Lab Exercise 1- Docker Fundamental Commands

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B2 Devops

Objective

Learn and practice the fundamental Docker CLI commands to:

- Manage images and containers
- Understand container lifecycle
- Build and run applications using Docker

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1. Setup

Prerequisites

- Docker installed on your system

  (Check using: docker --version)
- Internet access to pull images

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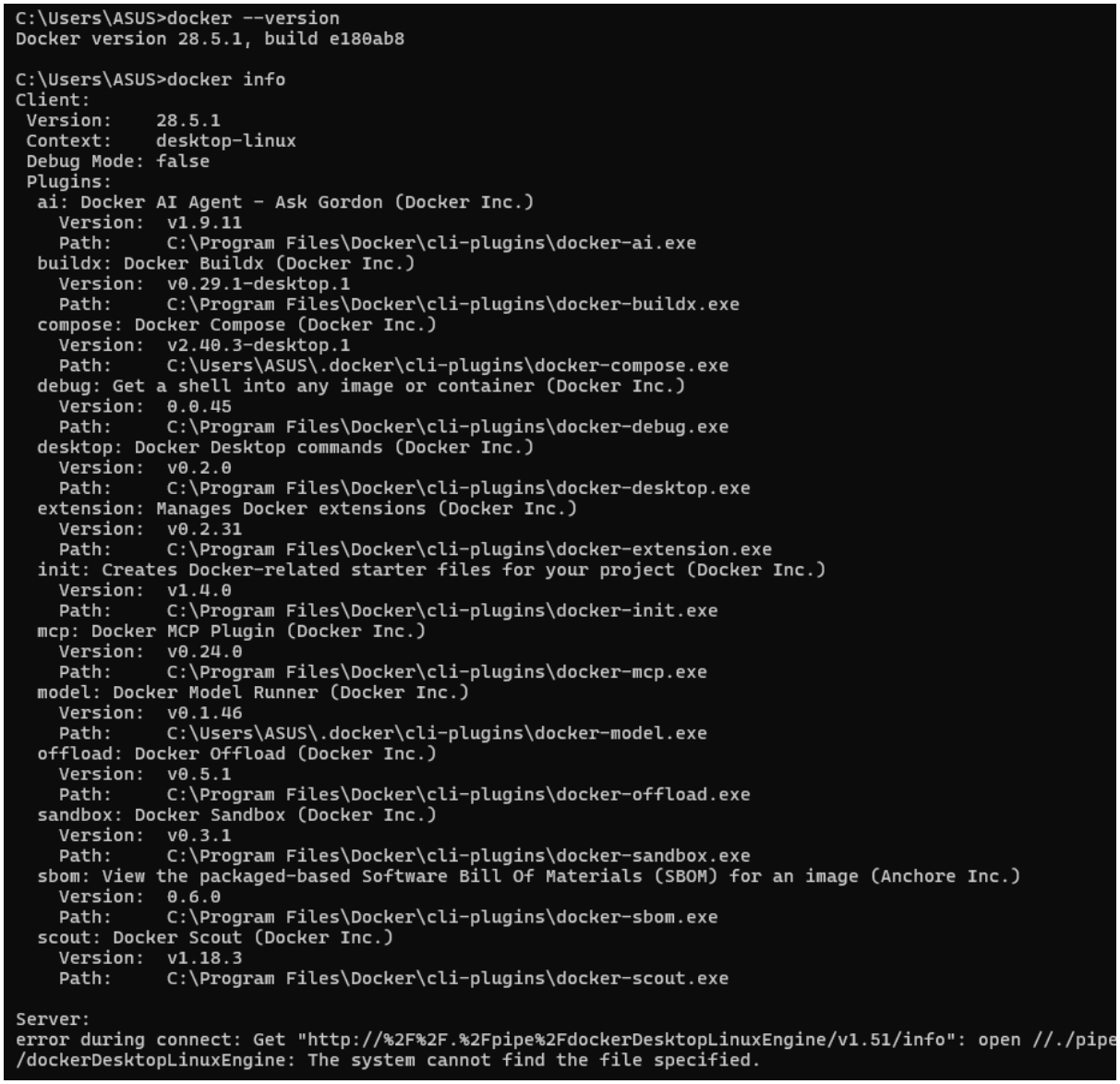
2. Basic Docker Commands

Step 1: Verify Installation

```
docker --version
```

```
docker info
```

Expected Output: Docker version and system details.



Step 2: Pull an Image from Docker Hub

```
docker pull ubuntu:latest
```

Explanation: Downloads the latest Ubuntu image from Docker Hub.

```
C:\Users\ASUS>docker pull ubuntu:latest
latest: Pulling from library/ubuntu
a3629ac5b9f4: Pull complete
Digest: sha256:cd1dba651b3080c3686ecf4e3c4220f026b521fb76978881737d24f200828b2b
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
```

Check available images:

```
docker images
```

```
C:\Users\ASUS>docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
ubuntu       latest    cd1dba651b30   2 weeks ago   117MB
nginx        latest    c881927c4077   2 weeks ago   237MB
```

Step 3: Run a Container

Run Ubuntu interactively:

```
docker run -it --name myubuntu ubuntu bash
```

Now you're inside a running container (prompt will change).

```
C:\Users\ASUS>docker run -it --name myubuntu ubuntu bash
root@7cdded83b44e:/#
```

Exit:

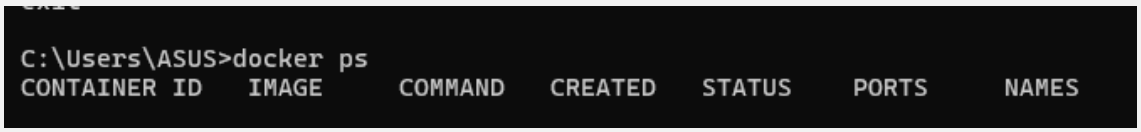
```
Exit
```

```
C:\Users\ASUS>docker run -it --name myubuntu ubuntu bash
root@7cdded83b44e:/# exit
exit
```

Step 4: List Containers

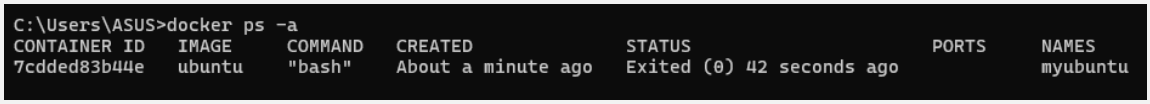
- Show running containers:

```
docker ps
```



- Show all containers (including stopped):

```
docker ps -a
```



Step 5: Start / Stop / Remove Containers

```
# Start a stopped container

docker start <container_id>

# Stop a running container

docker stop <container_id>

# Remove a container

docker rm <container_id>
```

Tip: Use docker ps -a to get container IDs.

```
C:\Users\ASUS>docker start 7cdded83b44e
7cdded83b44e

C:\Users\ASUS>docker stop 7cdded83b44e
7cdded83b44e

C:\Users\ASUS>docker rm 7cdded83b44e
7cdded83b44e
```

Step 6: Remove Images

```
docker rmi ubuntu:latest
```

Note: You must stop and remove all containers using that image first.

```
C:\Users\ASUS>docker rmi ubuntu:latest
Untagged: ubuntu:latest
Deleted: sha256:cd1dba651b3080c3686ecf4e3c4220f026b521fb76978881737d24f200828b2b
```
