

TEAM LEAD VERSION (Week-10)



CLARUSWAY
WAY TO REINVENT YOURSELF

Meeting Agenda

- ▶ Icebreaking
- ▶ Questions
- ▶ Interview/Certification Questions
- ▶ Coding Challenge
- ▶ Video of the week
- ▶ Retro meeting
- ▶ Case study / project

Teamwork Schedule

Ice-breaking

10m

- Personal Questions (Stay at home & Corona, Study Environment, Kids etc.)
- Any challenges (Classes, Coding, AWS, studying, etc.)
- Ask how they're studying, give personal advice.
- Remind that practice makes perfect.

Team work

10m

- Ask what exactly each student does for the team, if they know each other, if they care for each other, if they follow and talk with each other etc.

Ask Questions

15m

1. Suppose you have committed a file named testfile1.py for the repository and made some additional changes after the commit.

Which git command do you use to track (see) the changes of this file?

- A. `git pull`
- B. `git diff HEAD`
- C. `git fetch`
- D. `git log`

Answer: B

2. Which of the following is the native clustering for Docker?

- A. Docker Hub
- B. Docker Swarm
- C. Kubernetes
- D. Docker Compose

Answer: B

3. By default, all manager nodes are also worker nodes and are capable of executing tasks when they have the resources available to do so. (Docker Swarm)

- A. True
- B. Flase

Answer: A

4. Which command is used to initialize Docker Swarm mode?

- A. docker swarm create
- B. docker init swarm
- C. docker swarm init
- D. docker swarm run

Answer: C

5. What are the advantages of Jenkins?

- A. At integration stage, build failures are cached
- B. For each code commit changes an automatic build report notification generates
- C. To notify developers about build report success or failure, it is integrated with LDAP mail server
- D. All of the above

Answer: D

Interview/Certification Questions

20m

1. What is Docker Compose? What can it be used for?

Answer:

Docker Compose is a tool that lets you define multiple containers and their configurations via a YAML or JSON file.

The most common use for Docker Compose is when your application has one or more dependencies, e.g., MySQL or Redis. Normally, during development, these dependencies are installed locally—a step that then needs re-doing when moving to a production setup. You can avoid these installation and configuration parts by using Docker Compose.

Once set up, you can bring all of these containers/dependencies up and running with a single docker-compose up command.

2. What is Docker Swarm and which network driver should be used with it?

Answer:

Docker Swarm is an open-source container orchestration tool that is integrated with the Docker engine and CLI. If you want to use Docker Swarm, you should use the overlay network driver. Using an overlay network enables the Swarm service by connecting multiple docker host daemons together.

3. What is Maven? What is the benefit of integrating Maven with Jenkins?

Answer:

Maven is a build management tool. It uses a simple pom.xml to configure all the dependencies needed to build, test and run the code. Maven manages the full lifecycle of a test project. Once integrated with Jenkins, the maven Webdriver will build the project and execute all tests efficiently.

4. You are an architect in your organization. Your organization would want to upload files to AWS S3 bucket privately through AWS VPC. In an existing VPC, you created a subnet and VPC endpoint for S3. You also created one route table which routes the traffic from the subnet to a NAT gateway and also the traffic to S3 through the internet via the NAT gateway. But in AWS S3 server logs, you noticed that the request to S3 bucket from an EC2 instance is not coming via the Internet through the NAT Gateway. What could be causing this situation?

- A.** When NAT Gateway and VPC end-point exist on the same route table, NAT Gateway always takes precedence.
- B.** EC2 instance is having an elastic IP address associated with it.
- C.** The request was redirected through the VPC endpoint.
- D.** AWS S3 is a managed service, all requests will always go through internet.

Answer: C

Option A, the opposite is true. VPC Endpoint always takes precedence over NAT Gateway or Internet Gateway. In the absence of VPC endpoint, requests to S3 are routed to NAT Gateway or Internet Gateway based on their existence in route table.

Option B, the elastic IP address is IPv4 public address with which you can mask the failure of an instance or software by rapidly remapping the address to another instance in your account.

Elastic Ips are not used for routing requests from an EC2 instance.

Option C, A NAT gateway cannot send traffic over VPC endpoints, AWS Site-to-Site VPN connections, AWS Direct Connect, or VPC peering connections. If your instances in the private subnet must access resources over a VPC endpoint, a Site-to-Site VPN connection, or AWS Direct Connect, use the private subnet's route table to route the traffic directly to these devices and also add a route to the S3 VPC Endpoint.

Please refer to the following [Link](#)

Option D is false. VPC Endpoint helps to route traffic internally within the AWS network without the need to go over through internet. This makes your S3 bucket private to your network. For more information, refer VPC endpoint documentation. [Link](#)

5. You have a web application hosted on AWS VPC with a single EC2 instance with Auto Scaling enabled. You have also assigned elastic IP address to the EC2 instance. When you access the elastic IP address, you are able to successfully connect to your web application. You decided to route requests to your application from a custom domain through Route 53. You have performed the setup on Route 53. However, when you access your custom domain name from the internet, you get "Server Not Found" error. Which of the following could be a reason?

- A.** Route 53 service is for internal application routing. It does not support routing traffic from the internet.
- B.** You must configure elastic load balancer in order to use Route 53 for web application hosting.
- C.** IP address configured in Route 53 DNS record set might be incorrect.
- D.** The resource on EC2 instance that you're routing traffic to is unavailable.

Answer: C

Option A and B are not valid statements.

Although option D looks correct, the question states the connection to the web application was successful when connected through elastic IP address. So this option is not the cause of failure.

Video of the Week

5m

- [What Is Maven? | What Is Maven And How It Works?](#)

Retro Meeting on a personal and team level

10m

Ask the questions below:

- What went well?
- What could be improved?
- What will we commit to do better in the next week?

Coding Challenge

5m

- [Coding Challenge: Calculate Stock Profit](#)

We assume that each group has two sub teams. Each week, one of the sub-teams will present their solution.

Case study/Project

10m

Case study should be explained to the students during the weekly meeting and has to be completed in one Sprint (2 weeks) by the students. Students should work in small teams to complete the case study.

- [Project-201 : Dockerization of Bookstore Web API \(Python Flask\) with MySQL](#)

Closing

5m

-Next week's plan

-QA Session
