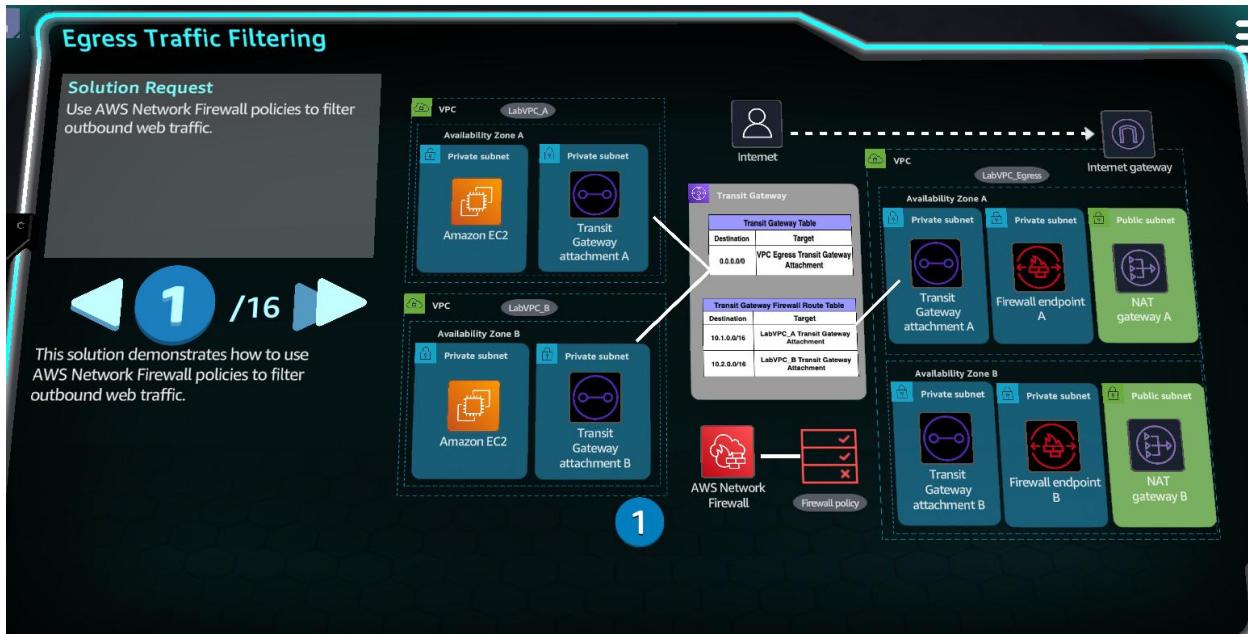
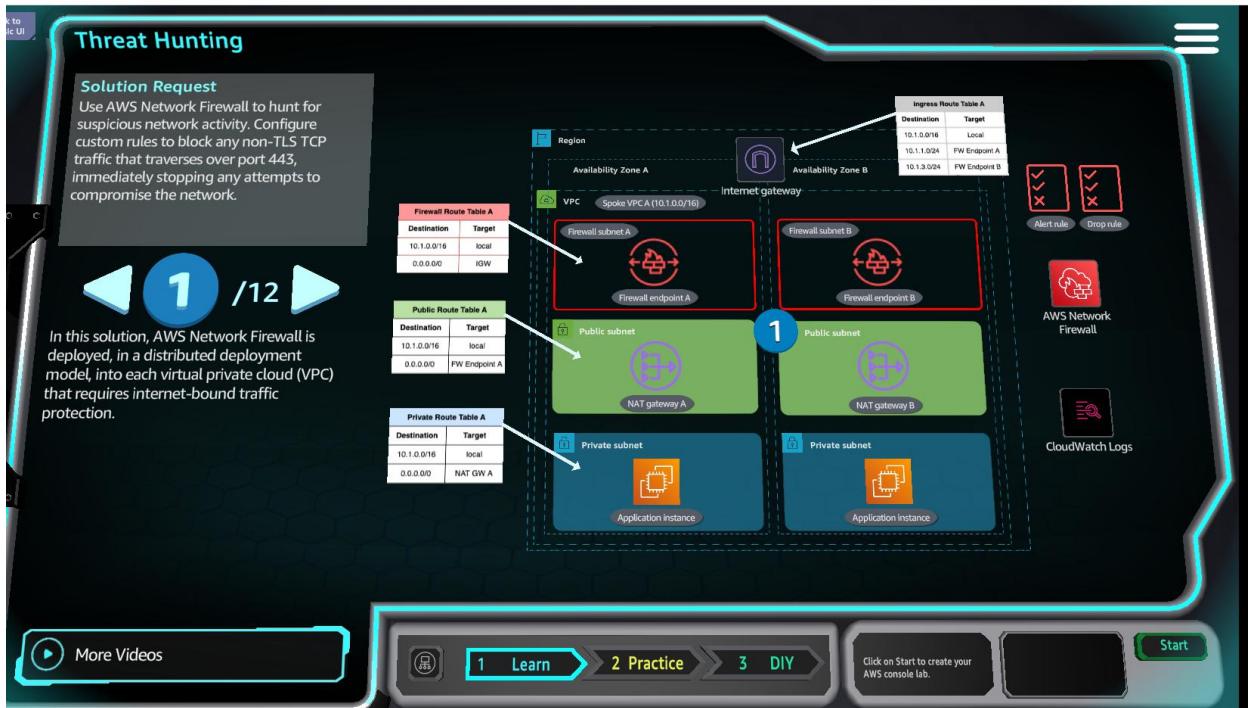


VPC IDEAS

The below VPC architecture is in same region and account



The below VPC architecture is for VPC network firewall



Resolve VPC Routing Conflicts

Solution Request
Validate VPC peering and routing. Check the database server operation and traffic allowances. Confirm accurate ALB traffic routing. Ensure operational web servers with database connectivity.

1 /10

This solution covers various troubleshooting strategies to address the issue of a three-tier application that generates a 503 error when accessed through an Application Load Balancer on AWS. The solution investigates potential routing conflicts arising from virtual private cloud (VPC) peering, aimed at restoring complete functionality to the application.

The diagram illustrates a three-tier application architecture within AWS Cloud. It consists of two VPCs connected via VPC peering. The first VPC contains an Application Load Balancer (ALB) in a public subnet (192.168.0.0/16) and two app servers (App server 1 and App server 2) in a private subnet (10.0.0.0/16). The second VPC contains two Amazon RDS instances in a private subnet (172.16.0.0/16). A dashed line indicates a potential routing conflict between the two VPCs, where traffic from the ALB might be incorrectly routed to the RDS instances instead of the app servers.

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Automate Inter-Region Peering

Solution Request
Automate the process of configuring inter-Region transit gateway peering to establish connections between transit gateways in different AWS Regions. Use an AWS Step Functions state machine, which uses AWS Lambda, to create a peering connection.

16 /16

The user reviews and verifies that the route table associations and transit gateway attachments are set up correctly so that traffic can be routed between VPCs in two Regions.

The diagram shows the automation of inter-region transit gateway peering. A User triggers a process through AWS CloudFormation. This process involves AWS Step Functions, which executes several AWS Lambda functions: "AWS Lambda (get status)", "AWS Lambda (transit gateway peering)", and "AWS Lambda (modify transit gateway routes)". These Lambda functions interact with AWS Transit Gateways in two different AWS Regions. Route tables in the VPCs are updated to route traffic through the transit gateways. A "Peering connection" is established between the transit gateways in the Requester and Acceptor regions, allowing traffic to be routed between VPCs in different regions.

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Add Network firewall

Inter-region VPC Peering

Cross-Account VPC Peering(<https://aws.amazon.com/premiumsupport/knowledge-center/cloudformation-vpc-peering-error/>)

DNS Firewall