Module 7

Amazon CloudWatch

It is a web service that enables you to monitor and manage various metrics and configure alarm actions based on data from those metrics.

It uses metrics to represent the data points for your resources.

1. AWS services send metrics to CloudWatch.
2. CloudWatch then uses these metrics to create graph automatically that show how performance has changed over time.

AWS Trusted Advisor

It is a web service that inspects your AWS environment and provides real-time recommendations in accordance with AWS best practices.

Trust advisor compares its findings to AWS best practices in five categories:

1. Cost optimization
2. performance
3. Security
4. fault tolerance
5. service limits

AWS Trusted Advisor continuously inspects your AWS environment and provides best practice recommendations across five categories: cost optimization, performance, security, fault tolerance, and service limits.

Amazon CloudFront

It is a content delivery network (CDN) that securely delivers data, videos, applications, and APIs to customers globally with low latency, high transfer speeds, and no minimum usage commitments.

CloudFront uses a global network of edge locations to cache and deliver content as close to the end user as possible. This reduces latency and ensures that content is delivered quickly and reliably.

AWS Lambda

It is a compute service that lets you run code without provisioning or managing servers. You can run code in response to events and automatically manage the compute resources required by that code. This lets you build applications that respond quickly to new information and scale automatically to meet demand.

Lambda supports a wide range of programming languages and integrates with other AWS services to create powerful, event-driven applications.

AWS CloudTrail

It records API calls for your account. The recorded information includes the identity of the API caller, the time of the API call, the source IP address of the API caller, and more.

AWS CloudTrail can be used to monitor activity and detect unusual behavior in your account. It can also be used to track changes made to resources in your account, which can be useful for compliance and security purposes. CloudTrail logs can be stored in Amazon S3 and analyzed using Amazon Athena or other analytics tools.

AWS Elastic Beanstalk

AWS Elastic Beanstalk is a fully managed service that makes it easy to deploy and run applications in multiple programming languages, including Java, .NET, PHP, Node.js, Python, Ruby, and Go. This service helps developers and application owners quickly deploy and manage their applications in the AWS Cloud without worrying about the underlying infrastructure.

Elastic Beanstalk automatically handles the deployment, capacity provisioning, load balancing, and scaling of your application. This means that you don't have to spend time configuring and managing instances, databases, or load balancers. Instead, you simply upload your code and Elastic Beanstalk takes care of the rest.

In addition to its fully managed capabilities, Elastic Beanstalk provides a variety of customization options, including the ability to use your own custom platform, to configure your environment variables, and to integrate with other AWS services such as Amazon RDS, Amazon SNS, and Amazon SES. This makes it easy for developers to customize their environments and integrate with other AWS services they are already using.

AWS Identity and Access Management (IAM)

AWS Identity and Access Management (IAM) is a web service that enables you to securely control access to AWS services and resources for your users. IAM allows you to create and manage users and groups, and to grant permissions to specific AWS resources. You can also use IAM to create roles that can be assumed by other AWS accounts or services.

IAM provides a number of security features, including multi-factor authentication, password policies, and integration with AWS CloudTrail for auditing and compliance purposes. This means that you can ensure that your AWS resources are accessed only by authorized users and applications, and that actions taken on those resources are properly audited and tracked.

IAM can also be integrated with other AWS services, such as Amazon S3, Amazon EC2, and Amazon RDS, to provide fine-grained access control for your resources. This allows you to control access to your resources at a very granular level, giving you more control over your AWS environment and enabling you to better protect your data and applications.

Amazon Simple Notification Service (SNS)

It is a fully managed pub/sub messaging service that enables you to send messages to distribute notifications and messages to a large number of recipients in a reliable and cost-effective manner.

SNS provides a flexible messaging model that allows you to publish messages to topics, which are virtual channels that can be subscribed to by multiple recipients. These recipients can receive the messages in a variety of ways, including email, SMS, and mobile push notifications.

SNS integrates with other AWS services, such as Amazon CloudWatch and AWS Lambda, to provide a powerful messaging framework that can be used to build event-driven applications and automate workflows. It also provides a number of security features, such as encryption at rest and in transit, to ensure that your messages are delivered securely and reliably.