

# Case Study: Building a Secure DevOps Environment and Cyber Range on AWS

A technology company specializing in Operational Technology and Industrial Internet of Things solutions needs a Cyber Range and proving ground for solution testing and customer demonstration hosted on AWS and aims to improve their training and demonstration capabilities while limiting cost.

# The Problem:

The company faced several challenges:

- 1. Configuration variability: deploying solutions for testing and customer demonstrations often results in unanticipated changes between deployments and often requires redeployment to bring solutions back to a supported state.
- 2. Effective Demonstrations: solutions typically must be instantiated between uses to ensure that conditions allow testing requirements to be fulfilled on a case-by-case basis, which is time-consuming and costly.
- 3. Legacy Processes: the existing development pipeline was manual, time-consuming, and error prone.
- 4. Cost Overrun: Due to the cumbersome deployment requirements, solutions were often left running after their useful lifecycle, resulting in excess cost and operational overhead.

# The Solution:

This company engaged TD SYNNEX managed services for DevOps Transformation. TD SYNNEX is creating a new Cyber Range and helping this company create repeatable deployments to meet testing and demonstration requirements.

- 1. DevOps Pipeline Implementation
  - Infrastructure as Code (IaC): TD SYNNEX introduced IaC using tools like Terraform and AWS CloudFormation. This streamlined infrastructure provisioning and ensures consistency.
  - Continuous Integration/Continuous Deployment (CI/CD): TD SYNNEX is building CodeDeploy pipelines for automated builds, tests, and deployments. This reduces manual intervention and accelerated releases.
- 2. Cyber Range Establishment
  - Purpose-Built Environment: TD SYNNEX created a dedicated cyber range, a controlled environment for security training, simulations, and demonstrations.
  - Variety of Scenarios: The cyber range included scenarios like customer demonstration, internal and external stakeholder training, and solution testing.

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3. Repeatable Deployment and Decommissioning

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- TD SYNNEX is helping to build codified deployment products that the company can vend to stakeholders via AWS Service Catalog, Code Repositories, and existing integrations.
- When operations are completed against a given solution, destroy actions can be executed to decommission the solution to limit cost.

### How AWS Solutions Were Leveraged:

AWS CodeCommit, CodeDeploy, CodeBuild, Cloud9, S3, EC2, VPC, and Service Catalog were used to create a modern DevOps environment.

AWS CloudTrail, CloudWatch, Trusted Advisor, Security Hub, Guard Duty were used to secure and monitor the cloud infrastructure.

# **Third Party Tools Used:**

CloudCheckr, Ansible Tower, and Zendesk Support.

### The Outcome:

- Efficiency: TD SYNNEX is reducing deployment time by 80% and creating processes to improve solution quality.
- DevOps Culture: With updated solution strategies, stakeholders are empowered to demonstrate solutions more often, with less effort, and at reduced cost.
- Demonstration Confidence: Comprehensive configuration testing ensures that solutions will be deployed in real time with expected outcomes.

#### **Conclusion or Lessons Learned:**

Through collaboration with TD SYNNEX, the company was able to transform their DevOps practices and expand their ability to repeatable show successful product and solution demonstrations.

#### About TD SYNNEX Public Sector

TD SYNNEX Public Sector is the premier government solutions aggregator that specializes in understanding the IT needs and solving the challenges of the federal, state, local and education markets.

