Welcome!

GitLab



Hello



HELLO my name is

Allen Sanders

Senior Technology Instructor Pluralsight ILT

About me...



- 30 years in the industry
- 25 years in teaching
- Certified Cloud architect
- Passionate about learning
- Also, passionate about Reese's Cups!

Agenda

- Learning objectives
- What is GitLab?
- Building your application in GitLab
- Securing your application in GitLab

How We're Going to Work Together

- Slides and words to highlight key concepts
- Demos to bring those concepts "to life"
- Discussion groups and lab work (which will take place in sandboxes provided via AWS WorkSpaces) for hands-on reinforcement
- NOTE: I welcome being interrupted if you need more info, or clarification, or anything else, just break in and ask. I am here to help you.

Learning Objectives



Learning Objectives

- Understand key concepts and considerations when leveraging DevSecOps in an Agile environment to help "shift security left" during software development
- Construct and prioritize a threat model for an application being developed and use that threat model as a planning tool to guide each phase of the SDLC in a security-minded manner
- Speak to the value of DevSecOps and its consistent application as a set of standards and best practices

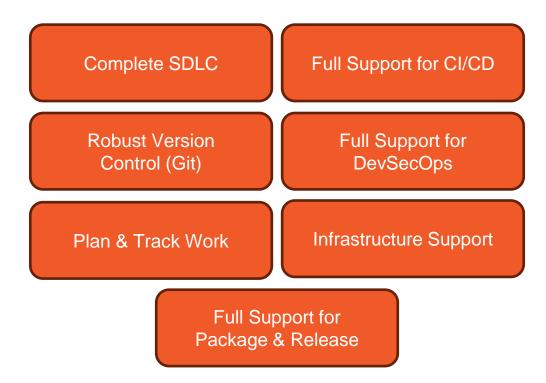


Learning Objectives

- Monitor, patch and scan for vulnerabilities in the Operating System (Windows and Linx) and underlying Infrastructure configuration
- Effectively utilize GitLab for Source Code Management and CI/CD, including:
 - Understanding and navigating practical activities related to source code repositories in GitLab
 - Effectively use Software Composition Analysis (SCA), Static Application
 Security Testing (SAST), and Dynamic Application Security Testing (DAST)

What is GitLab?

GitLab Features



Terms



- Project Where work is organized, managed, tracked, and delivered as part of software creation (like a repository)
- Group Collection of projects or other groups (like a project)
- Issue Unit of work in GitLab project (akin to a User Story)
- Epic Collection of related issues
- Merge Request Request for merge of one developer's changes with the rest of the team (like a Pull Request)
- Milestone Deliverable(s) out of a GitLab project for completion (like a release)

GitLab Flow



https://about.gitlab.com/topics/version-control/what-is-gitlab-flow/

Building Your Application in GitLab

Complex Pipeline

https://docs.gitlab.com/ee/ci/quick_start/tutorial.html

Publish Packages with CI/CD

https://docs.gitlab.com/ee/user/packages/pypi repository/auto publish tutorial.html. For the Python app, you can use the app & tests at https://github.com/KernelGamut32/python-jenkins.

Setup CI/CD Steps

https://docs.gitlab.com/ee/tutorials/setup_steps/index.html

Project Runners

 $\underline{https:/\!/docs.gitlab.com/ee/tutorials/create_register_first_runner/index.html}$

Securing Your Application in GitLab

Dependency Scanning

https://docs.gitlab.com/ee/tutorials/dependency_scanning.html

Docker Container Scanning

https://docs.gitlab.com/ee/tutorials/container_scanning/index.html

Security End-to-End

https://university.gitlab.com/learn/course/hands-on-lab-security-essentials/main/hands-on-challenge-gitlab-security-essentials

Security End-to-End

Update your Docusaurus solution to include the various concepts we've been learning – add dependency scanning, SAST, DAST, additional stages, etc. to build out a more full-featured pipeline. Address any High or Critical vulnerabilities uncovered.

Thank you!

If you have additional questions, please reach out to me at: asanders@gamuttechnologysvcs.com

