Amazon Web Services

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1. Compute
2. Storage
3. Database
4. Migration
5. Networking & Content Delivery
6. Developer Tools
7. Management Tools
8. Analytics
9. Artificial Intelligence

Amazon Web Services

10. Mobile Services

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13. Business Productivity

14. Desktop & App Streaming

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1. Compute

- **Amazon EC2:** Secure and resizable compute capacity in the cloud.

- **Amazon EC2 Container Registry:** store & retrieve Docker container images

- **Amazon EC2 Container Service:** Run containerized applications in production

- **Amazon Lightsail:** Launch & Manage Virtual Private Servers

- **Amazon Virtual Private Cloud (VPC):** Isolated Cloud Resources

- **AWS Batch:** Run Batch job at any Scale

- **AWS Elastic Beanstalk:** Run & Manage Web Apps

- **AWS Lambda:** Run your code in response to an event

- **Auto Scaling:** dynamically scale your Amazon EC2 capacity up or down automatically

Amazon Elastic Compute Cloud (EC2)

Instance Family	Instance Types	Features
General purpose	**T2, M3 and M4**	• Balance of compute, memory and network capability • Small to medium-sized databases, web servers and cluster computing
Compute optimized	**C3 and C4**	• Higher ratio of vcpu to memory • HIgh-traffic websites, online gaming and high computational scientific workloads
Memory optimized	**X1 and R3**	• Performance-sensitive databases and larger deployments of SAP and microsoft sharepoint
Storage optimized	**I2 and D2**	• Designed for storing, processing and analyzing large amounts of data in the cloud
Accelerated computing	**P2, G3, F1**	• General-purpose GPU compute applications • Graphics-intensive applications

Amazon Elastic Compute Cloud (EC2): T2

Model	vCPU	CPU Credits / hour	Mem (GiB)
t2.nano	1	3	0.5
t2.micro	1	6	1
t2.small	1	12	2
t2.medium	2	24	4
t2.large	2	36	8
t2.xlarge	4	54	16
t2.2xlarge	8	81	32

2. Amazon Storage

- Amazon Simple Storage Service: (Amazon S3)
- Amazon Elastic Block Storage: (Amazon EBS)
- Amazon Elastic File System: (Amazon EFS)
- Amazon Glacier
- AWS Storage Gateway
- AWS Snowball
- AWS Snowball Edge
- AWS Snowmobile

Amazon Storage

Amazon Storage	Description
Amazon Simple Storage Service (Amazon S3)	A scalable, durable platform to make data accessible from any Internet location, for user-generated content, active archive, serverless computing, Big Data storage or backup and recovery
Amazon Elastic Block Storage (Amazon EBS)	Persistent local storage for Amazon EC2, for relational and NoSQL databases, data warehousing, enterprise applications, Big Data processing, or backup and recovery
Amazon Elastic File System (Amazon EFS)	A file system interface and file system access semantics to make data available to one or more EC2 instances, for content serving, enterprise applications, media processing workflows, Big Data storage or backup and recovery
Amazon Glacier	Highly affordable long-term storage that can replace tape for archive and regulatory compliance

Amazon Storage

Amazon Storage	Description
AWS Storage Gateway	A hybrid storage cloud augmenting your on-premises environment with Amazon cloud storage, for bursting, tiering or migration
AWS Snowball	A petabyte-scale data transport solution that uses secure appliances to transfer large amounts of data into and out of the AWS cloud.
AWS Snowball Edge	A 100TB data transfer device with on-board storage and compute capabilities.
AWS Snowmobile	An Exabyte-scale data transfer service used to move extremely large amounts of data to AWS. You can transfer up to 100PB per Snowmobile, a 45-foot long ruggedized shipping container, pulled by a semi-trailer truck.

3. Amazon Database

- **Amazon RDS:** Relational Database
- **Amazon Aurora:** Relational Database
- **Amazon DynamoDB:** NoSQL Database
- **Amazon Redshift:** Data Warehouse
- **Amazon ElastiCache:** In-Memory Cache
- **AWS Database Migration Service:** Database Migration
- **Amazon Cloud Directory:** Directory

Amazon Database

Products	Description
Amazon RDS	A managed relational database in the cloud that you can launch in minutes with a just a few clicks.
Amazon Aurora	A fully managed MySQL and PostgreSQL-compatible relational database with 5X performance and enterprise level features.
Amazon DynamoDB	A managed NoSQL database that offers extremely fast performance, seamless scalability and reliability
Amazon Redshift	A fast, fully managed, petabyte-scale data warehouse at less than a tenth the cost of traditional solutions.
Amazon ElastiCache	To deploy, operate, and scale in-memory cache based on memcached or Redis in the cloud.
AWS Database Migration Service	Help migrating your databases to AWS easily and inexpensively with minimal downtime.
Amazon Cloud Directory	To build flexible cloud-native directories for organizing hierarchies of data along multiple dimensions.

4. Migration

- ▶ AWS Server Migration Service (SMS)
- ▶ AWS Database Migration Service
- ▶ Amazon S3 Transfer Acceleration
  - ▶ makes public Internet transfers to Amazon S3 faster
- ▶ AWS Snowball
  - ▶ petabyte-scale data transport solution
- ▶ AWS Snowmobile
  - ▶ exabyte-scale data transfer service
- ▶ AWS Direct Connect
  - ▶ establish a dedicated network connection
- ▶ Amazon Kinesis Firehose
  - ▶ easiest way to load streaming data into AWS

5. Networking and Content Delivery

- Amazon VPC

  - provision a logically isolated section of the AWS Cloud

- Amazon CloudFront

  - global content delivery network

- Amazon Route 53

  - cloud Domain Name System (DNS)

- AWS Direct Connect

  - establish a dedicated network connection

- Elastic Load Balancing

  - automatically distributes incoming application traffic across multiple EC2 instances

6. Developer Tools

► **AWS CodeCommit**
  ► a fully managed source control service

► **AWS CodeBuild**
  ► fully managed build service that compiles source code, runs tests, and produces software packages that are ready to deploy

► **AWS CodeDeploy**
  ► service that automates code deployments

► **AWS CodePipeline**
  ► continuous integration and continuous delivery service for fast and reliable application and infrastructure updates

► **AWS X-Ray**
  ► helps developers analyze and debug distributed applications

7. Management Tools

- **Amazon CloudWatch**
  - monitoring service for AWS Cloud resources and the applications you run on AWS.
  - You can use Amazon CloudWatch to collect and track metrics, collect and monitor log files, set alarms, and automatically react to changes in your AWS resources.

- **Amazon EC2 Systems Manager**
  - management service that helps you automatically collect software inventory, apply operating system (OS) patches, create system images, and configure Windows and Linux operating systems.

- **AWS CloudFormation**
  - gives developers and systems administrators an easy way to create and manage a collection of related AWS resources, provisioning and updating them in an orderly and predictable fashion

7. Management Tools

- **AWS CloudTrail**
  - web service that records AWS API calls
- AWS Config
  - fully managed service for configuration history
- AWS Service Catalog
  - allows organizations to create and manage catalogs of IT services
- AWS Personal Health Dashboard
  - provides alerts and remediation guidance

8. Analytics

- **Amazon Athena**
  - an interactive query service
- **Amazon EMR**
  - provides a managed Hadoop framework
- **Amazon CloudSearch**
  - Helps to set up, manage, and scale a search solution for your website or application
- **Amazon Elasticsearch Service**
  - makes it easy to deploy, operate, and scale Elasticsearch for log analytics, full text search, application monitoring, and more
- **Amazon Kinesis**
  - is a platform for streaming data to load and analyze streaming data
- **Amazon Redshift**
  - fast, fully managed, petabyte-scale data warehouse
- **Amazon QuickSight**
  - fast, cloud-powered business analytics service

9. Artificial Intelligence

▶ Amazon Lex

　▶ service for building conversational interfaces into any application using voice and text

▶ Amazon Polly

　▶ service that turns text into lifelike speech

▶ Amazon Rekognition

　▶ service that makes it easy to add image analysis to your applications

▶ Amazon Machine Learning (Amazon ML)

　▶ service that makes it easy for developers of all skill levels to use machine learning technology

10. Mobile Services

▶ **AWS Mobile Hub**

  ▶ provides an integrated console experience

▶ **Amazon Cognito**

  ▶ lets you easily add user sign-up and sign-in to your mobile and web apps

▶ **Amazon Pinpoint**

  ▶ makes it easy to run targeted campaigns to drive user engagement in mobile apps

▶ **AWS Device Farm**

  ▶ app testing service that lets you test and interact with your Android, iOS, and web apps on many devices at once

▶ **AWS Mobile SDK**

  ▶ helps you build high quality mobile apps quickly and easily

▶ **Amazon Mobile Analytics**

  ▶ can measure app usage and app revenue

11. Application Services

▶ AWS Step Functions

  ▶ makes it easy to coordinate the components of distributed applications and microservices using visual workflows

▶ Amazon API Gateway

  ▶ fully managed service that makes it easy for developers to create, publish, maintain, monitor, and secure APIs at any scale

▶ Amazon Elastic Transcoder

  ▶ media transcoding in the cloud

▶ Amazon Simple Workflow (Amazon SWF)

  ▶ helps developers build, run, and scale background jobs that have parallel or sequential steps

12. Messaging

- **Amazon Simple Queue Service (Amazon SQS)**
  - fast, reliable, scalable, fully managed message queuing service

- **Amazon Simple Notification Service (Amazon SNS)**
  - fast, flexible, fully managed push notification service

- **Amazon Simple Email Service (Amazon SES)**
  - cost-effective email service

13. Business Productivity

- **Amazon WorkDocs**
  - fully managed, secure enterprise storage and sharing service with strong administrative controls and feedback capabilities that improve user productivity

- **Amazon WorkMail**
  - secure, managed business email and calendar service with support for existing desktop and mobile email client applications

- **Amazon Chime**
  - communications service that transforms online meetings with a secure, easy-to-use application that you can trust

14. Desktop & App Streaming

- **Amazon WorkSpaces**
  - fully managed, secure desktop computing service that runs on the AWS Cloud (virtual desktop)

- **Amazon AppStream 2.0**
  - fully managed, secure application streaming service that allows you to stream desktop applications from AWS to any device running a web browser, without rewriting them

15. Internet of Things

- ▶ AWS IoT
  - ▶ managed cloud platform that lets connected devices easily and securely interact with cloud applications and other devices

- ▶ AWS Greengrass
  - ▶ software that lets you run local compute, messaging, and data caching for connected devices in a secure way

- ▶ AWS IoT Button
  - ▶ programmable button based on the Amazon Dash Button hardware

16. Contact Center

- Amazon Connect
  - self-service, cloud-based contact center service that makes it easy for any business to deliver better customer service at lower cost

17. Game Development

- ▶ **Amazon GameLift**
  - ▶ managed service for deploying, operating, and scaling dedicated game servers for session-based multiplayer gamesing networked applications

- ▶ **Amazon Lumberyard**
  - ▶ free, cross-platform, 3D game engine for you to create the highest quality games, connect your games to the vast compute and storage of the AWS Cloud, and engage fans on Twitch
  - ▶ Twitch is the world's leading video platform and community for gamers. More than 45 million gamers gather every month on Twitch

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