**Deploying a Multi-Tier Website using AWS EC2**

**Project 1:**

**Description**: Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud. Using Amazon EC2 eliminates your need to invest in hardware up front so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

**Problem Statement**: Company wants to move their product to AWS. They have the following things set up right now: 1. MySQL DB 2. Website (PHP). The company wants high availability on this product, therefore wants Auto Scaling to be enabled on this web

**Steps to Solve:**

1. Launch an EC2 instance
2. Enable Auto scaling on these instances (minimum 2)
3. Create an RDS instance
4. Create Database and Table in RDS instance (Database name: intel, Table name: data, Database password: intel123
5. Change hostname in website
6. Allow traffic from EC2 to RDS instance
7. Allow all-traffic to EC2 instance

**Solution:**

1. Launch an EC2 instance with Ubuntu OS

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1. Update the machine using apt-get update.

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1. Install Apache2 on this server using “sudo apt-get install apache2”

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1. Then install php-mysql using the following command.

sudo add-apt-repository -y ppa:ondrej/php

sudo apt install php5.6 mysql-client php5.6-mysqli

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1. Now connect mysql with the RDS database. Choose create database option and select the engine as MySql

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1. Edit security configuration in the RDS database. Go to EC2 instance security groups and select your group ID.

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1. Go to RDS security groups and select the Inbound rules panel and click on Add rule. Then paste the EC2 security ID keeping the type as MYSQL/Aurora

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1. Connect to mysql using XAMPP app with the endpoint, username and password. Select MySql and open shell prompt.

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1. Open FileZilla and connect using public IP of EC2 instance.

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1. Go to cd /var/www/html and remove index.html. Copy index.php from the local system and paste it inside /var/www/html

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1. Create a table inside the database using XAMPP

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1. Now open index.php file and change the database details such as endpoint, username and password.

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1. Copy the public IP of EC2 instance and paste it in browser.

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1. Enter details and submit the form.

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1. Verify that the table has been updated with the data entered.

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1. For AutoScaling, we need to create an AMI image to spin up new instances based on the traffic. Go to EC2 instance -> Actions -> create Image

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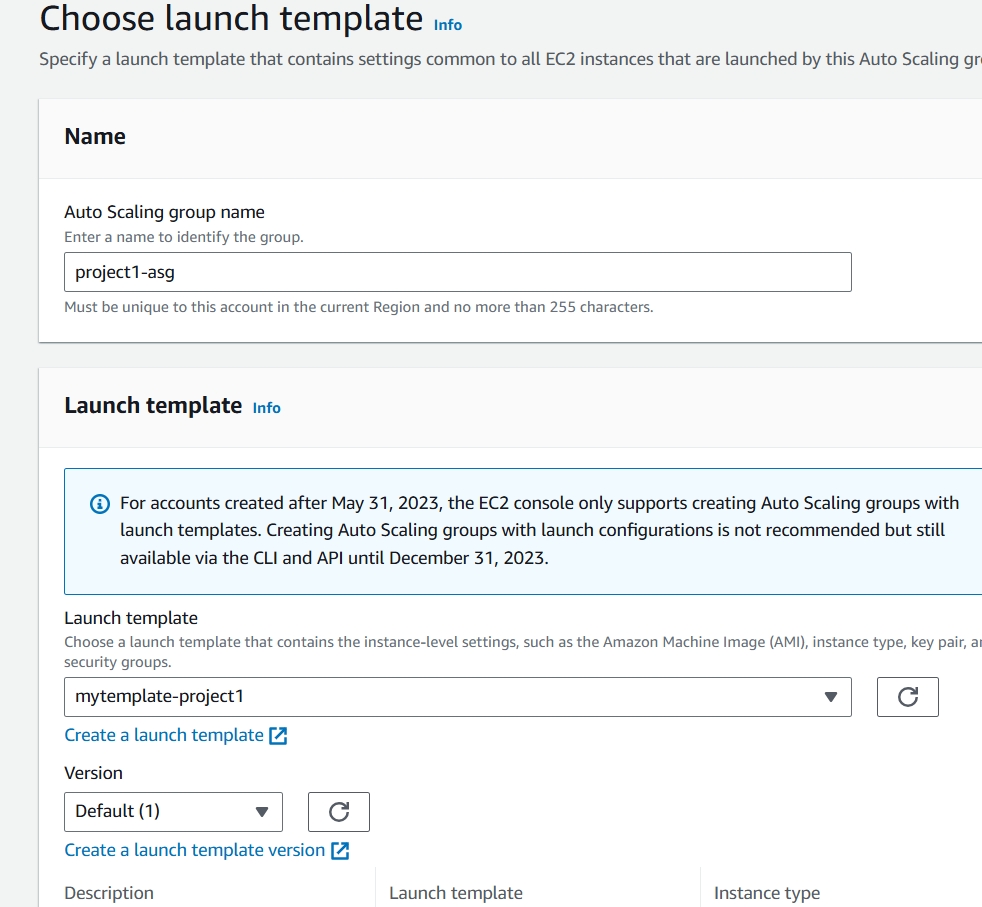
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1. Create a new autoscaling group.

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1. Auto scaling group has spun up 2 more instances as we specified.

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