

# Amazon Elastic Compute Cloud (EC2)

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Amazon  
EC2

- **Resizable** compute capacity
- Complete control of your computing resources
- **Reduced time required** to obtain and boot new server instances

# Amazon EC2 Facts



- **Scale capacity** as your computing requirements change
- Pay only for capacity that you actually use
- Choose **Linux** or **Windows**
- Deploy across **AWS Regions** and **Availability Zones** for reliability
- Use **tags** to help manage your Amazon EC2 resources

# Launching an Amazon EC2 Instance via the Management Console



1. **Determine the AWS Region** in which you want to launch the Amazon EC2 instance.
2. **Launch** an Amazon EC2 instance from a pre-configured Amazon Machine Image (AMI).
3. **Choose an instance type** based on CPU, memory, storage, and network requirements.
4. **Configure** network, IP address, security groups, storage volume, tags, and key pair.

# Amazon Machine Image (AMI) Details



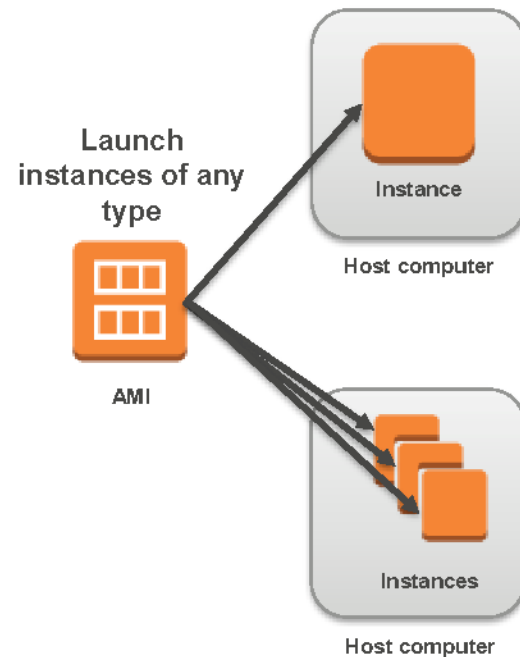
An AMI includes the following:

- A template for the **root volume** for the instance (for example, an operating system, an application server, and applications).
- **Launch permissions** that control which AWS accounts can use the AMI to launch instances.
- A block device mapping that specifies the **volumes to attach** to the instance when it is launched.

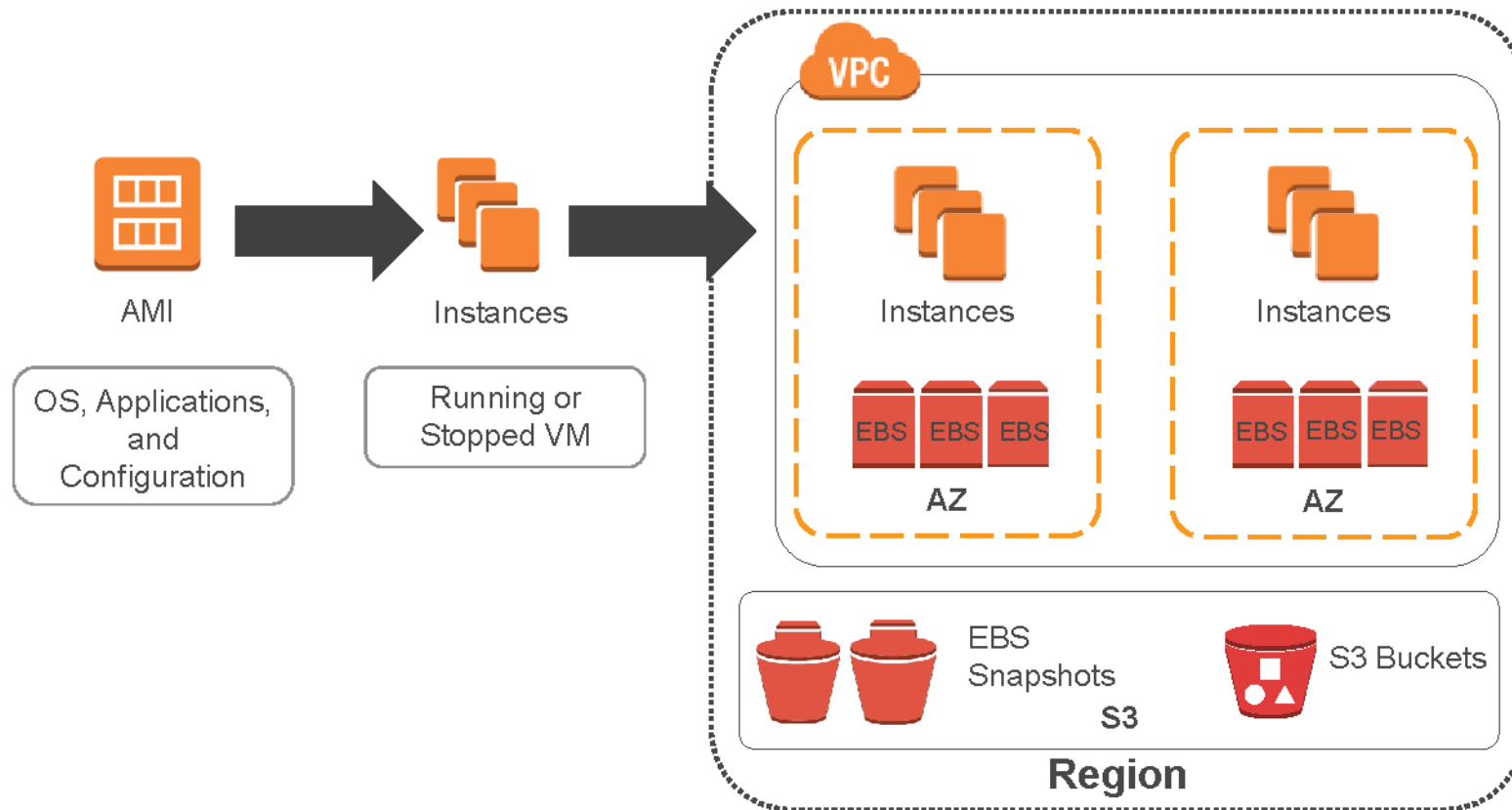
# Instances and AMIs

Select an AMI based on:

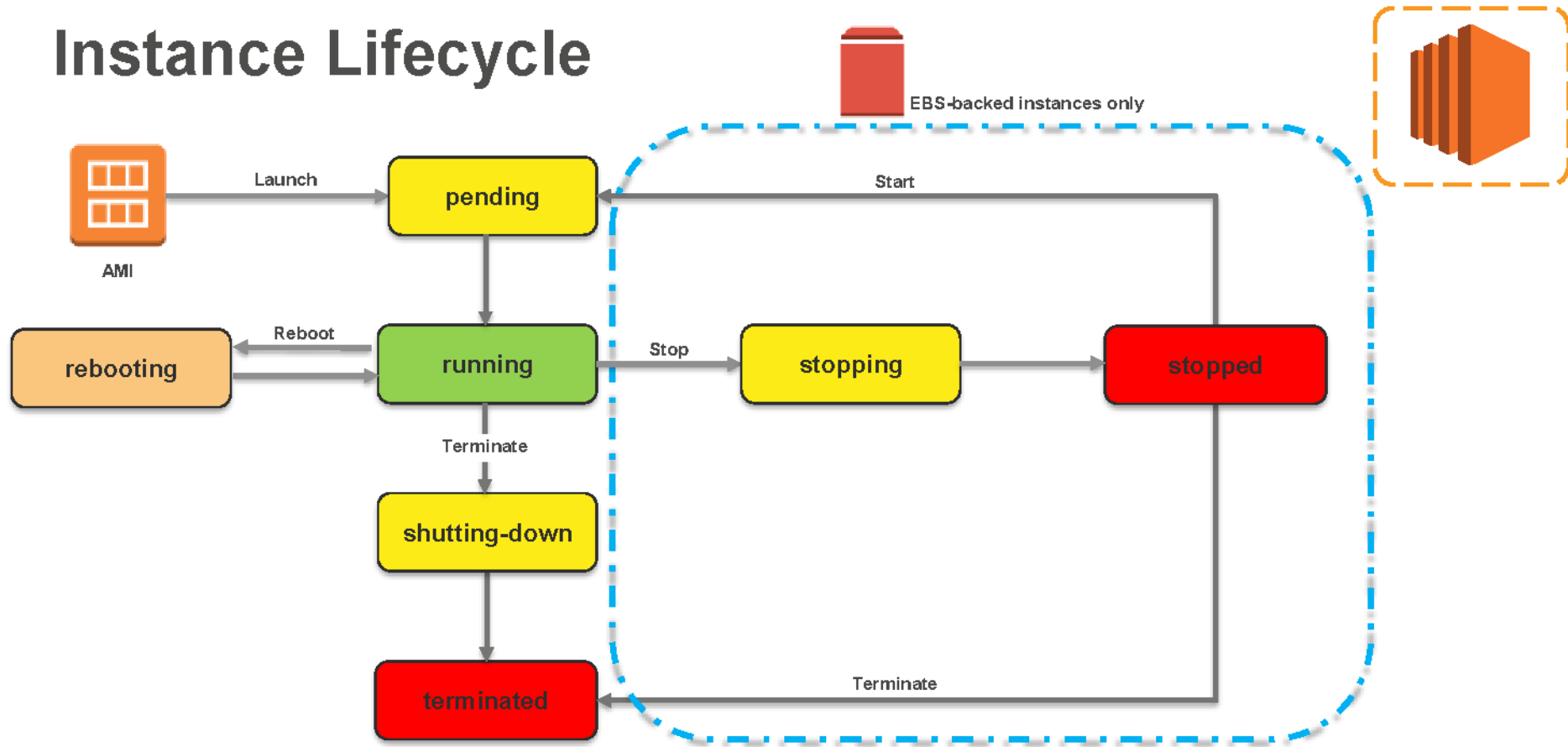
- Region
- Operating system
- Architecture (32-bit or 64-bit)
- Launch permissions
- Storage for the root device



# Amazon EC2 Instances



# Instance Lifecycle





# AWS Marketplace – IT Software Optimized for the Cloud



- Online store to discover, purchase, and deploy IT software on top of the AWS infrastructure.
- Catalog of **2700+** IT software solutions including Paid, BYOL, Open Source, SaaS, and free-to-try options.
- Pre-configured to operate on AWS.
- Software checked by AWS for security and operability.
- Deploys to AWS environment in minutes.
- Flexible, usage-based billing models.
- Software charges billed to AWS account.

Includes [AWS Test Drive](#).

<https://aws.amazon.com/marketplace>

The screenshot displays the AWS Marketplace interface. At the top, there's a navigation bar with the AWS Marketplace logo, a search bar, and links for 'Sign in or Create a new account', 'Your Account', 'Help', and 'Sell on AWS Marketplace'. Below the navigation bar, a sidebar on the left lists various categories like 'Desktop Apps', 'Software Infrastructure', 'Application Development', etc. The main content area features a large banner for 'Production-ready cluster deployments in minutes with AWS Marketplace and AWS CloudFormation'. Below the banner, there are sections for 'Featured Products' and 'Operating Systems'. The 'Featured Products' section includes items like 'WebSphere Application Server Base Edition', 'Mettlman FTI for Redshift', and 'TIBCO Clarity'. The 'Operating Systems' section lists 'Amazon Linux AMI', 'CentOS', 'Oracle Linux', and 'Ubuntu'. Each product listing includes a brief description, pricing information, and a 'Free Trial' button.



Training and  
Certification

# Choosing the Right Amazon EC2 Instance



AWS uses Intel® Xeon® processors to provide customers with high performance and value. EC2 instance types are optimized for different use cases, workload requirements and come in multiple sizes.

Consider the following when choosing your instances:

- Core count
- Memory size
- Storage size and type
- Network performance
- CPU technologies

# Current Generation Instances



Instance Family	Some Use Cases
General purpose (t2, m4, m3)	<ul style="list-style-type: none"><li>• Low-traffic websites and web applications</li><li>• Small databases and mid-size databases</li></ul>
Compute-optimized (c4, c3)	<ul style="list-style-type: none"><li>• High performance front-end fleets</li><li>• Video-encoding</li></ul>
Memory-optimized (r3)	<ul style="list-style-type: none"><li>• High performance databases</li><li>• Distributed memory caches</li></ul>
Storage-optimized (i2, d2)	<ul style="list-style-type: none"><li>• Data warehousing</li><li>• Log or data-processing applications</li></ul>
GPU instances (g2)	<ul style="list-style-type: none"><li>• 3D application streaming</li><li>• Machine learning</li></ul>

# Instance Metadata



- Is **data** about your **instance**.
- Can be used to **configure or manage** a running instance.

# Amazon EC2 Purchasing Options



## On-Demand Instances

Pay by the hour.

## Reserved Instances

Purchase, at a significant discount, instances that are always available

1-year to 3-year terms.

## Scheduled Instances

Purchase instances that are always available on the specified recurring schedule, for a one-year term.

## Spot Instances

Bid on unused instances, which can run as long as they are available and your bid is above the Spot price.

## Dedicated Instances

Pay, by the hour, for instances that run on single-tenant hardware.

## Dedicated Hosts

Pay for a physical host that is fully dedicated to running your instances.

# Knowledge Check

Demo

# Exercise

## **Launch a Windows Instance**

In this exercise, you will launch a Windows instance.

1. Launch an instance in the Amazon EC2 console.
2. Choose the Microsoft Windows Server AMI from free Tier.
3. Choose the t2.micro instance type or any other Free Tier one.
4. Launch the instance with default values.



Thank You