-2.compute.internal systemd[1]: Stopping Docker Application Container Engine...
Aug 17 15:30:52 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:30:52.711316731Z" level...'"
Aug 17 15:30:52 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:30:52.760244203Z" level...e"
Aug 17 15:30:52 ip-172-31-33-49.us-east-2.compute.internal dockerd[8001]: time="2021-08-17T15:30:52.839552835Z" level...e"
Aug 17 15:30:52 ip-172-31-33-49.us-east-2.compute.internal systemd[1]: Stopped Docker Application Container Engine.
Hint: Some lines were ellipsized, use -l to show in full.
```

9. DOCKER RUN HELLO-WORLD

```
[ec2-user@ip-172-31-33-49 ~]$ sudo su
[root@ip-172-31-33-49 ec2-user]# docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/
```

10. DOCKER RUN -IT UBUNTU BASH

```
[root@ip-172-31-28-32 ec2-user]# docker run -it ubuntu bash
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
16ec32c2132b: Pull complete
Digest: sha256:82becede498899ec668628e7cb0ad87b6e1c371cb8a1e597d83a47fac21d6af3
Status: Downloaded newer image for ubuntu:latest
oot@6d5d2d671415: /root@6d5d2d671415:/# exit
exit
```

WORKING WITH VOLUMES

11. DOCKER VOLUME CREATE

```
[root@ip-172-31-33-49 ec2-user]# docker volume create
468c9df9998ee452f8b58e32abe4ad85b90f365327a3a54d90d9a3de1fc29263
```

12. DOCKER VOLUME INSPECT

```
[ec2-user@ip-172-31-33-49 ~]$ sudo docker volume inspect 1095cee464adac670bdce670a77c3fb0f0e094df51486c18bb055f25f7a61153
[
  {
    "CreatedAt": "2021-08-17T16:21:56Z",
    "Driver": "local",
    "Labels": {},
    "Mountpoint": "/var/lib/docker/volumes/1095cee464adac670bdce670a77c3fb0f0e094df51486c18bb055f25f7a61153/_data",
    "Name": "1095cee464adac670bdce670a77c3fb0f0e094df51486c18bb055f25f7a61153",
    "Options": {},
    "Scope": "local"
  }
]
```

13. DOCKER VOLUME RM VOLID

```
[root@ip-172-31-33-49 ec2-user]# docker volume rm 468c9df9998ee452f8b58e32abe4ad85b90f365327a3a54d90d9a3de1fc29263
468c9df9998ee452f8b58e32abe4ad85b90f365327a3a54d90d9a3de1fc29263
```

14. DOCKER VOLUME LS

```
[root@ip-172-31-33-49 ec2-user]# docker volume ls
DRIVER      VOLUME NAME
local       468c9df9998ee452f8b58e32abe4ad85b90f365327a3a54d90d9a3de1fc29263
local       a50b5dc9f9992bcf4668793fc33ffa7d8cb4ade9dcd4a11e0a2d97dd67cdb9f2
```

15. SERVICE DOCKER STOP

```
[ec2-user@ip-172-31-33-49 ~]$ sudo service docker stop
Redirecting to /bin/systemctl stop docker.service
Warning: Stopping docker.service, but it can still be activated by:
docker.socket
```