TEAM LEAD VERSION (DevOps-Week-5)

CLARUSWAY
WAY TO REINVENT YOURSELF

Meeting Agenda

- ▶ Icebreaking
- ▶ Microlearning
- ▶ 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. Which description best fits a DaemonSet? (Kubernetes)

A. A way to run a copy of a pod on all or some nodes
B. A method to manage clusters of pods
C. A channel through which to pass information between two or more nodes
D. A system to connect nodes and pods

Answer: *A*

2. Which of the component assigns new workload to worker node? (Kubernetes)

A. kube-schedular
B. kube-controller-manager
C. kube-etdc
D. kube-API-server

Answer: *A*

3. A Persistent Volume depends on the lifetime of a Pod! (Kubernetes)

A. True
B. False

Answer: *B*

4. Secrets cannot be mounted into pods via a volume! (Kubernetes)

A. True
B. False

Answer: *B*

5. The type of architecture in which your application is divided into multiple components and there's no single point of failure is known as(Kubernetes)

A. Monoservice-based architecture
B. Monolitic
C. Microservice-based architecture
D. Master-master architecture

Answer: *C*

Interview/Certification Questions 20m

1. For which of the following scenarios should a Solutions Architect consider using ElasticBeanStalk? (Choose Two)

A. A web application using Amazon RDS
B. An Enterprise Data Warehouse
C. A long-running worker process
D. Capacity provisioning and load balancing of website
E. A management task run once on nightly basis

Answer: *A and D*

AWS Documentation clearly mentions that the Elastic Beanstalk component can be used to create Web Server environments and Worker environments.

For more information on AWS Elastic beanstalk Web server environments, please visit the following Link

Option B is incorrect. Elastcibeanstalk is used to deploy and manage the applications on AWS. It's not used to store the data. Link

For more information on AWS Elastic beanstalk Worker environments, please visit the following Link

Option C is incorrect. Beanstalk does not make sense to use for long-running processes. EC2 instances would be a better fit.

Option D is correct. We can use Elastic Beanstalk to distribute incoming application traffic across multiple targets, such as Amazon EC2 instances, containers, IP addresses, and Lambda functions. It can handle the varying load of

your application traffic in a single Availability Zone or across multiple Availability Zones. Link

Option E is incorrect. When you launch an Elastic Beanstalk environment, you first choose an environment tier. The environment tier that you choose determines whether Elastic Beanstalk provisions resources to support an application that handles HTTP requests or an application that pulls tasks from a queue. An application that serves HTTP requests runs in a web server environment. An environment that pulls tasks from an Amazon Simple Queue Service queue runs in a worker environment.

Further, when you create an environment, Elastic Beanstalk provisions the resources required to run your application. AWS resources created for an environment include one elastic load balancer (ELB in the diagram), an Auto Scaling group, and one or more Amazon EC2 instances.

So, these resources are required to run the application 24/7, not for only at night or day.

2. You have 2 development environments hosted in 2 different VPCs in an AWS account in the same region. There is now a requirement to access the resources of one VPC from another. How could this be accomplished?

A. Establish a Direct Connect connection.
B. Establish a VPN connection.
C. Establish VPC Peering.
D. Establish Subnet Peering.

Answer: *C*

A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them privately. Instances in either VPC can communicate with each other as if they are within the same network. You can create a VPC peering connection between your own VPCs, with a VPC in another AWS account, or with a VPC in a different AWS Region.

For more information on VPC peering, please visit the Link

3. You have an application developed in .NET. This applications works with the S3 buckets in a particular region. The application is hosted on an EC2 Instance. Which of the following should ideally be used to ensure that the EC2 Instance has the appropriate access to the S3 buckets?

A. AWS Users
B. AWS Groups
C. AWS IAM Roles
D. AWS IAM Policies

Answer: *C*

You can use roles to delegate access to users, applications, or services that don't normally have access to your AWS resources.
For more information on IAM Roles, please refer to the Link
Groups *are collections of Users which will not be appropriate for the EC2 Instance so A and B are incorrect.*

The creation of a new policy cannot ensure appropriate access. They must be attached to a User, Group or Role. Therefore D is incorrect.

4. You are requested to expose your serverless application implemented with AWS Lambda to HTTP clients.(using HTTP Proxy)
Which of the following AWS services can you use to accomplish the task? (Select TWO)

A. AWS Elastic Load Balancing (ELB)
B. AWS Route53
C. AWS API Gateway
D. AWS Lightsail
E. AWS Elastic Beanstalk

Answer: *A and C*

Option A is CORRECT *because AWS documentation mentions it "Application Load Balancers now support invoking Lambda functions to serve HTTP(S) requests. This enables users to access serverless applications from any HTTP client, including web browsers.*
Option B is INCORRECT *because Route53 is a Domain Name System and not an HTTP proxy.*
Option C is CORRECT *because API Gateway + Lambda is a common pattern for exposing serverless functions via HTTP/HTTPS. AWS documentation mentions it "Creating, deploying, and managing a REST application programming interface (API) to expose backend HTTP endpoints, AWS Lambda functions, or other AWS services"*
Option D is INCORRECT *because AWS Lightsail has a completely different goal. It is a service to speed up provisioning of AWS resources.*
Option E is INCORRECT *because AWS Elastic Beanstalk has a completely different goal. It is a service that makes easier for developers to quickly deploy and manage applications in the AWS Cloud. Developers simply upload their application, and Elastic Beanstalk automatically handles the deployment details of capacity provisioning, load balancing, auto-scaling, and application health monitoring.*

5. An application currently allows users to upload files to an S3 bucket. You want to ensure that the file name for each uploaded file is stored in a DynamoDB table. How could this be achieved? (SELECT TWO)

A. Create an AWS Lambda function to insert the required entry for each uploaded file.
B. Use AWS CloudWatch to probe for any S3 event.
C. Add an event in S3 with notification send to Lambda.
D. Add the CloudWatch event to the DynamoDB table streams section.

Answer: *A and C*

You can create a Lambda function containing the code to process the file, and add the name of the file to the DynamoDB table.

You can then use an Event Notification from the S3 bucket to invoke the Lambda function whenever the file is uploaded.

For more information on Amazon S3 Event Notifications, please visit the following Link

Article of the Week 10m

- Installation of a WordPress Page and a Database with Docker-Compose Using Secrets

Video of the Week 10m

- What is Helm?

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

- Watching Free Disk Space

Case study/Project 10m

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

- Project-206: Microservice Architecture for Phonebook Web Application (Python Flask) with MySQL using Kubernetes.

Closing 5m

-Next week's plan

-QA Session
