Continuous Integration Pipelines with Nomad, Vault and Jenkins

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Monday Morning: Standup time!

“The intern “solved” the problem with $product by “fixing” the database connection”
Wait! What?
$\text{problems++?}$
What is required for a business to survive?

• Faster time to market
  • Features go live in hours vs years
• In a safer (Secure) Reliable fashion
  • Fully automated
• Happier (customers, developers, managers, investors)
**Jenkins**

- Open-source automation server
- Golden standard since 2011/2005
- Written in Java
- Has elaborate and extensive plugin system

https://www.jenkins.io/
The CI Capacity Problem
Nomad

- Open-Source tool for dynamic workload scheduling
- Batch, containerized, and non-containerized applications.
- Has native service discovery (Consul) and secret management (Vault) integrations.
- Has token based access system.
- Jobs written in (H)ashiCorp (C)onfiguration (L)anguage
- Jenkins integration via plugin

https://www.nomadproject.io/
https://plugins.jenkins.io/nomad/
Demo Time!

LET'S PRAY
TO THE DEMO GODS
Vault

- Open-Source tool to do secrets management
- Secure, store and tightly control access to tokens, passwords, encryption keys for protecting secrets and other sensitive data using a UI, CLI, or HTTP API.
- Certificate management
- Password rotation (e.g. SSH, MySQL)
- Jenkins integration via plugin

https://www.vaultproject.io/
https://plugins.jenkins.io/hashicorp-vault-plugin/
• Deployed Jenkins on Nomad
  • Scripted plugin installation
  • Configured using Jenkins as Code
  • Automatically configured Jenkins to auto scale workers on Nomad
• Automatically created Jenkins jobs using JobDSL
• Deployed an application from a nomad-pack registry all the way to production
• Injected a Vault secret into the application
The Floor is yours...

Questions ?