



# EC2 PLACEMENT GROUPS

# NEW EC2 DASHBOARD

←

→

↺

🏠

🔒 console.aws.amazon.com/ec2/v2/home?region=us-east-1#Home:

🔍

☆

📈

📦

👤

⋮

aws

Services ▾

Resource Groups ▾

★

🔔

ClayDesk198 ▾

N. Virginia ▾

Support ▾

🔵

New EC2 Experience

Tell us what you think

▼ IMAGES

AMIs

Bundle Tasks

▼ ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

▼ NETWORK & SECURITY

Security Groups

Elastic IPs New

Placement Groups

Key Pairs

Network Interfaces

▼ LOAD BALANCING

Load Balancers

Target Groups

▼ AUTO SCALING

Launch Configurations

Auto Scaling Groups

📘

Welcome to the new EC2 console!

We're redesigning the EC2 console to make it easier to use and improve performance. We'll release new screens periodically. We encourage you to try them and let us know where we can make improvements. To switch between the old console and the new console, use the New EC2 Experience toggle.

✕

EC2

Resources

🔄 ⚙️

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Running instances	0	Elastic IPs	1
Dedicated Hosts	0	Snapshots	0
Volumes	2	Load balancers	0
Key pairs	7	Security groups	6
Placement groups	0		

📘

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. [Learn more](#)

✕

Launch instance

Service health

Account attributes

🔄

[Supported platforms](#) [🔗](#)

- VPC

[Default VPC](#) [🔗](#)  
vpc-deca69a4

[Console experiments](#)

[Settings](#)

[Additional information](#) [🔗](#)

[Getting started guide](#)

[Documentation](#)

[All EC2 resources](#)

[Forums](#)

[Pricing](#)

🗨 Feedback

🌐 English (US)

© 2008 - 2020, Amazon Web Services, Inc. or its affiliates. All rights reserved.

[Privacy Policy](#)

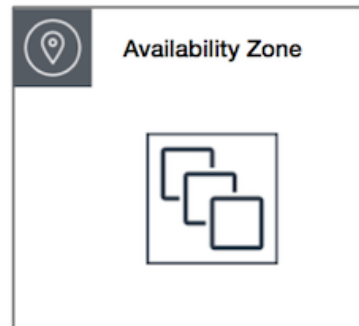
[Terms of Use](#)

# EC2 PLACEMENT GROUPS

- **Cluster** – packs instances close together inside an Availability Zone. This strategy enables workloads to achieve the low-latency network performance necessary for tightly-coupled node-to-node communication that is typical of HPC applications
- **Partition** – spreads your instances across logical partitions such that groups of instances in one partition do not share the underlying hardware with groups of instances in different partitions. This strategy is typically used by large distributed and replicated workloads, such as Hadoop, Cassandra, and Kafka
- **Spread** – strictly places a small group of instances across distinct underlying hardware to reduce correlated failures

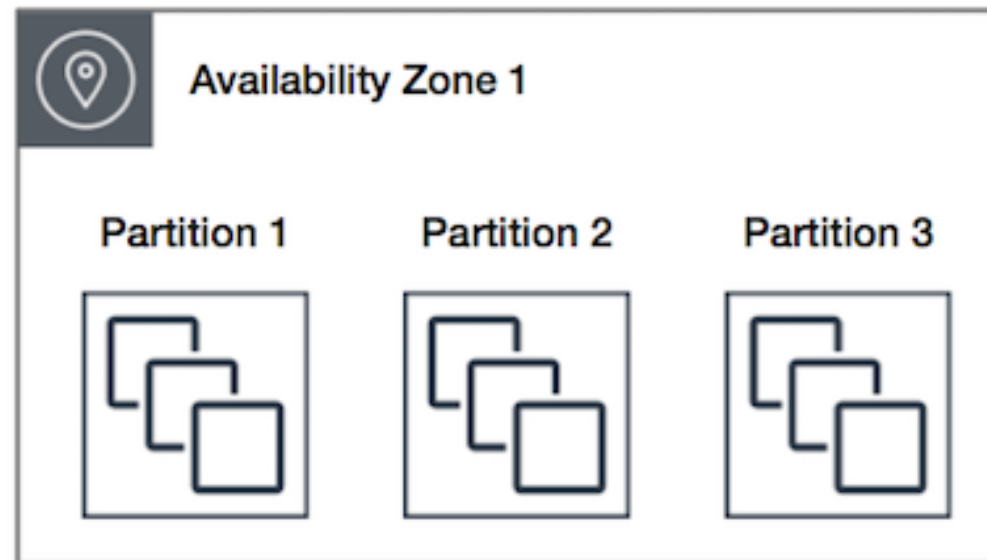
# CLUSTER PLACEMENT GROUP

- A **cluster placement group** is a logical grouping of instances within a single Availability Zone
- A placement group can span peered VPCs in the same Region. The chief benefit of a cluster placement group, in addition to a 10 Gbps flow limit, is the non-blocking, non-oversubscribed, fully bi-sectional nature of the connectivity
- In other words, all nodes within the placement group can talk to all other nodes within the placement group at the full line rate of 10 Gbps flows and 100 Gbps aggregate without any slowing due to over-subscription



# PARTITION PLACEMENT GROUP

- Partition placement groups help reduce the likelihood of correlated hardware failures for your application. When using partition placement groups, Amazon EC2 divides each group into logical segments called partitions. Amazon EC2 ensures that each partition within a placement group has its own set of racks. Each rack has its own network and power source



# SPREAD PLACEMENT GROUP

- A spread placement group is a group of instances that are each placed on distinct racks, with each rack having its own network and power source
- The following image shows seven instances in a single Availability Zone that are placed into a spread placement group. The seven instances are placed on seven different racks



# PLACEMENT GROUP RULES & LIMITATIONS

- The name you specify for a placement group must be unique within your AWS account for the Region
- You can't merge placement groups
- An instance can be launched in one placement group at a time; it cannot span multiple placement groups
- On-Demand Capacity Reservation and zonal Reserved Instances provide a capacity reservation for EC2 instances in a specific Availability Zone. The capacity reservation can be used by instances in a placement group. However, it is not possible to explicitly reserve capacity for a placement group
- Instances with a tenancy of host cannot be launched in placement groups

# DEMO – HANDS-ON

