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Task 1 Report : Automatically Start/Stop EC2 Instances with AWS Lambda and Amazon

Fundamental

EC2 (Elastic Compute Cloud) is a core component of AWS cloud Computing Platform.

AWS Lambda is a **serverless computing service** offered by AWS.

It enables users to run their **code in response** to various events, without having to manage **servers or infrastructure**.

Task is create a automation process to start and shutdown EC2 instance at predefined times using Lambda function

Lab Implementation Steps



Amazon Web Services (AWS) provides a service called Elastic Compute Cloud (EC2) that allows users to create and run virtual machines in the cloud. EC2 instances can be used for various purposes like hosting websites, running applications, and data processing. In this report, we will discuss how to create an automation process to start and shutdown an EC2 instance at predefined times using a Lambda function.

AWS Lambda: AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the computing resources for you. Lambda functions can be used to automate tasks, create serverless architectures, and build data processing pipelines. In this project, we will use a Lambda function to start and stop an EC2 instance at predefined times.

EC2 Instance: An EC2 instance is a virtual machine running in the AWS cloud. It can be used to run applications, host websites, and perform various computing tasks. EC2 instances can

be started, stopped, and terminated on demand. In this project, we will start and stop an EC2 instance at predefined times using a Lambda function.

Automation Process: The automation process involves creating a Lambda function that starts and stops an EC2 instance at predefined times. The Lambda function will be triggered by a CloudWatch event, which will be scheduled to run at the predefined times.

Step 1: Create a Lambda Function The first step is to create a Lambda function that starts and stops the EC2 instance. The Lambda function will use the AWS SDK to interact with the EC2 API and start or stop the instance. The Lambda function code will be written in a programming language supported by AWS Lambda like Python, Node.js, Java, or C#.

Step 2: Create an IAM Role The Lambda function needs permission to interact with the EC2 API. Therefore, we need to create an IAM role that has the necessary permissions. The IAM role should have permissions to start and stop EC2 instances.

Step 3: Create a CloudWatch Event The CloudWatch event is used to trigger the Lambda function at predefined times. The CloudWatch event can be scheduled to run at specific times using a cron expression. The cron expression specifies the time and date when the event should be triggered.

Step 4: Test the Automation Process Once the Lambda function, IAM role, and CloudWatch event are created, we can test the automation process. We can manually trigger the CloudWatch event and verify that the Lambda function starts and stops the EC2 instance at the predefined times

Reference used:

<https://github.com/iaasacademy/aws-how-to-guide>

https://youtu.be/VD_rF_tIBOY

platform used :

AWS

- Lambda
- IAM

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