1.What is Serverless Computing. What are the advantages of using serverless computing.

A) Serverless computing is a method of providing backend services on an as-used basis. A serverless provider allows users to write and deploy code without the hassle of worrying about the underlying infrastructure. A company that gets backend services from a serverless vendor is charged based on their computation and do not have to reserve and pay for a fixed amount of bandwidth or number of servers, as the service is auto-scaling. Note that despite the name serverless, physical servers are still used but developers do not need to be aware of them.

Advantages of serverless computing:

* No server management is necessary. ...
* Developers are only charged for the server space they use, reducing cost. ...
* Serverless architectures are inherently scalable. ...
* Quick deployments and updates are possible. ...
* Code can run closer to the end user, decreasing latency.

2.Define some of the Serverless Computing Services in AWS.

A) AWS serverless computing services:

* AWS Lambda
* Amazon API Gateway
* Amazon DynamoDB
* Amazon S3
* Amazon Aurora
* Amazon SNS and SQS

3.What is AWS Lambda. What are the features and advantages of using Lambda.

A) AWS Lambda is a compute service that lets you run code without provisioning or managing servers.

Lambda runs your code on a high-availability compute infrastructure and performs all of the administration of the compute resources, including server and operating system maintenance, capacity provisioning and automatic scaling, and logging. With Lambda, all you need to do is supply your code in one of the language runtimes that Lambda supports.

AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the underlying compute resources for you.

Advantages: Minimized cost

* Automatic scalability
* Killer use cases
* Quicker iterative development
* Less operational management
* Consolidate Functionality
* Industry-leading customer service

4.What are the different languages supported by AWS.

A) Languages supported by

AWS:

* C++
* Go.
* Java.
* JavaScript.
* Kotlin.
* .NET.
* Node.js.
* PHP.

5. What are different ways AWS Lambda function be invoked?

A) Invoke Lambda functions directly using [the Lambda console](https://docs.aws.amazon.com/lambda/latest/dg/gettingstarted-images.html#get-started-invoke-function), a [function URL](https://docs.aws.amazon.com/lambda/latest/dg/lambda-urls.html) HTTP(S) endpoint, the [Lambda API](https://docs.aws.amazon.com/lambda/latest/dg/API_Reference.html), an [AWS SDK](http://aws.amazon.com/developer/tools/), the [AWS Command Line Interface](https://docs.aws.amazon.com/cli/latest/reference/lambda/index.html) (AWS CLI), and [AWS toolkits](http://aws.amazon.com/developer/tools/). You can also configure other AWS services to invoke your function in response to events or external requests, or on a schedule.

6.What are AWS Step Functions.

A) Step Functions is a serverless orchestration service that lets you easily coordinate multiple Lambda functions into flexible workflows that are easy to debug and change. Step Functions will keep your Lambda functions free of additional logic by triggering and tracking each step of your application.

7. What is an API. Give example of some of the public API endpoints available.

A) APIs are mechanisms that enable two software components to communicate with each other using a set of definitions and protocols. For example, the weather bureau’s software system contains daily weather data. The weather app on your phone “talks” to this system via APIs and shows you daily weather updates on your phone.

Software programs typically have multiple API endpoints. For example, Instagram's endpoints include one that allows businesses and creators to measure media and profile interactions; one that allows them to moderate comments and their replies; and a third that allows them to discover hash tagged media.

8.What is an API Gateway. What are advantages of using API Gateway in AWS.

A) Amazon API Gateway helps developers to create and manage APIs to back-end systems running on Amazon EC2, AWS Lambda, or any publicaly addressable web service. With Amazon API Gateway, You can generate custom client SDKs for your APIs, to connect your back-end systems to mobile, web, and server applications or services.

An API gateway's primary benefit is that it standardizes and centralizes delivery of services through APIs or microservices. Beyond this, API gateways also help secure and organize an organization's API-based integrations in a number of ways.

9.Write a simple program in Python to trigger lambda function every time a file uploaded to S3.

A) Create an Amazon S3 bucket. Create a Lambda function that returns the object type of objects in an Amazon S3 bucket. Configure a Lambda trigger that invokes your function when objects are uploaded to your bucket. Test your function, first with a dummy event, and then using the trigger.

10.What is AWS Secrets Manager. What are the advantages of Secrets Manager.

A) AWS Secrets Manager is a secrets management service that helps you protect access to your applications, services, and IT resources. This service enables you to easily rotate, manage, and retrieve database credentials, API keys, and other secrets throughout their lifecycle. Using Secrets Manager, you can secure and manage secrets used to access resources in the AWS Cloud, on third-party services, and on-premises.

Allows multiple versions to exist at the same time when you are performing a secret rotation using the staging labels.

11.What is AWS Event Bridge.

A) Event Bridge is a serverless service that uses events to connect application components together, making it easier for you to build scalable event-driven applications. Use it to route events from sources such as home-grown applications, AWS services, and third- party software to consumer applications across your organization. Event Bridge provides a simple and consistent way to ingest, filter, transform, and deliver events so you can build new applications quickly.

12.Define an cron expression on Event bridge to schedule Lambda Function to run every day at 4PM and verify the logs to confirm the same.

A) Open the Functions page of the Lambda console.

Step 1: Create a Lambda function. Create a Lambda function to log the scheduled events. ...

Step 2: Create a Rule. Create a rule to run the Lambda function you created in step 1 on a schedule. ...

Step 3: Verify the rule. ...

Step 4: Confirm success. ...

Step 5: Clean up your resources.