TEAM LEAD VERSION (DevOps-Week-3)

TEAMWORK

CLARUSWAY
WAY TO REINVENT YOURSELF

Meeting Agenda

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

Teamwork Schedule

Ice-breaking 5m

- 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. What is a Kubernetes volume?

A. The software within an OS that controls capacity allocation for nodes
B. A directory for the data accessible to containers in a pod
C. Layering software that puts apps into compartments for easier deployment
D. Code that enables two software programs to communicate

Answer: *B*

2. What is the function of labels? (Kubernetes)

A. To classify functions
B. To tag containers and link them together in groups
C. To assign functions to pods
D. To be ignored by millennials

Answer: *B*

3. Which of the following forms the core kubernetes objects? (Kubernetes)

A. Pod
B. Service
C. Volume
D. All of the Above

Answer: *D*

4. _____ manages the assigning nodes to pods depending on resource availability? (Kubernetes)

A. Etcd
B. Kubectl
C. Scheduler
D. Flanneld

Answer: *C*

5. _____ is a special namespace that is used for special purposes like bootstrapping a cluster (Kubernetes)

A. Kube-public
B. Kube-private
C. Kube-system
D. Default

Answer: *C*

6. An abstraction in kubernetes which defines a logical set of pods and a policy to access them. (Kubernetes)

A. Kubelet
B. Service
C. Node
D. Container

Answer: *B*

7. The Service Type _____ works only if your cluster is setup to work with a cloud provider. (Kubernetes)

A. ClusterIP
B. NodePort
C. LoadBalancer
D. ExternalName

Answer: *C*

8. This volume type can be used to share contents within containers in a pod, but will not persist beyond the life of a pod. (Kubernetes)

A. EmptyDir
B. FlexVolume
C. ConfigMap
D. Local

Answer: *A*

9. _____ service is automatically created for you k8s cluster creation and takes care of the internal routing of the cluster. (Kubernetes)

A. NodePort
B. ClusterIP
C. Headless
D. Load Balancer

Answer: *B*

10. The command to create Kubernetes service is _____. (Kubernetes)

A. Kubectl expose
B. Kubectl set service
C. Kubectl run
D. Kubectl deploy

Answer: *A*

Interview/Certification Questions 20m

1. Which AWS services can be used to host and scale an application, in which the NGINX load balancer used? (SELECT TWO)

A. AWS EC2
B. AWS Elastic Beanstalk
C. AWS RDS.
D. AWS ELB

Answer: *A and B*

NGINX is open-source software for web serving, reverse proxying, caching, content-based routing rules, auto-scaling support, and traffic management policies.

NGINX can be hosted on an EC2 instance through a series of clear steps- Launch an EC2 instance through the console. Connect to the instance over SSH and use the command yum install -y Nginx to install Nginx. Also, make

sure that it is configured to restart automatically after a reboot.

It can also be installed with an Elastic Beanstalk service. To enable the NGINX proxy server with your Tomcat application, you must add a configuration file to .ebextensions in the application source bundle that you upload to Elastic Beanstalk.

More information is available at: Link

2. You are launching the AWS ECS instance. You would like to set the ECS container agent configuration during the ECS instance launch. What should you do?

A. Set configuration in the ECS metadata parameter during cluster creation.
B. Set configuration in the user data parameter of ECS instance.
C. Define configuration in the task definition.
D. Define configuration in the service definition.

Answer: *B*

When you launch an Amazon ECS container instance, you have the option of passing user data to the instance. The data can be used to perform common automated configuration tasks and even run scripts when the instance boots. For Amazon ECS, the most common use cases for user data are to pass configuration information to the Docker daemon and the Amazon ECS container agent.

3. Your development team has just finished developing an application on AWS. This application is created in .NET and is hosted on an EC2 instance. The application currently accesses a DynamoDB table and is now going to be deployed to production. Which of the following is the ideal and most secure way for the application to access the DynamoDB table?

A. Pass API credentials to the instance using instance user data.
B. Store API credentials as an object in Amazon S3.
C. Embed the API credentials into your JAR files.
D. Assign an IAM role to the EC2 Instances

Answer: *D*

You can use roles to delegate access to users, applications, or services that don't normally have access to your AWS resources.

It is not a best practice to use IAM credentials for any production based application. It is always a good practice to use IAM Roles.

For more information on IAM Roles, please visit the Link

4. You have an application that has been dockerized. You plan to deploy the application in an AWS ECS cluster. As the application gets configuration files from an S3 bucket, the ECS containers should have the AmazonS3ReadOnlyAccess permission. What is the correct method to configure the IAM permission?

A. Add an environment to the ECS cluster configuration to allow the S3 read only access.
B. Add the AmazonS3ReadOnlyAccess permission to the IAM entity that creates the ECS cluster.
C. Modify the user data of ECS instances to assume an IAM role that has the AmazonS3ReadOnlyAccess permission.
D. Attach the AmazonS3ReadOnlyAccess policy to the ECS container instance IAM role. Attach this role when creating the ECS cluster

Answer: *D*

ECS containers have access to permissions that are supplied to the container instance role. Details please check the ECS documentation in Link

Option A is incorrect: Because ECS cluster uses the container instance IAM role instead of environment variables to control its permissions.
Option B is incorrect: Because the IAM entity that creates the ECS cluster does not pass its permissions to the ECS cluster. You need to configure an IAM role and attach it to the ECS cluster.
Option C is incorrect: This is not the correct method to configure IAM permissions for an ECS cluster.
Option D is CORRECT: After the AmazonS3ReadOnlyAccess policy is attached to the IAM role, the ECS instances can use the role to get objects from S3.

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Article of the Week 10m

- How to use s3 backend with a locking feature in Terraform to collaborate more efficiently? (easily and visually explained)

Video of the Week 10m

- A Guide to the DevOps Technical Interview

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: Generate Password

Case study/Project 10m

- Project-203: Dockerization bookstore api on python-flask-mysql

Closing 5m

-Next week's plan

-QA Session
