

Project - 1: Deploying a Multi-Tier Website Using AWS EC2

Steps To Solve: 1. Launch an EC2 Instance

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with navigation links like Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager, Images, AMIs, AMI Catalog, and Elastic Block Store. The main content area displays the 'Instance summary for i-03f8194d74dbfa52f (Project1-ec2)'. It includes fields such as Instance ID (i-03f8194d74dbfa52f), Public IPv4 address (54.227.132.30), Instance state (Running), Hostname type (IP name: ip-172-31-19-180.ec2.internal), Private IP DNS name (ip-172-31-19-180.ec2.internal), Instance type (t3.micro), VPC ID (vpc-0831fdec33fb09a7), Subnet ID (subnet-0a837bd217f77bc11), Instance ARN (arn:aws:ec2:us-east-1:1395069634226:instance/i-03f8194d74dbfa52f), IAM role (None), IMDSv2 (Required), and various AWS Compute Optimizer and Auto Scaling Group details.

2. Enable Auto Scaling on these instances (minimum 2)

The screenshot shows the AWS Auto Scaling groups page. It lists a single group named 'Project1-ec2' with the following details: Launch template/configuration (Autoscaling | Version Default), Instances (2), Status (-), Desired capacity (2), Min (1), Max (2), and Availability Zones (2 Availability Zones). There are buttons for Launch configurations, Launch templates, Actions, and Create Auto Scaling group.

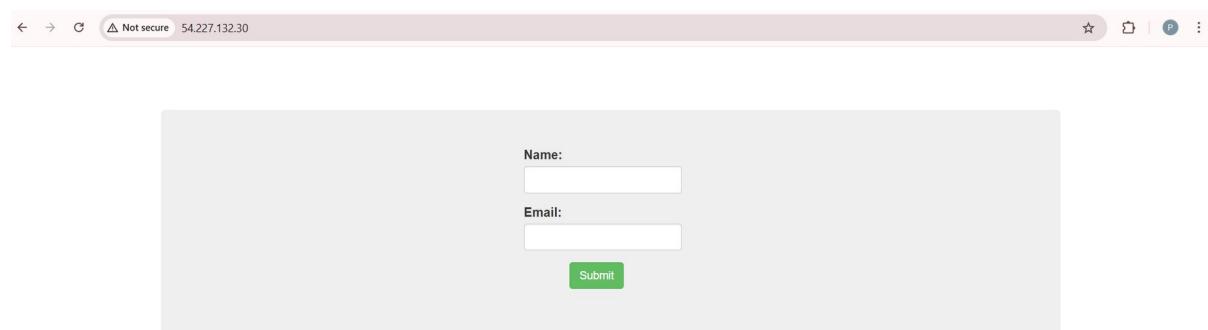
3. Create an RDS Instance

The screenshot shows the AWS Aurora and RDS Databases page. It displays a database named 'database-1' with the following details: DB identifier (database-1), Status (Available), Role (Instance), Engine (MySQL Community), and Region & AZ (us-east-1d). The page also includes tabs for Connectivity & security, Monitoring, Logs & events, Configuration, Zero-ETL integrations, Maintenance & backups, Data, and a 'Connect using' section with options for Code snippets, CloudShell, and Endpoints.

4. Create Database & Table in RDS instance: a. Database name: intel b. Table name: data c. Database password: intel123

```
mysql> show databases;
+-----+
| Database      |
+-----+
| information_schema |
| intel          |
| mysql          |
| performance_schema |
| sys            |
+-----+
5 rows in set (0.01 sec)
```

5. Change hostname in website



6. Allow traffic from EC2 to RDS instance

A screenshot of the AWS VPC Security Groups console. The left sidebar shows navigation options like "VPC dashboard", "AWS Global View", and "Virtual private cloud". The main panel displays the details of a security group named "sg-04d53b0c3d888b532 - rds-ec2-1". The "Details" section includes fields for "Security group name" (rds-ec2-1), "Security group ID" (sg-04d53b0c3d888b532), "Owner" (395069634226), "Description" (Security group attached to database1 to allow EC2 instances with specific security groups attached to connect to the database. Modification could lead to connection loss.), and "VPC ID" (vpc-0831fdcc33fbf09a7). Below the details, there are tabs for "Inbound rules", "Outbound rules", "Sharing", "VPC associations", "Related resources - new", and "Tags". The "Inbound rules" tab is selected, showing one rule: "Inbound rules (1)" with a search bar, "Edit inbound rules" button, and a table with columns: Name, Security group rule ID, IP version, Type, Protocol, and Port range. The rule listed is "sgr-049f6a5190694e46e" with "MySQL/Aurora" as the type, "TCP" as the protocol, and "3306" as the port range.

7. Allow all-traffic to EC2 instance

VPC > Security Groups > sg-04b19ed5d0e582713 - Project-1

VPC dashboard < Actions ▾

AWS Global View Filter by VPC

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways
- Egress-only internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- NAT gateways
- Peering connections
- Route servers

sg-04b19ed5d0e582713 - Project-1

Details

Security group name	sg-04b19ed5d0e582713	Description	VPC ID
Project-1		Allow	vpc-0831fdec33fbf09a7
Owner	395069634226	Inbound rules count	1 Permission entry
		Outbound rules count	1 Permission entry

Inbound rules | Outbound rules | Sharing | VPC associations | Related resources - new | Tags

Inbound rules (1)

Name	Security group rule ID	IP version	Type	Protocol	Port range
-	sgr-075d2e46f83207cc5	IPv4	All traffic	All	All

Manage tags | Edit inbound rules