Lesson 04 Demo 01

Setting up a Swarm Cluster with Managers and Worker Nodes

Objective: To demonstrate the setup of a Docker Swarm cluster with a manager and worker node, showcasing the steps of initialization, node joining, and cluster verification for participants to understand container orchestration fundamentals

Tools required: Docker and Ubuntu OS

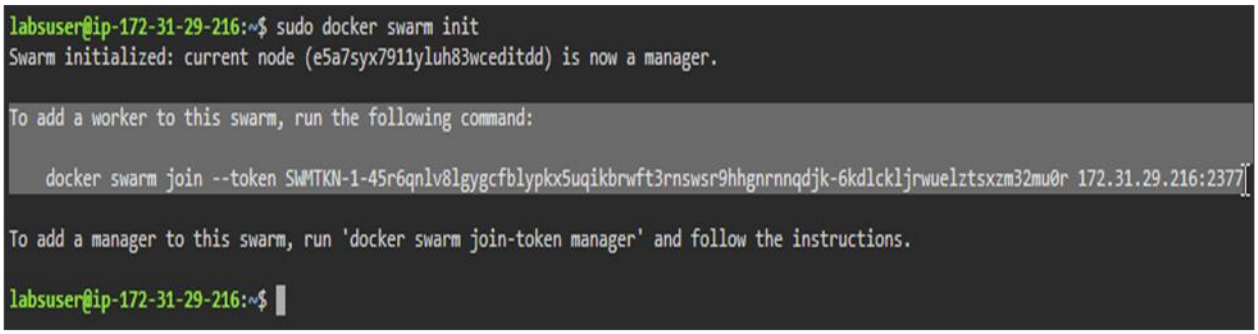
Prerequisites: None

Steps to be followed:

1. Initialize a swarm on a master node
2. Join the worker node in the swarm
3. List nodes in the swarm

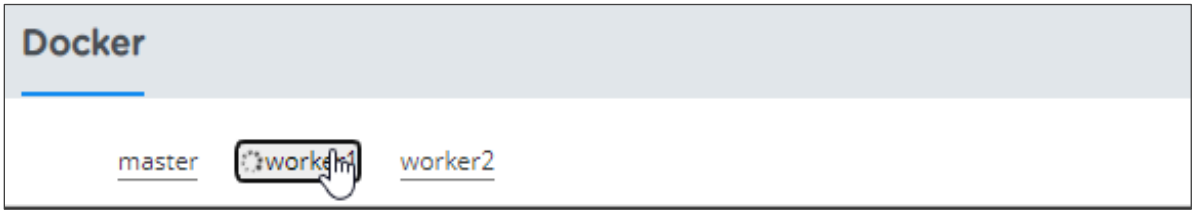
Step 1: Initialize a swarm on a master node

1.1 On the master node, open a terminal and run the following command to initialize the swarm:
sudo docker swarm init



Step 2: Join the worker node in the swarm

2.1 Navigate to the **worker1** tab in the lab



2.2 Open the terminal and run the following command to add a node in the created Docker swarm cluster:
**sudo docker swarm join **

```
labsuser@ip-172-31-26-147:~$ sudo docker swarm join \
> --token SWMTKN-1-45r6qnlv8lgygcfblypkx5uqikbrwft3rnswsr9hhgnrnnqdjk-6kdlckljrwuelztsxzm32mu0r \
> 172.31.29.216:2377
This node joined a swarm as a worker.
labsuser@ip-172-31-26-147:~$
```

Step 3: List nodes in the swarm

3.1 Navigate back to the terminal on the master node and list all the nodes in the swarm cluster using the following command:
sudo docker node ls

```
labsuser@ip-172-31-29-216:~$ sudo docker node ls
ID                            HOSTNAME            STATUS    AVAILABILITY   MANAGER STATUS   ENGINE VERSION
2ok547v07m3sy4bnhruvtke70     ip-172-31-26-147    Ready     Active                          19.03.12
e5a7syx7911yluh83wceditdd *   ip-172-31-29-216    Ready     Active         Leader           20.10.2
```

By following these steps, you have successfully set up a Docker swarm cluster with a manager and worker node, enabling it to manage containerized applications in a distributed environment efficiently.