Chris Faris

CEN 4802C

11/23/24

final presentation

Welcome,

In this final project demonstration I continued to build on and improve the pipeline I put together previously for the midterm project for this class. For this demonstration, I decided to add detailed logging using the java.util.logging class similar to what I did for the module assignment for this concept a couple weeks ago, but also taking it a step farther and adding an email function using javax.mail which sends the created logs file to whoever it may concern for review and analysis (other developers, engineers, managers). Another feature I chose to implement was simple, light testing using JMeter, which is automatically ran after build execution in the Jenkins pipeline, maintaining an automated seamless flow in the environment. It is important to note this does not replace the unit tests implemented with JUnit already in place in the project. Finally, I integrated DataDog with my Jenkins pipeline to allow for a high level view of the operations as well as setup an alert to monitor CPU usage.

Tools used:

* JMeter for testing
  + JMeter is a tool for testing the performance and scalability of things like servers, web apps and many more.
  + Benefits- load testing, automation, insight.
* java.util.logging for logging data
  + java.util.logging is Java’s built-in framework for creating, formatting, and managing log messages.
  + Benefits- debugging, monitoring, auditing.
* javax.mail for emailing relevant files.
  + javax.mail is a Java API for sending and receiving emails, it has support for a range of protocols, is fairly straight forward to set up and has many configuration options.
* DataDog for monitoring and alerts.
  + DataDog is a monitoring and analytics platform for cloud applications.
  + Benefits- comprehensive monitoring, real-time alerts, seamless integration.

Key Takeaways:

* Detailed, easy to read logs generated and saved.
* Log files automatically sent to peers for review.
* Light performance/load testing ran after build.
* Top-level view of pipeline ops and monitoring.