

EC2

Elastic Compute Cloud

@codingWithTushar

Introduction to AWS EC2

- **EC2 is one of the most popular of AWS' offerings**
- **Provides scalable virtual servers for computing**
- **Lets you launch and manage applications without buying physical hardware.**
- **EC2 = Elastic Compute Cloud = Infrastructure as a Service**

Main EC2 Capability

- **Renting virtual machines (EC2)**
- **Storing data on virtual drives (EBS)**
- **Distributing load across machines (ELB)**
- **Scaling the services using an auto-scaling group (ASG)**

EC2 sizing & configuration options

- **Operating System (OS): Linux, Windows or Mac OS**
- **How much compute power & cores (CPU)**
- **How much random-access memory (RAM)**
- **How much storage space:**
 - **Network-attached (EBS & EFS)**
 - **hardware (EC2 Instance Store)**
- **Network card: speed of the card, Public IP address**
- **Firewall rules: security group**
- **Bootstrap script (configure at first launch): EC2 User Data**

EC2 Instance Types

- **General Purpose**
- **Compute Optimized**
- **Memory Optimized**
- **Accelerated Computing**
- **Storage Optimized**
- **HPC Optimized**
- **Instance Features**

<https://aws.amazon.com/ec2/instance-types/>

<https://instances.vantage.sh/>

EC2 Security Groups

- **Security Groups are the fundamental of network security in AWS**
- **They control how traffic is allowed into or out of our EC2 Instances.**
- **Security groups only contain **Allow** rules.**
- **Security groups rules can reference by IP or by security group.**
- **Can be attached to multiple instances.**
- **Scoped to a specific Region and VPC.**
- **Operate at the network level, outside the EC2 instance itself Traffic blocked by a security group never reaches the instance**

EC2 Security Groups

- **Create a separate security group for SSH access to improve security.**
- **Application inaccessible (timeout)? Check your security group rules first.**
- **“Connection refused” usually means the app isn't running or has an error, not a security group issue.**
- **All inbound traffic is blocked unless allowed by a rule.**
- **All outbound traffic is allowed by default.**



Thank you

- Tushar Vashishth