
🚀 Step-by-Step: Configure Auto Scaling Group (ASG) in AWS Console

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✅ Step 1: Open Auto Scaling

1. Go to the AWS Console.
2. Navigate to **EC2 > Auto Scaling Groups**.
3. Click **“Create Auto Scaling Group”**.

✅ Step 2: Choose Launch Template or Configuration

You need a **Launch Template** or **Launch Configuration** to tell AWS how to create new EC2 instances.

a. If you already have a Launch Template:

- Select it.

b. To create a new Launch Template:

- Click **“Create a launch template”**.
- Provide:
    - **Name**: e.g., my-launch-template
    - **AMI ID**: The image your instances should use.
    - **Instance type**: e.g., t3.micro

    - **Key pair**: For SSH access (optional but recommended).
    - **Security group**: Should allow HTTP from the Load Balancer.
- Save the launch template.

✅ **Step 3: Configure Auto Scaling Group**

- **Name** your Auto Scaling Group.
- Choose the **Launch Template** you just created.
- **Version**: Pick "Latest" unless you want a specific version.

✅ **Step 4: Choose Network and Subnets**

- Select the **VPC** and **subnets** across multiple **Availability Zones** (AZs).
    - Tip: Pick at least **2 AZs** for high availability.

✅ **Step 5: Attach to Load Balancer**

- Choose **"Attach to an existing load balancer"**.
- Select **Application Load Balancer**.
- Choose your **Target Group** (created earlier with the ALB).
- This lets ASG register new instances with your load balancer.

✅ **Step 6: Configure Health Checks**

- Choose **Health check type**: Select **ELB** (so it uses ALB health checks).
- You can also choose EC2+ELB for deeper checks.

✅ **Step 7: Set Group Size**

- Set the **minimum**, **desired**, and **maximum** number of instances.
    - Example:
        - **Min:** 2
        - **Desired:** 2
        - **Max:** 4

✅ **Step 8: Configure Scaling Policies**

Choose how the group scales:

a. Target Tracking (Recommended)

- Automatically adjusts based on a metric like **CPU Utilization**.
- Example: Keep average CPU at 50%.

b. Step Scaling / Simple Scaling

- Define thresholds manually (e.g., if CPU > 70%, add 1 instance).

✅ **Step 9: Add Notifications (Optional)**

- Get email or SNS alerts on scaling events.

✅ **Step 10: Add Tags (Optional)**

- Key: Name, Value: WebServer-ASG (or whatever helps you organize your resources).

✅ **Step 11: Review and Create**

- Double-check your config.
- Click **"Create Auto Scaling Group"**.

✅ **Step 12: Test It**

- Open multiple browser tabs or run load tests to increase CPU/load.
- Monitor **Auto Scaling Activity** and **Instance count** in the ASG dashboard.
- ALB should automatically distribute traffic to newly added instances.

📌 **Summary:**

Feature	Purpose
Launch Template	Defines how instances are launched
Auto Scaling Group	Manages instance count based on rules
Target Group	Keeps track of instance health for ALB
Cooldown Period	Prevents rapid scaling in/out
Health Checks	Determine if an instance should be terminated
