The Importance of Operation in CI/CD Pipelines

Continuous integration and continuous delivery (CI/CD) has become a key component of the software development lifecycle and is the backbone of DevOps. The need for application patching and deployments in monolith and legacy environments are still a reality for multiple enterprises.

Sometimes, you might be able to launch new environments, especially if you are working with deployment strategies such as Blue/Green deployment (which is explained in the second course of the series). Sometimes, however, you do not have the ability of create brand new environments, and must work with existing ones.

Releasing new features into production by changing a current environment could be challenging because of application complexity, external dependencies, and the coordination of multiple teams in a chain of procedures. AWS Systems Manager enables the automation of operational tasks. Systems Manager receives the list of instances to be patched from AWS CodeBuild, and then it remotely runs the commands in all target instances.

Systems Manager provides a unified user interface so you can track and resolve operational issues across your AWS applications and resources from a central place. Systems Manager simplifies resource and application management, shortens the time to detect and resolve operational problems, and makes it easier to operate and manage your infrastructure at scale.

Some of its benefits include:

- Reduces the time needed to resolve operational issues
- Offers easy-to-use automation
- Improves visibility and control
- Manages hybrid environments
- Helps maintain security and compliance
- Connects with IT service management (ITSM) or IT operations management (ITOM) software

Using Run Command, a capability of AWS Systems Manager, you can remotely and securely manage the configuration of your managed instances. A managed instance is any Amazon Elastic Compute Cloud (Amazon EC2) instance or on-premises machine in your hybrid environment that has been configured for Systems Manager. Use Run Command to automate common administrative tasks and perform one-time configuration changes at scale. You can use Run Command from the AWS Management Console, the AWS Command Line Interface (AWS CLI), AWS Tools for Windows PowerShell, or the AWS SDKs. Run Command is offered at no additional cost.