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A VPC (Virtual Private Cloud) is a private, isolated network environment within a public cloud, such as AWS, Google Cloud Platform (GCP), or Microsoft Azure. It allows you to securely host and manage your resources, such as virtual machines, databases, and other services, with granular control over the network configuration.

Key Features of a VPC Private and Isolated Environment: A VPC creates a logically isolated network space within the public cloud.

Customizable Networking: You can define your own IP address range, subnets, and network settings.

Secure Communication: Traffic between resources within a VPC can be kept private, and internet access can be restricted or controlled through gateways and firewalls.

Connectivity Options: VPCs can connect to on-premises data centers via secure VPNs, direct connections, or hybrid cloud setups.

Firewall and Access Control: You can create security groups and network ACLs (Access Control Lists) to control inbound and outbound traffic.

An Elastic IP address is a static, public IPv4 address that is allocated to your account in a cloud environment, such as AWS. Unlike standard public IP addresses that might change upon resource restart, Elastic IPs are designed to remain constant, allowing you to maintain a consistent public IP address for your cloud resources, even as you stop or restart them

1. **Static Code Analysis** Static code analysis examines the source code or binary code without executing the program. It's a proactive approach to find potential bugs, vulnerabilities, and coding standard violations during the development phase.
2. **Dynamic Code Analysis** Dynamic code analysis tests the program by executing it in a controlled environment. It evaluates the runtime behavior of the application to identify issues that static analysis cannot detect.