#### **1. What is AWS Lambda invocation, and how does it work?**

* **Invocation**: When an event triggers a Lambda function.
* **Types**:
  + **Synchronous**: API Gateway, ALB, etc.
  + **Asynchronous**: S3, SNS, etc.
  + **Event Source Mapping**: DynamoDB Streams, Kinesis.

#### **2. When should you use AWS Lambda instead of an EC2 instance, and vice versa?**

* **Lambda**: Use for short-lived, event-driven tasks.
* **EC2**: Use for long-running applications.

#### **3. How can a Lambda function be triggered?**

* API Gateway, S3, SNS, DynamoDB Streams, Step Functions, EventBridge, etc.

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### **IAM & Multi-Account Management**

#### **1. A customer requires a Jenkins server deployed in one AWS account, but the same server’s pipelines need to connect to another account in the same region. How can we establish this connection securely?**

* Use **IAM Cross-Account Roles** with the sts:AssumeRole policy.

#### **2. If I have a user who needs to access all accounts, how can they use AWS SSO (Single Sign-On)?**

* **Enable AWS IAM Identity Center**.
* Assign users **permission sets** across accounts.

#### **3. I have multiple accounts, and I want to monitor the resources for each user. How can I achieve this?**

* Use **AWS Organizations + AWS Config**.
* Use **CloudTrail** for logging.
* Use **Amazon GuardDuty** for threat detection.

#### **4. How can I create a cost optimization budget, set up a dashboard, and monitor costs in AWS?**

* **Use AWS Cost Explorer & AWS Budgets**.
* Set up **AWS CloudWatch Alarms** for budget alerts.
* Use **AWS Trusted Advisor** for cost recommendations.

### **Networking (VPC, Load Balancing, API Exposure)**

#### **1. If my web-based application is hosted on a private subnet, how can I access it from outside the subnet?**

* Use **ALB/NLB** in a public subnet.
* Use a **Bastion Host** for admin access.
* Use **AWS PrivateLink** if accessing from another VPC.

#### **2. Can VPC peering be done between accounts? In how many ways can we establish a connection between two networks?**

* **Yes, VPC Peering can be done**.
* **Ways to connect**:
  + VPC Peering
  + AWS Transit Gateway
  + AWS PrivateLink
  + Direct Connect
  + VPN Connection

#### **3. If an NLB has a static IP address and an ALB has a dynamic IP address, can we assign a static IP address to the ALB?**

* No, but you can use **AWS Global Accelerator** to assign a static IP to ALB.

#### **4. How can an API be exposed to the internet?**

* Use **API Gateway**.
* Use an **ALB with a public IP**.
* Deploy on **EC2 with a public IP**.