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Lab Activity 5: Start and stop EC2 instances at regular intervals using Lambda function.

Procedure:

I) Firstly we have to create a custom AWS Policy (Start-and-Stop) to start and stop the EC2 instance and create an "AWS Role" to work with the concerning AWS policy.

1) First we head to the IAM Dashboard and then under Access Management we have to click on Policies.

2) Under Policies we have to click on "Create Policy" and then do the following steps:

a) Under Specify Permissions

i) We first have to click on "JSON" and then enter the required Code..

ii) Then we have to click on "Next".

b) Under Review and Create

i) Under Policy details we have to enter the "Policy Name"(EC2-Start-Stop) and the "Description".

ii) We will skip the tags as it is optional.

iii) Then we have to click on "Create Policy".

iv) We are brought back to the Policies Sub-menu and it on the top it shows "Policy EC2-Start-Stop has been created".

3) Now, under 'Access Management' we have to click on Roles and then we click on "Create Role".

4) Now we have to follow the follwoing steps:

Step a) Select Trusted Entity:

i) We have to click on "AWS Service".

ii) Under Use Case we have to click on "Lambda".

Step b) Under Add Permissions,

i) Under Permission Policies we have to click on "EC2-Start-Stop".

ii) Then we click on "Next".

Step c) Under Name, Review and Create:

i) We fill in Role Name (EC2-Start-Stop-21BSA10094) and then we have to review the rest and then click on "Create Role"

5) Lastly it shows that the role is Created.

II) Secondly we have to work with Lambda functions and create a Lambda Function to start the ec2 instance.

1) Under AWS Lambda we have to click on Functions.

2) Then we click on Create Function.

3) Then we click on "Author from Scratch".

4) Then we enter the "Function Name" - ec2-start-21BSA10094.

5) For Runtime we choose "Python 3.10".

6) For 'Architecture' we choose "x86\_64"

7) Then we change the Default Execution Role and choose the one that we created!

8) Then we click on "Create Function"

9) It shows the function has successfully been created.

10) Then we scroll down to the code section and write the code to start the EC2 instance.

11) Then we click on Deploy. This will deploy the code. And it shows successfully updated the function "ec2-start-21BSA10094".

12) Now we create a "Test event" by clicking on teh "Test" button.

13) Then in the "Configure test Event tab",

a) Click on "Create New Event" option.

b) Under "Event name" we enter the name(stopec2).

c) Then we click on Save.

14) Next we click on the "Test" button and 'run the code'.

15) Now on the EC2 dashboard we can see that our EC2 instance is running. (This we have done it using the lambda function).

16) Now we have to Create a function that will stop the EC2 instance.

III) Now we need to use Lambda funcitons to create a function that will help use stop the EC2 instance.

1) Under AWS Lambda Functions, we click on Create Function.

2) Then we click on the "Author From Scratch" option.

3) Then we enter the Function name, "ec2-Stop".

4) For Runtime we choose (Python 3.7)

5) For Architecture we choose (x86\_64)

6) Then we have to choose the Role that we previously created.

7) Then we click on "Create Funciton".

8) Then after entering the required code, we have to Click on "Test".

9) Under Configure Test Event:

a) First we have to press the "Create New Event" option.

b) Then we enter the Event Name. (stopec2)

c) Then we press the orange "save" button.

10) Then we click on the Deploy button.

11) The message "Successfully updated the function ec2-Stop" is displayed.

12) Then again we click on the Test Button to which a new tab "Execution-Result" opens up.

13) After this we see that the EC2 instance has stopped.



































