

# Guided Lab: Creating Placement Groups – 3 types

## Description

Placement groups in Amazon Elastic Compute Cloud (EC2) give you control over the placement of instances within a cluster to meet specific needs, like low latency or high throughput.

Depending on the workload type, you can create a placement group using one of these placement strategies:

- **Cluster** – Packs instances closely together within an Availability Zone to achieve low-latency network performance for high-performance computing (HPC) applications that require tightly coupled node-to-node communication.
- **Partition** – Instances are distributed across logical partitions to ensure that groups of instances in one partition do not share hardware with groups of instances in different partitions. This approach is commonly used by large distributed and replicated workloads like Hadoop, Cassandra, and Kafka.
- **Spread** – Strictly places a small group of instances across distinct underlying hardware to reduce correlated failures.

## Objectives

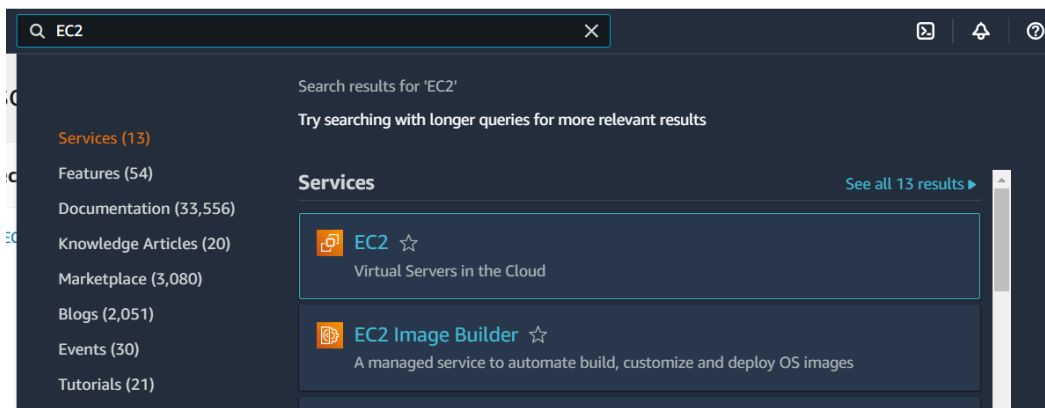
In this lab, you will:

- Understand the concept of Placement Groups
- Differentiate the Types of Placement Groups
- Create the Cluster, Partition, and Spread partition groups in the EC2 console

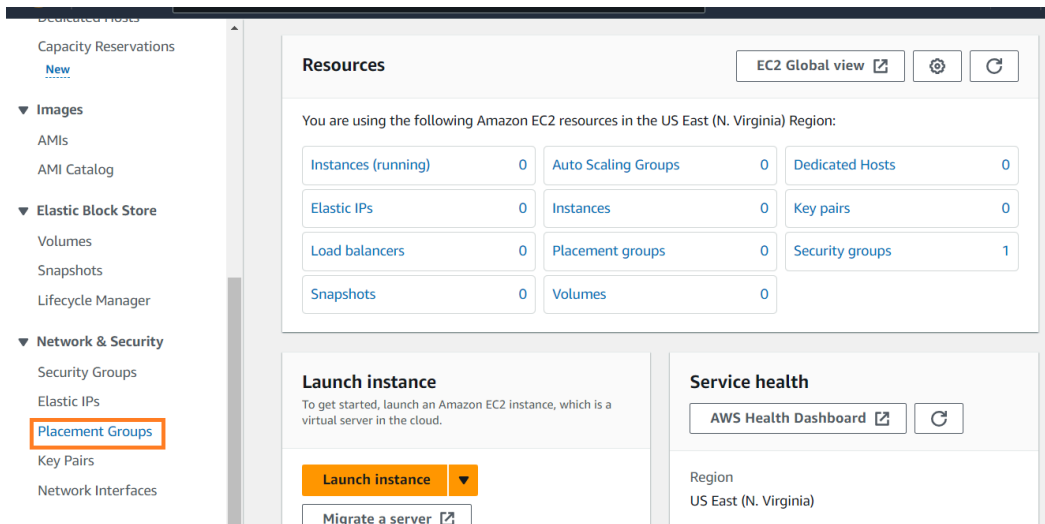
## Lab Steps

### Creating a Placement Group

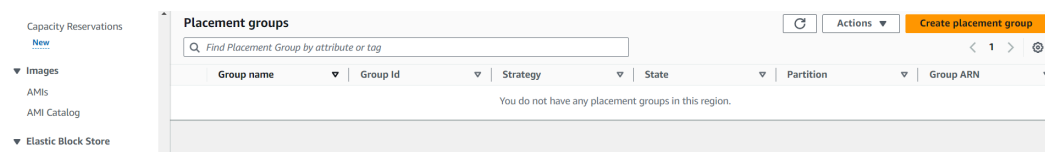
1. Navigate to the search bar, type "EC2", and click to open the EC2 Dashboard.



2. In the navigation pane under **Network & Security**, choose **Placement Groups**.



3. Click the **Create placement group** button.



4. For this lab, we will create three (3) Placement Strategies for the group.

- **Creating a Cluster Placement groups:**
  - Enter and provide the name of the **cluster placement groups**.
  - Select **Cluster** as the Placement Strategy.
  - Click the **Create Group** to proceed with the creation.

Create placement group [Info](#)

**Placement group settings**

Name

Placement strategy

Determines how the instances are placed on the underlying hardware.

Cluster ▼

Tags - *optional*

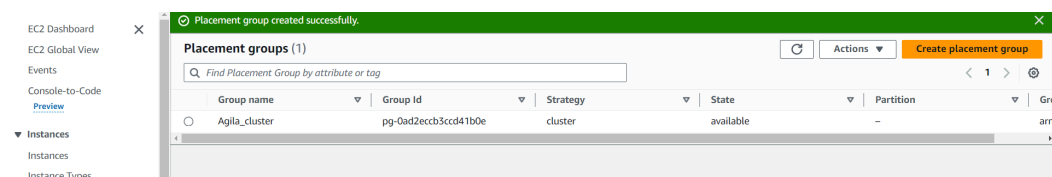
No tags associated with the resource.

[Add new tag](#)

You can add up to 50 more tags.

Cancel [Create group](#)

You will be redirected to the Placement Group page to view the list of Placement Groups that you have created.



## Creating a Spread Placement groups:

- Enter and provide the name of the **spread placement groups**.
- In selecting **Spread** as the Placement Strategy, you need to choose the spread level. In this lab, we will use **Rack** as our spread level.
  - **Rack** – no restrictions
  - **Host** – only for Outposts
- Click the **Create Group** to proceed with the creation.

## Create placement group [Info](#)

**Placement group settings**

Name

Placement strategy

Determines how the instances are placed on the underlying hardware.

Spread ▼

Spread level

Determines how placement groups spread instances. You can only use host level spread placement groups on Outposts.

Rack (No restrictions) ▲

Host (Outposts only)

Rack (No restrictions) ✓

Add new tag

You can add up to 50 more tags.

Cancel

Create group

You will be redirected to the Placement Group page to view the list of Placement Groups that you have created.

Placement groups (2)				
<input type="text" value="Find Placement Group by attribute or tag"/>				
	Group name ▼	Group Id ▼	Strategy ▼	State
<input type="radio"/>	Agila_cluster	pg-0ad2eccb3ccd41b0e	cluster	available
<input type="radio"/>	lbon_spread	pg-0fa20acc28cb64d3c	spread	available

### Creating a Partition Placement group:

- Same as the steps above, input the name of the group.
- Choose **Partition** as the placement strategy, then select the number (e.g. 4 partitions) of partitions within the group.
- Click the **Create Group** to proceed with the creation.

# Create placement group [Info](#)

**Placement group settings**

Name

Bayawak\_partition

Placement strategy

Determines how the instances are placed on the underlying hardware.

Partition

Number of partitions

Choose the number of partitions to create in this placement group.

4

Tags - optional

No tags associated with the resource.

Add new tag

You can add up to 50 more tags.

Cancel

Create group

You will be redirected to the Placement Group page where you can view a list of the Placement Groups you have created.

Placement group created successfully.

Placement groups (3)

Find Placement Group by attribute or tag

Actions

Create placement group

	Group name	Group Id	Strategy	State	Partition
<input type="radio"/>	Agila_cluster	pg-0ad2eccb3ccd41b0e	cluster	available	-
<input type="radio"/>	Bayawak_partition	pg-0fe8402a42ad5f722	partition	available	4
<input type="radio"/>	Ibon_spread	pg-0fa20acc28cb64d5c	spread	available	-