Ecquaria DevSecOps Stack

*D*evSecOps is a development team culture not just in application development but also in the deployment, operations and management of developed applications.

Security is also a significant consideration in this "shift-left" mindset whereby security awareness and practices are incorporated early into the development cycle rather than an afterthought.

To facilitate this, infrastructure and tools need to be in place to automate the build, scan, test and deployment process to eliminate time-consuming and error-prone manual processes. This is where the "Continuous Integration/Continuous Delivery" toolchain (CI/CD) comes into play.

It is also a complementary and necessary tool to facilitate agile software development practices to reduce friction in the build, scan, test and deployment cycle so that developers can focus mainly on software development during sprints.

Benefits of Ecquaria DevSecOps Stack

» Integrated toolchain for fast turnaround
» Improve efficiency and reduce human error with automation
» Modular components for specific needs
» Promote "shift-left" practices with security controls

Composition of DevSecOps Stack

Ecquaria DevSecOps Stack comprises of key areas:

» **Continuous Integration (CI)** pipeline for continuous integration during development
» **Continuous Deployment (CD)** pipeline for release management
» **Ecquaria Docking Services (EDS)** for automated deployment and ops management
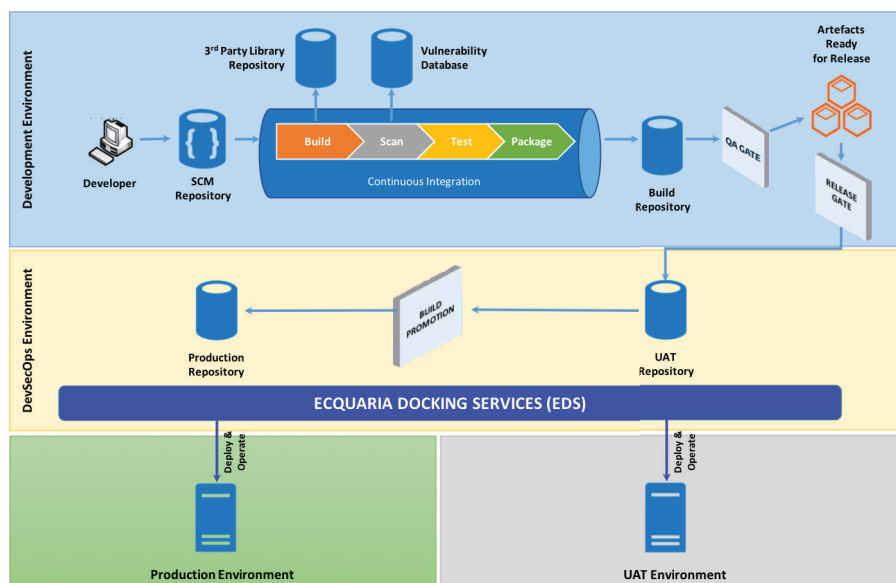
CI Pipeline

The CI Pipeline comprises of:

» Git-based Source Code Management Repository

» 3rd-Party Library Repository

» Jenkins Continuous Integration Management

» Static Code Scan with SonarQube

» Graphical analysis of scans and checks

» Software Composition Analysis

» Automated Functional Testing

» Dynamic Application Security Test

» Quality Assurance (QA) Gate

» Release Gate

» Deployment Management

Software Composition Analysis

Graphical view of inventory of software components including license details, security vulnerabilities associated. View at the component level or project level.

Perform Automated Functional Tests

Perform tests automatically on the application with automatic push to the QA environment.

QA Gate

Interface and capability for QA Manager to:

» Review changes, quality, correctness, completeness

» Analyse security and quality test results

» Endorse and "tag as ready for release" for deployment into the next environment

Release Gate

Interface and capability for Release Manager to:

» Release builds endorsed by QA into the government environment

» Pick builds for promotion to the next target environment

» Safeguard against unauthorised release to the wrong environment

Build artefacts from selected builds are packaged and automatically transferred into the selected repository for deployment to the selected environment.

Deployment

Interface and capability for the Deployment Manager to deploy to the target environment.

» Automate deployment steps using EDS using "One-Click" deployment

» Only builds that are released or promoted by the Release Manager can be deployed

» No more manual deployments

Operations with Ecquaria Docking Service

EDS is a set of capabilities to:

» Automate deployment

» Monitor and manage deployed applications

» Auto-scale in/out

» Monitor server/container resource

» Healthcheck of applications

» Simplify management with an integrated dashboard view