

AWS service **EC2 - compute cloud service:** - quickly scales up or down to match changing business needs without having to worry about investing in new hardware - choose from a variety of instance types and configurations - reduces the financial burden associated with maintaining in-house data centers reduces the risk of downtime and enabling start-ups to focus on developing their products and services - robust security features - integrates seamlessly with other services **S3** - object storage service: 2 - scales storage needs up or down to match changing business requirements - reduces costs associated with maintaining traditional storage solutions - ensures that critical business data is always accessible - server-side encryption, access controls, and auditing capabilities - stores and serves static assets as well as dynamically generated content without having to worry about infrastructure management - keeps track of changes made to the data over time **Aurora - relational database service that scales automatically:** - high performance similar to that of commercial databases - scales databases up or down as needed, without having to worry about purchasing new hardware - highly available and durable - robust security features - manages databases without having to worry about database administration tasks - automated patching and maintenance - easily sets up data backup and recovery processes reduces costs associated with maintaining traditional databases



AWS service **DynamoDB - fully managed and serverless NoSQL database service:** high performance with fast query execution and low latency - flexible schema allowing start-ups to easily adapt their data model as needed highly available uptime robust security features, including encryption at rest and in transit, access controls, and auditing capabilities, to protect sensitive data - retrieves data quickly making it suitable for applications that require real-time data processing - supports complex data models, including nested documents and arrays, making it suitable for applications that require flexible data structures RDS - managed relational database service supporting a variety 5 of engines: - don't have to manage servers or infrastructure, freeing up resources for development and growth - high availability, ensuring that critical business data is always accessible - robust security features - reduce costs associated with maintaining traditional databases - supports multiple database engines, making it suitable for applications that require specific databases - regular backups of the database Lambda - serverless and event-driven computing service: - only pay for the compute time used - reduces upfront costs and minimizes financial risk - automatically scales to handle changes in workload, eliminating the need for manual scaling - don't have to manage servers, operating systems, or middleware - can quickly deploy and test serverless functions without worrying about provisioning, configuring, or maintaining servers

particularly well-suited for small, short-lived tasks



AWS service **VPC - virtual private cloud networking service:** - fine-grained control over network security, including the ability to create subnets, route tables, and security groups provides isolation between resources - can scale networking infrastructure up or down as needed, without having to provision new hardware or software - reduces costs associated with maintaining traditional networking infrastructure, including power, cooling, and maintenance - can create a network that is isolated from the public internet, reducing exposure to security threats and ensuring data confidentiality **Cloud Front - content delivery network service:** 8 - delivers content faster and more reliably, improving user experience and engagement - automatically scales to handle changes in traffic - distributes content across multiple geographic locations, reducing latency and increasing accessibility for users worldwide - reduces the distance between users and the origin server - pay for the bandwidth used, eliminating the need for expensive hardware - advanced security features to protect sensitive data Elastic Beanstalk - service for deploying and scaling web applications 9 and services: - quickly deploy web applications to production without needing to manage servers, scaling, or maintenance - supports serverless architectures, allowing start-ups to focus on writing code and deploying it to a scalable platform - automatically scales the number of instances based on traffic demand, ensuring that applications are always responsive and efficient



AWS service **EC2** Auto-scaling - application availability service: 10 quickly scales applications to meet changing traffic demands, ensuring that users receive a responsive and efficient experience - automatically adjusts the number of instances reduces the likelihood of server crashes or outages due to overloads or underloads - eliminates the need for over-provisioning or under-provisioning servers - simplifies server management by automating tasks such as instance provisioning, termination, and scaling - predictive algorithms to forecast traffic patterns and scale instances accordingly **ElastiCache - fully-managed, flexible, in-memory caching service:** 11 provides fast data retrieval and storage, making it ideal for applications that require low-latency data access - automatically scales to meet changing workload demands provides automatic failover and replication, ensuring that applications are always available and accessible, even in the event of hardware failure or network disruptions - simplifies database management by providing a managed cache layer that can be easily integrated with existing applications - eliminates the need for upfront capital expenditures or ongoing maintenance costs **12 S3 Glacier - archive storage service:** - provides long-term archival costs that are significantly lower than the cost of storing data in standard storage classes - designed for long-term data preservation, making it an ideal choice for start-ups with large archives or infrequently accessed data - automates data archiving and retrieval provides a redundant and durable storage environment that ensures business continuity in the event of a disaster or data loss



AWS service **Lightsail - website and applications building service:** 13 deploys and manages applications with minimal configuration - automatically scales to meet changing workload - high availability and redundancy - secure environment for applications with features such as encryption, firewalls, and access controls - provides dedicated resources, ensuring the necessary power, memory, and storage Sagemaker - service that allows building, training, and deploying 14 machine learning models: - provides an automated machine learning workflow that allows to build, train, and deploy models - automatic data preprocessing, feature engineering, and feature scaling, making it easy to prepare data for training - a built-in model management system that allows to track, deploy, and monitor models in a centralized location predictive analytics capabilities that help to understand the performance of models and make data-driven decisions **15 SNS** - notification service: - ensures that applications are notified of important events - provides high availability and redundancy, ensuring that notifications are delivered reliably and in real-time provides industry-leading security features provides a cost-effective solution for messaging and notification services, with pricing based on the number of messages received or sent - supports a wide range of notification channels, including email, SMS, voice calls, and more - build event-driven architectures that enable real-time communication between applications, services, or devices - real-time data processing capabilities



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16	 Flastic Block Store - block-level storage service: provides persistent storage for applications, ensuring that data is always available and can be accessed even in the event of a failure fast performance, with block-level access times that are typically faster than traditional storage methods provides a cost-effective solution for persistent storage, with pricing based on the amount of storage used
17	 Kinesis - data streams service: processes real-time data from various sources, enabling to make data-driven decisions quickly scales horizontally, allowing to easily handle large volumes of data and high throughput high availability and durability, ensuring that data is always accessible and can be processed reliably cost-effective solution based on the amount of data processed
18	 Elastic File System - fully managed file system service: scales storage up or down as needed high availability and redundancy, ensuring that files are always accessible and can be retrieved reliably durability for files, ensuring that they are protected against data loss or corruption support a wide range of file systems, making it easy to integrate with other applications and services cost-effective solution for shared storage, with pricing based on the amount of storage used
19	Identity and Access Management - identity and access management service: - provides a centralized platform for managing identities, making it easier to create, assign, and manage user accounts - support various multi-factor authentication options



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20	 SQS - fully-managed message queuing service: decouples applications, services, or microservices from each other, making it easier to develop, deploy, and maintain individual components independently reliable messaging system that ensures messages are delivered even in the event of failures, providing high availability and uptime scales automatically to handle increases in message volume, ensuring that applications can handle large volumes of messages without worrying about performance or capacity issues supports multiple messaging patterns
21	 RedShift - data warehousing service: high-performance analytics capabilities with columnar storage, allowing for faster data processing and analysis cost-effective solution for data warehousing, with pricing based on the amount of data stored and query performance easy-to-use interface for setting up and deploying data warehouses, reducing the time and effort required to get started
22	 Cloudwatch - cloud monitoring service: real-time visibility into application performance, allowing to quickly identify issues and take corrective action easy-to-use interface for setting up and deploying monitoring systems advanced analytics capabilities, such as anomaly detection and trending, allowing to gain deeper insights into application performance



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26	Firewall Manager - firewall service:
	 centralized management console for managing firewalls across multiple accounts and regions, making it easier to manage security policies
	 uses machine learning-based algorithms to automatically detect and block known threats in real-time, reducing the risk of data breaches helps improve organization's overall security posture by providing real-time visibility into firewall configurations and automated threat detection
	 reduces the complexity of firewall management by providing a single console for managing firewalls across multiple accounts and regions
27	Appflow - integration service that enables to securely transfer data between SaaS applications and AWS services without code:
	 simple and intuitive interface for setting up integrations between applications, reducing the time and effort required for manual configuration
	 automates workflows across multiple platforms, making it easy to integrate apps, sync data, and trigger events in real-time
28	Route 53 - domain name system service:
20	Route 55 - domain name system service:
	 ensures that domain name system records always point to the correct internet protocol addresses
	 can handle large amounts of traffic and millions of domain names uses global network of edge locations to provide low-latency routing, ensuring fast access to web applications
	- real-time analytics and monitoring capabilities



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29	 Cloud Formation - infrastructure management service: interface for creating and managing infrastructure resources, such as EC2 instances, RDS databases, and S3 buckets allows to version templates, making it easier to track changes and collaborate with team members creates reusable templates that can be used across multiple projects and environments ensures consistency in infrastructure configurations, making it easier to manage and maintain complex systems allows to scale infrastructure resources up or down as needed without having to manually provision or de-provision resources optimizes costs by allowing to use the right resources for applications, and scaling up or down based on demand
30	 Amazon Verified Permissions - service for fine grained authorization ensure that only authorized individuals have access to your resources track who has accessed your resources and when, making it easier to investigate and respond to security incidents reduce the risk of unauthorized access to your resources simplifies the process of managing identities and permissions for your resources, reducing the complexity and administrative overhead demonstrate compliance with regulatory requirements scale your security controls up or down as needed