**Graded Assignment On Serverless Architecture**

**Assignment 1: Automated Instance Management Using AWS Lambda and Boto3**

**Objective:** In this assignment, you will gain hands-on experience with AWS Lambda and Boto3, Amazon's SDK for Python. You will create a Lambda function that will automatically manage EC2 instances based on their tags.

**Task:** You're tasked to automate the stopping and starting of EC2 instances based on tags. Specifically:

1. Setup:

   - Create two EC2 instances.

   - Tag one of them as `Auto-Stop` and the other as `Auto-Start`.

2. Lambda Function Creation:

   - Set up an AWS Lambda function.

   - Ensure that the Lambda function has the necessary IAM permissions to describe, stop, and start EC2 instances.

3. Coding:

   - Using Boto3 in the Lambda function:

     - Detect all EC2 instances with the `Auto-Stop` tag and stop them.

     - Detect all EC2 instances with the `Auto-Start` tag and start them.

4. Testing:

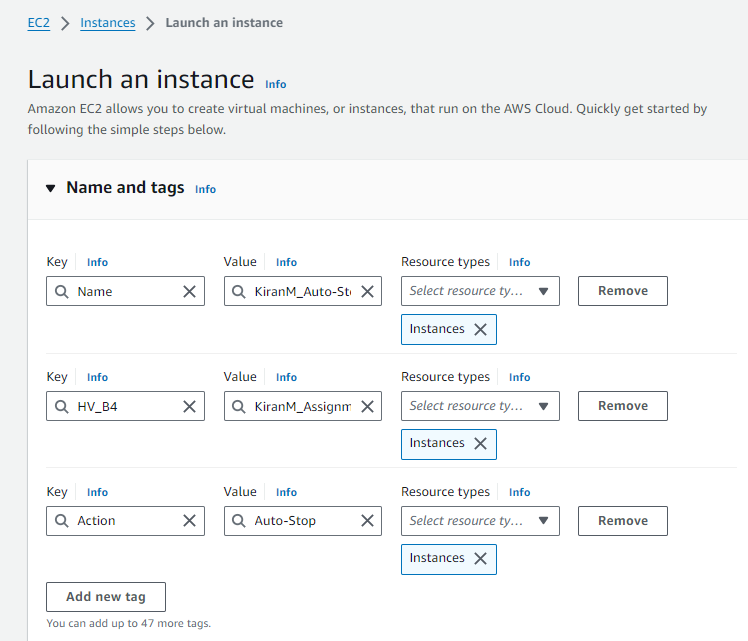
   - Manually invoke the Lambda function.

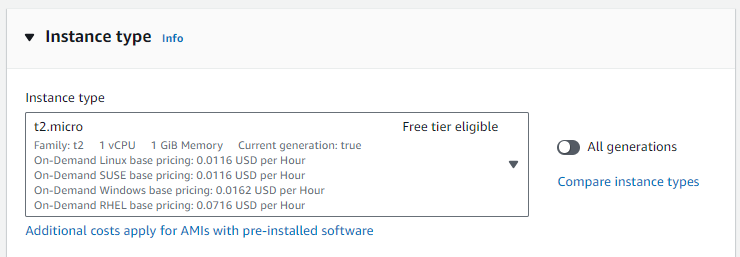
   - Confirm that the instance tagged `Auto-Stop` stops and the one tagged `Auto-Start` starts.

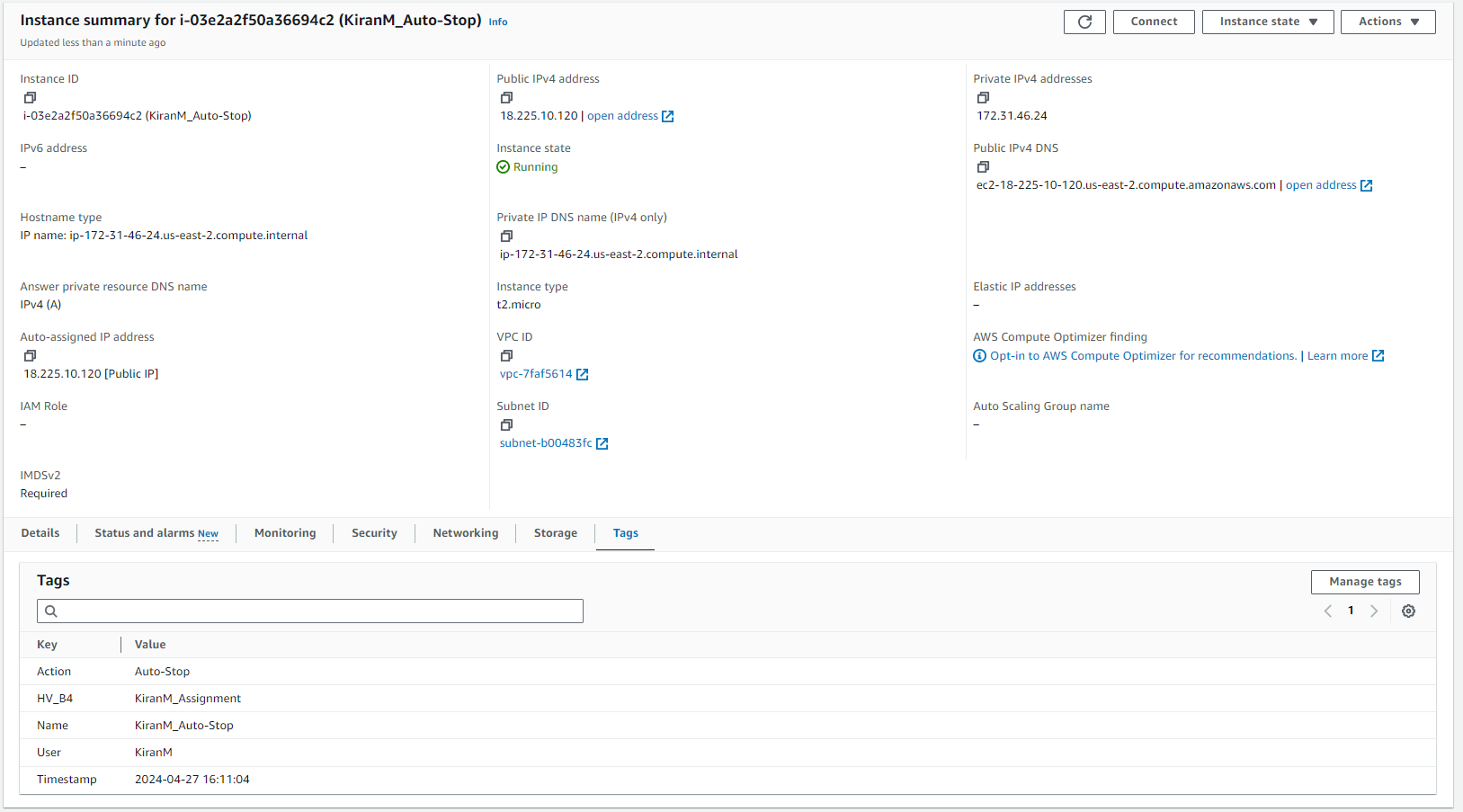
1. **SetUp:**

We will create 2 EC2 instances here.

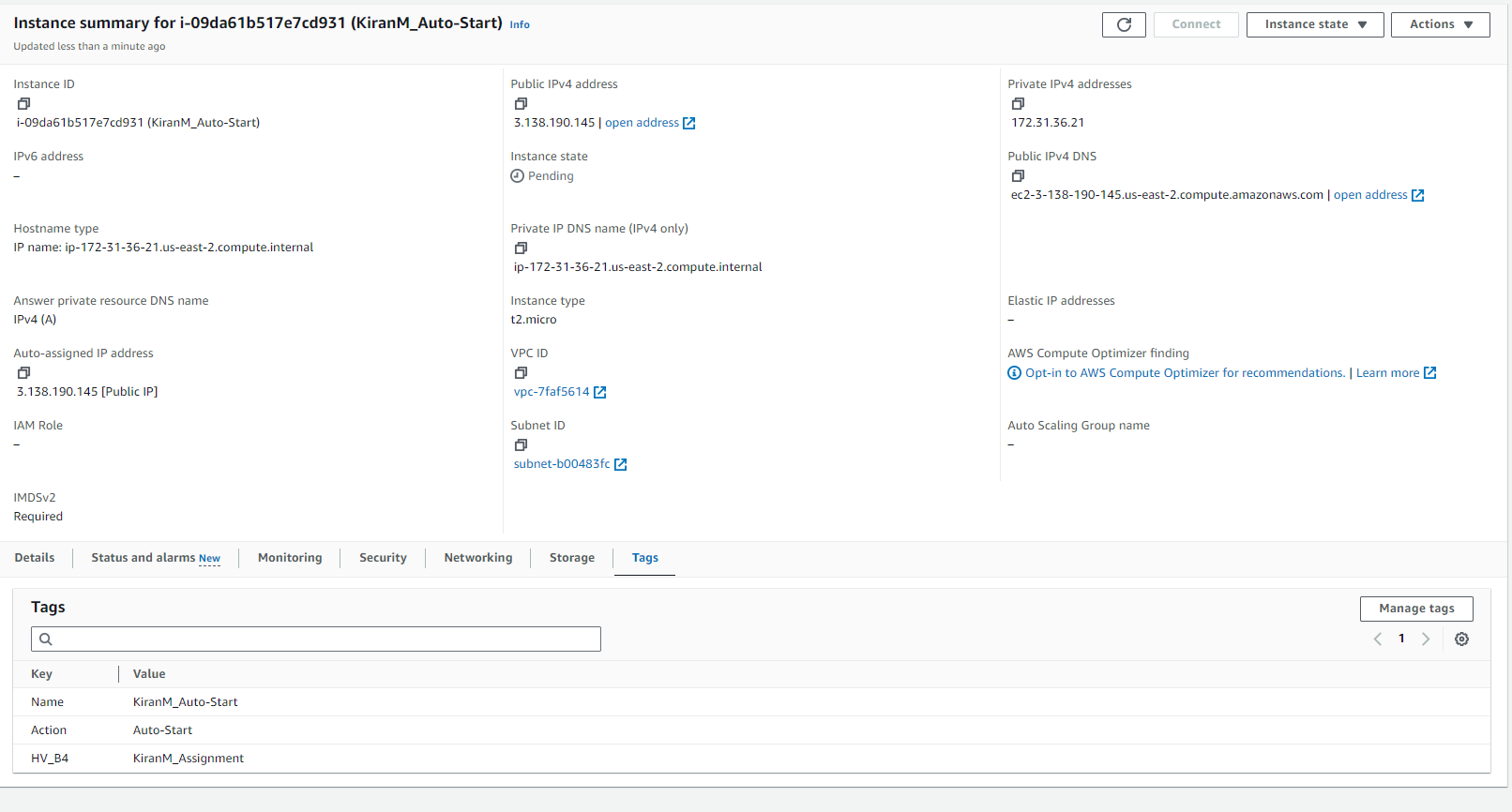
**Step 1: Create Auto-Stop instance**







**Step 2: Create another EC2 instance Auto-Start**



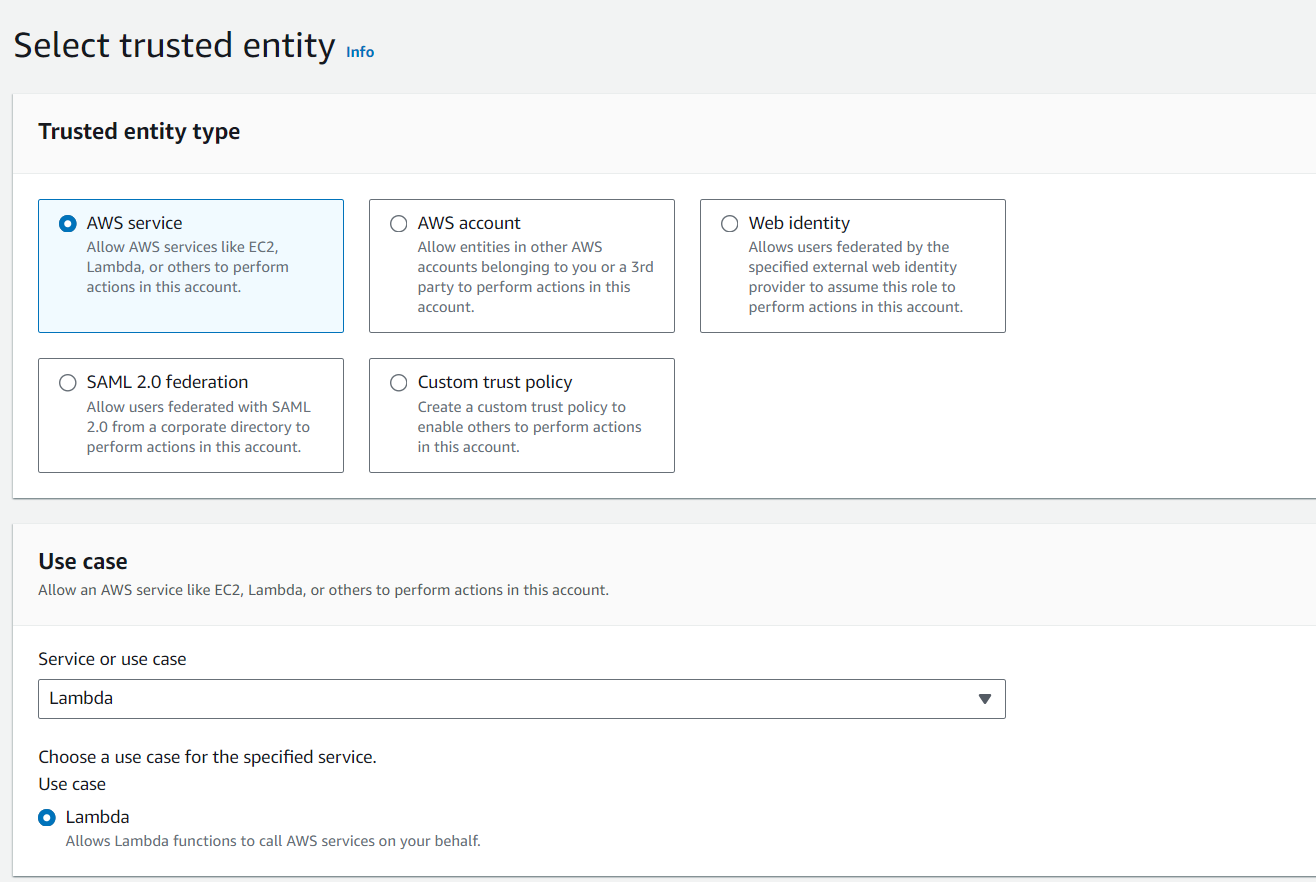
1. **Lambda Function Creation:**

**Step 1: Create IAM Role**

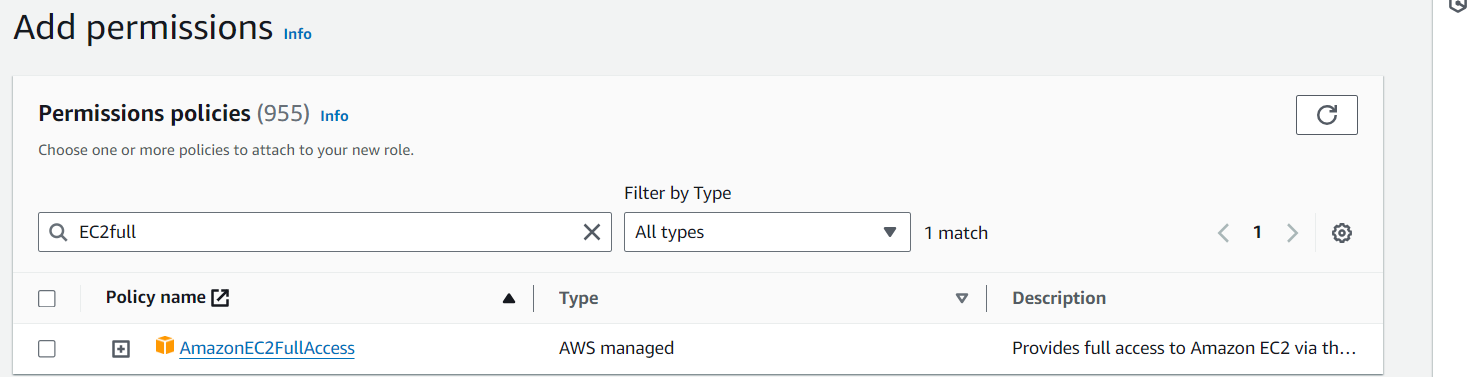
Go to IAM service

Create Role by going to navigation Roles -> Create Role

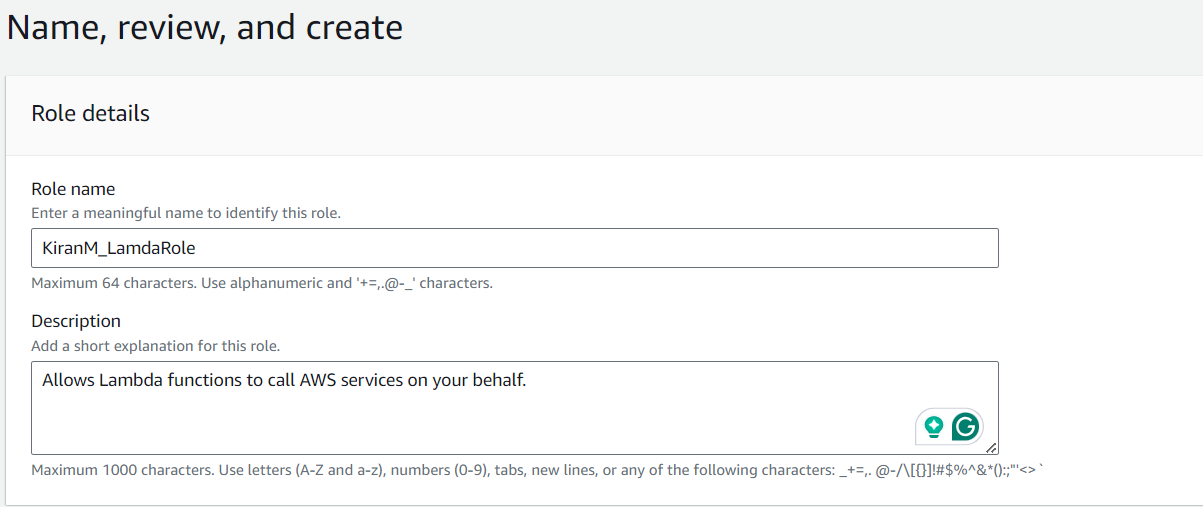
Select AWS service and Service as Lambda in Step 1 Select trusted entity



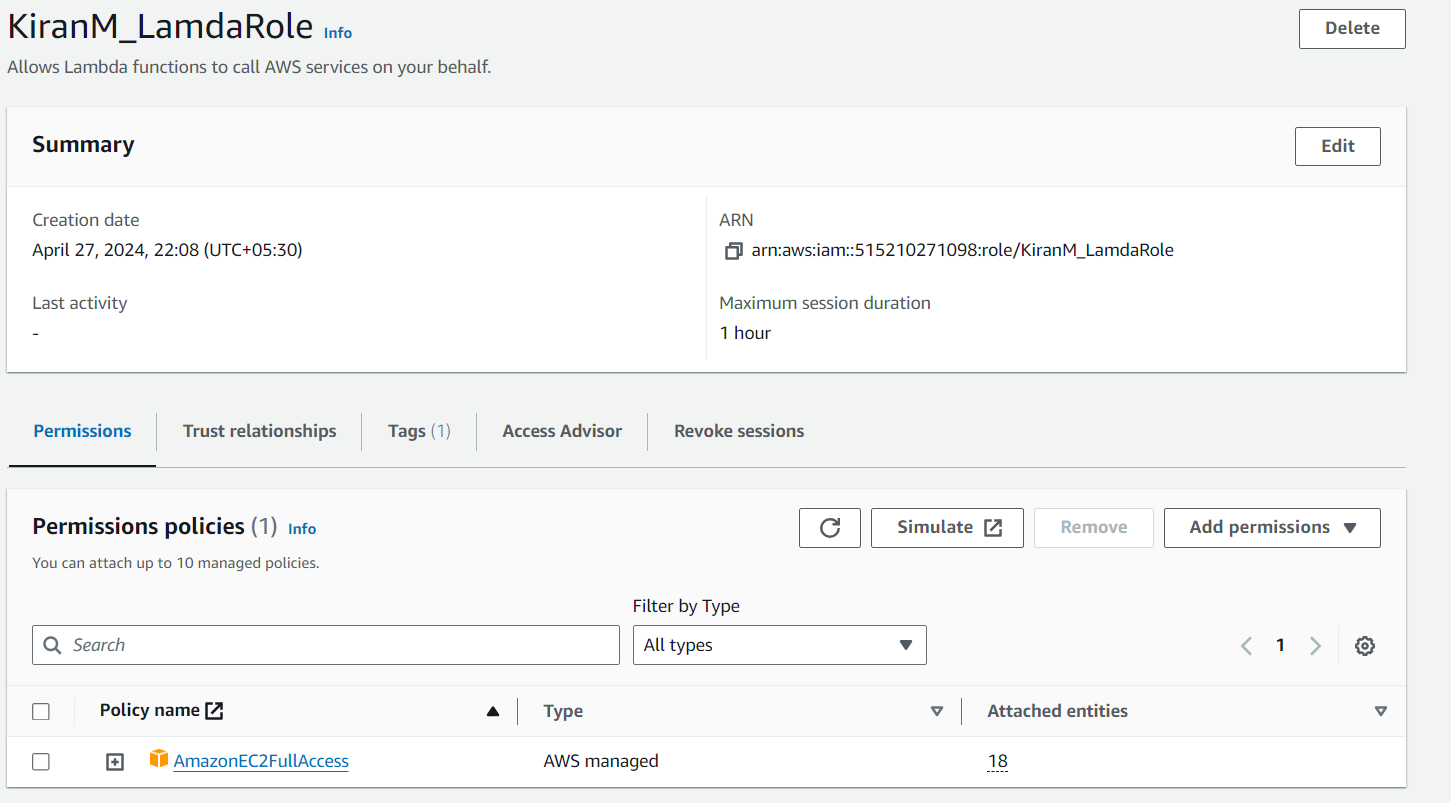
Next Step 2 Add permissions



Next Step 3 Name, review, and create

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Click on Create role



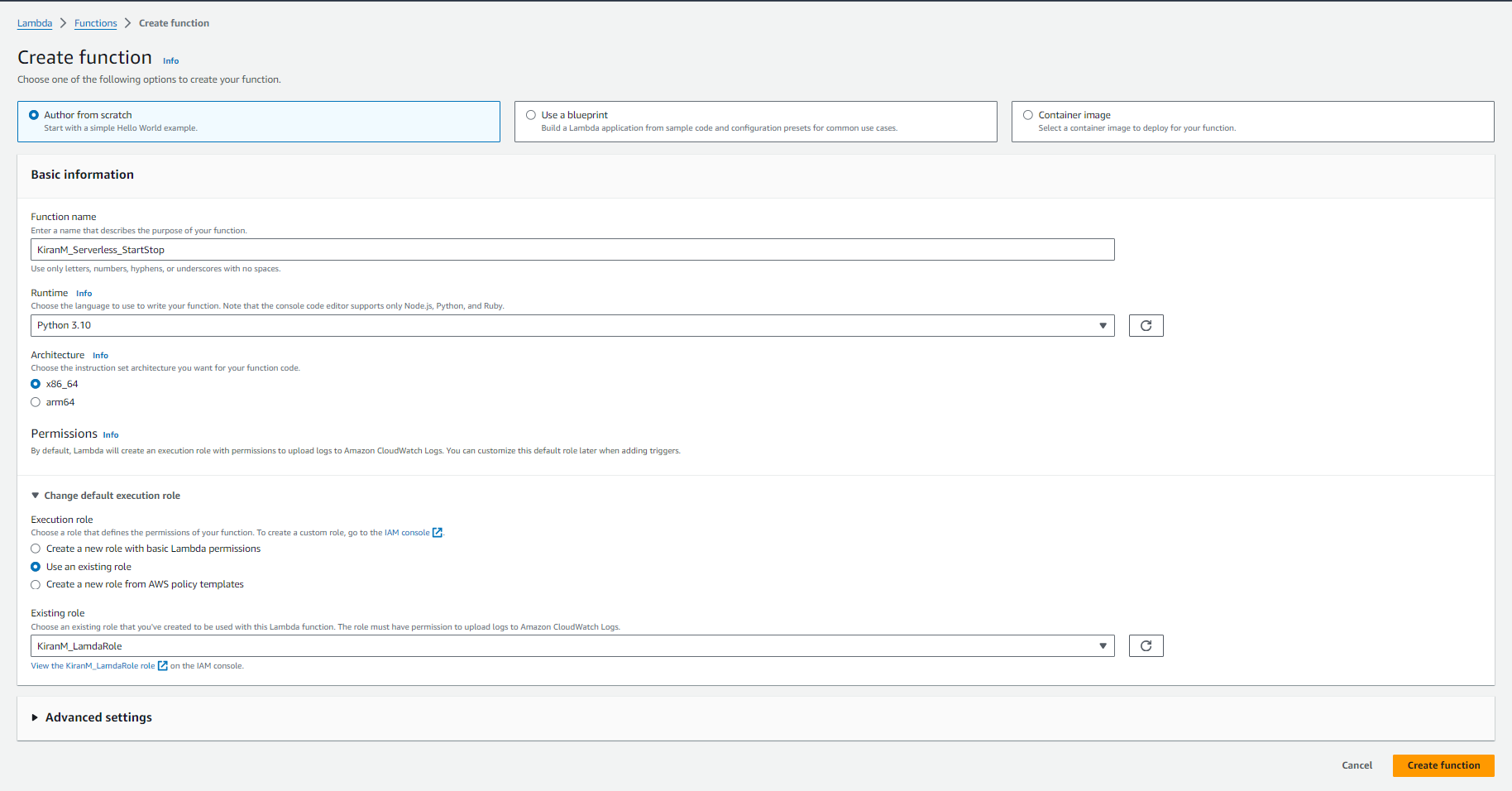
**Step 2: Go to Lambda Service and click on Create Function**

Select Auto from Scratch

Function Name as KiranM\_Serverless\_StartStop

Runtime: Python 3.10

Execution Role: The role we created in above step KiranM\_LamdaRole



Click on Create Function