**[ 2CEIT603: CLOUD COMPUTING]**

Practical: 5



**AIM- Hosting Websites on Amazon EC2 Instances.**



**Department of Computer Engineering/Information Technology**

**Step 1: Launch an EC2 Instance**

1. **Sign in to the AWS Management Console:**
   * Navigate to the AWS Management Console at <https://aws.amazon.com/>.
   * Sign in using your AWS account credentials.
2. **Access the EC2 Dashboard:**
   * Once logged in, navigate to the EC2 dashboard by either searching for "EC2" in the AWS services search bar or by selecting it from the list of services.
3. **Launch Instance:**
   * In the EC2 dashboard, click on the "Instances" link on the left-hand side menu.
   * Then click on the "Launch Instance" button.
4. **Choose an Amazon Machine Image (AMI):**
   * Select an AMI that meets your requirements. For hosting a website on a Windows server, choose a Windows Server AMI.
5. **Choose an Instance Type:**
   * Select the instance type based on your application's resource requirements.
6. **Configure Instance Details:**
   * Configure settings such as the number of instances to launch, network settings, IAM role, etc.
7. **Add Storage:**
   * Specify the size and type of storage (Amazon EBS volumes) for the instance.
8. **Add Tags (Optional):**
   * Optionally, add tags to your instance for organization.
9. **Configure Security Group:**
   * Configure the security group to control inbound and outbound traffic to your instance.
10. **Review and Launch:**
    * Review all the configuration settings to ensure they meet your requirements.
11. **Select a Key Pair:**
    * Choose a key pair for secure connection to your instance.
12. **Access Your Instance:**
    * Once launched, connect to your instance using Remote Desktop Protocol (RDP) for Windows instances.

**Step 2: Connect to Your Instance**

* Retrieve Public DNS (IPv4) or IP Address.
* Set Up Security Group Rules.
* Connect using Remote Desktop Protocol (RDP) for Windows Instances.
* Connect using SSH for Linux Instances.
* Authenticate and Access Your Instance.
* Disconnect and Terminate the Connection.

**Step 3: Install Web Server Software**

**For Windows EC2 Instances (Installing Internet Information Services - IIS):**

1. Connect to Your EC2 Instance.
2. Open Server Manager.
3. Add Roles and Features.
4. Verify Installation.
5. Configure IIS (Optional).
6. Upload Your Website Files.
7. Test Your Website.

**For Linux EC2 Instances (Installing Apache HTTP Server):**

1. Connect to Your EC2 Instance.
2. Update Package Repository.
3. Install Apache.
4. Start Apache Service.
5. Verify Installation.
6. Upload Your Website Files.
7. Test Your Website.

**Step 4: Upload Your Website Files**

**For Windows EC2 Instances:**

1. Connect to Your EC2 Instance.
2. Transfer Files Using Remote Desktop.
3. Verify File Transfer.

**For Linux EC2 Instances:**

1. Connect to Your EC2 Instance.
2. Transfer Files Using SCP or SFTP.
3. Verify File Transfer.

**Step 5: Configure Security Group**

* Access the EC2 Dashboard.
* Select Your Instance.
* View Security Groups.
* Edit Security Group Rules.
* Add Inbound Rules.
* Edit Outbound Rules (Optional).
* Review and Apply Changes.

**Step 6: Monitor and Scale**

* Monitor Performance Metrics.
* Set up CloudWatch Alarms.
* Enable Detailed Monitoring (Optional).
* Monitor Logs and Events.
* Set Up Auto Scaling.
* Configure Elastic Load Balancing (ELB) (Optional).
* Implement Application-Level Scaling Strategies.
* Optimize Resource Utilization.
* Implement High Availability Architectures.
* Continuously Monitor and Review.