





CRISTIAN GONZALES

SOFTWARE ENGINEER AT NORTHROP GRUMMAN

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EXPERIENCE

Northrop Grumman

Infrastructure Software Engineer

August 2020 – Present

- Developed a library of dynamic HashiCorp Packer configurations to build DISA and NIST STIG-hardened RHEL and CentOS machine images for VMWare VSphere and Docker, using Gradle (Groovy) and an in-house Ansible library, migrating deployments from PXE-boot to template-based and reducing deployment times by roughly 60%.
- Developed Jenkins pipelines to deploy hardened infrastructure and test in-house Ansible configurations using Docker workflows, allowing the team to save at least 80 developer hours per month, and developed VSphere wrapper APIs, using Java and Gradle, for Jenkins resource management.
- Wrote Ansible plays to harden firewalld with respect to NIST STIGs, and tested the plays by spoofing IP-layer header attributes and creating Martian packets, using Python's Berkeley Sockets API interface and kernel tunables.
- Wrote Ansible roles to configure and harden deployments of Cisco NX-OS Layer-3 switches, VMWare ESXi guests, Linux NetworkManager, and Chrony timeservers.

Northrop Grumman

Build and Release Engineer

July 2019 – August 2020

- Developed Jenkins pipelines to streamline different build processes in Linux, Solaris, and Windows, decreasing the time of the build and release process from four days to two hours, recognized in a company press release.
- Ported static Jenkins web interface logic into a dedicated Groovy DSL codebase to describe job configurations as code, tailored for the needs of different Jenkins pipeline workflows (developer sandboxes, release builds, nightly builds, etc.), where efforts allowed for an estimated 40% decrease of COGS for the configuration management team.
- Automated deployment for builds for ad hoc projects and ported build systems from Apache Ant to Apache Maven.

Northrop Grumman

Software Engineer

July 2019 – August 2020

- Developed an API to filter JMS messages from a legacy JMS service, using Guice injections to differentiate between different instances of the service and JAXB for object serialization to send messages across the wire.
- Refactored database schemas and their associated JPA mappings, along with protocol buffer definitions, to differentiate between different satellite missions for a server-side event message syslog implementation, where the mission identifier was injected using Guice.
- Developed a JAXB unmarshalling utility so subscribers may filter syslog event messages based on the satellite mission, where subscriptions were made through the unmarshalled data and Guice dependency injections.

Northrop Grumman

Software Engineering Intern

June 2017 – August 2017

- Prototyped a visualization tool to track satellite health statuses with NASA's GMSEC API and Guice injections.

SKILLS

LANGUAGES: Bash, C, csh, Go, Groovy, Java, JavaScript, Perl, PowerShell, Python, SQL

BUILD SYSTEMS: Apache Ant, Apache Maven, Gradle, make

TOOLS: Ansible, Docker, HashiCorp Packer, Git, L^AT_EX, PostgreSQL, Jenkins, nmap, nping, tcpdump, Wireshark

CONCEPTS: Agile Development, Operating Systems, Computer Networking, Containerization and Virtualization, Continuous Integration/Delivery (CI/CD), DevOps, Dependency Injections, Distributed Systems, Object Relational Mapping (ORM), Publish-Subscribe Messaging Pattern, Release Engineering, RESTful APIs

References available upon request.