Amazon API Gateway is a fully managed service provided by Amazon Web Services (AWS) that allows developers to create, publish, maintain, monitor, and secure APIs at any scale. It acts as a gateway for backend services, making it easy for clients to access and interact with your application's functionality over the internet.

Key features of Amazon API Gateway:

1. API Creation and Management: API Gateway allows you to create APIs using a variety of integration types, including AWS Lambda functions, HTTP/HTTPs endpoints, and AWS services like Amazon S3 and DynamoDB.
2. API Versioning and Staging: You can create multiple versions of your APIs and deploy them to different stages (e.g., development, testing, production) for controlled release.
3. API Security: API Gateway provides various security mechanisms, including AWS Identity and Access Management (IAM) integration, API keys, and custom authorizers for controlling access to your APIs.
4. Request and Response Transformations: You can modify the structure and content of incoming and outgoing requests and responses using mapping templates.
5. Rate Limiting and Throttling: API Gateway allows you to set usage plans with rate limits and throttling to control and manage API traffic.
6. API Monitoring and Logging: You can monitor API usage with Amazon CloudWatch metrics and log API execution details using Amazon CloudWatch Logs.
7. API Caching: API Gateway supports caching to reduce the number of requests that reach the backend, improving performance and reducing costs.
8. Cross-Origin Resource Sharing (CORS): API Gateway can handle CORS requests, allowing web applications to make requests to APIs hosted on different domains.
9. API Deployment: Once you create and configure your API, you can easily deploy it to different stages with just a few clicks.

Common use cases for Amazon API Gateway include:

* Building RESTful APIs: API Gateway is commonly used to create RESTful APIs that expose backend services to web and mobile applications.
* Serverless Architectures: API Gateway can be combined with AWS Lambda to create serverless architectures, where APIs trigger Lambda functions to handle backend logic.
* Microservices: API Gateway can serve as the entry point for microservices, allowing them to be accessed and orchestrated through a unified API.
* Mobile Backend as a Service (MBaaS): API Gateway is used as an MBaaS to provide mobile applications with access to backend services and data.
* API Proxy: API Gateway can act as a proxy for existing HTTP/HTTPS endpoints, allowing you to expose and manage third-party services as APIs.

Amazon API Gateway simplifies the process of building, deploying, and managing APIs at scale, enabling developers to focus on creating and delivering valuable functionalities to their clients without worrying about the infrastructure.