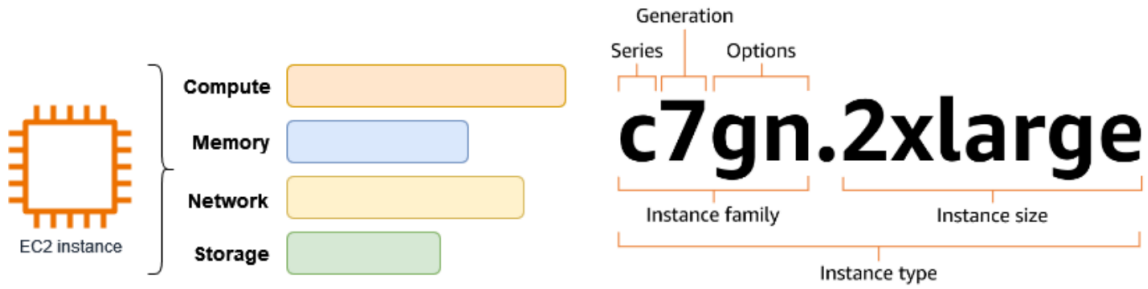
What is Amazon EC2?

Amazon Elastic Compute Cloud (Amazon EC2) provides on-demand, scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 reduces hardware costs so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. You can add capacity (scale up) to handle compute-heavy tasks, such as monthly or yearly processes, or spikes in website traffic. When usage decreases, you can reduce capacity (scale down) again. An EC2 instance is a virtual server in the AWS Cloud. When you launch an EC2 instance, the instance type that you specify determines the hardware available to your instance. Each instance type offers a different balance of compute, memory, network, and storage resources. For more information, see the [Amazon EC2 Instance Types Guide.]



Features of Amazon EC2

Amazon EC2 provides the following high-level features:

Instances

Virtual servers.

Amazon Machine Images (AMIs)

Preconfigured templates for your instances that package the components you need for your server (including the operating system and additional software).

Instance types

Various configurations of CPU, memory, storage, networking capacity, and graphics hardware for your instances.

Amazon EBS volumes

Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS).

Instance store volumes

Storage volumes for temporary data that is deleted when you stop, hibernate, or terminate your instance.

Key pairs

Secure login information for your instances. AWS stores the public key, and you store the private key in a secure place.

Security groups

A virtual firewall that allows you to specify the protocols, ports, and source IP ranges that can reach your instances, and the destination IP ranges to which your instances can connect.

Amazon EC2 supports the processing, storage, and transmission of credit card data by a merchant or service provider and has been validated as being compliant with the Payment Card Industry (PCI) Data Security Standard (DSS). For more information about PCI DSS, including how to request a copy of the AWS PCI Compliance Package, see PCI DSS Level 1.

Access Amazon EC2

You can create and manage your Amazon EC2 instances using the following interfaces:

Amazon EC2 console

A simple web interface to create and manage Amazon EC2 instances and resources. If you've signed up for an AWS account, you can access the Amazon EC2 console by signing into the AWS Management Console and selecting EC2 from the console home page.

AWS Command Line Interface

Enables you to interact with AWS services using commands in your command-line shell. It is supported on Windows, Mac, and Linux. For more information about the AWS CLI, see AWS Command Line Interface User Guide. You can find the Amazon EC2 commands in the AWS CLI Command Reference.

AWS CloudFormation

Amazon EC2 supports creating resources using AWS CloudFormation. You create a template, in JSON or YAML format, that describes your AWS resources, and AWS CloudFormation provisions and configures those resources for you. You can reuse your CloudFormation templates to provision the same resources multiple times, whether in the same Region and account or in multiple Regions and accounts. For more information about supported resource types and

properties for Amazon EC2, see EC2 resource type reference in the AWS CloudFormation User Guide.

AWS SDKs

If you prefer to build applications using language-specific APIs instead of submitting a request over HTTP or HTTPS, AWS provides libraries, sample code, tutorials, and other resources for software developers. These libraries provide basic functions that automate tasks such as cryptographically signing your requests, retrying requests, and handling error responses, making it easier for you to get started. For more information, see Tools to Build on AWS.

AWS Tools for PowerShell

A set of PowerShell modules that are built on the functionality exposed by the SDK for .NET. The Tools for PowerShell enable you to script operations on your AWS resources from the PowerShell command line. To get started, see the AWS Tools for PowerShell User Guide. You can find the cmdlets for Amazon EC2, in the AWS Tools for PowerShell Cmdlet Reference.

Query API

Amazon EC2 provides Query API. These requests are HTTP or HTTPS requests that use the HTTP verbs GET or POST and a Query parameter named Action. For more information about the API actions for Amazon EC2, see Actions in the Amazon EC2 API Reference.

Pricing for Amazon EC2

Amazon EC2 provides the following pricing options:

Free Tier

You can get started with Amazon EC2 for free. To explore the Free Tier options, see AWS Free Tier.

On-Demand Instances

Pay for the instances that you use by the second, with a minimum of 60 seconds, with no longterm commitments or upfront payments.

Savings Plans

You can reduce your Amazon EC2 costs by making a commitment to a consistent amount of usage, in USD per hour, for a term of 1 or 3 years.

Reserved Instances

You can reduce your Amazon EC2 costs by making a cmmitment to a specific instance configuration, including instance type and Region, for a term of 1 or 3 years.

Spot Instances

Request unused EC2 instances, which can reduce your Amazon EC2 costs significantly.

Dedicated Hosts

Reduce costs by using a physical EC2 server that is fully dedicated for your use, either OnDemand or as part of a Savings Plan. You can use your existing server-bound software licenses and get help meeting compliance requirements.

On-Demand

Capacity Reservations Reserve compute capacity for your EC2 instances in a specific Availability Zone for any duration of time.

Per-second billing

Removes the cost of unused minutes and seconds from your bill.

For a complete list of charges and prices for Amazon EC2 and more information about the purchase models, see Amazon EC2 pricing.

Source: AWS Documentation