NRE LABS

NETWORK RELIABILITY

At the base of the NRE's hierarchy of needs is reliability. Reliability isn't the absence of errors, but rather putting them on a budget, using automation. The NRE understands separation of concerns, managing and measuring service-level reliability with data for dependents up and down the IT stack.

ENGINEERING

Engaging in automation as engineering goes beyond APIs, code and tools. Network operations as engineering is continuously built, refined and automated on a pipeline of test-driven integrations that flow to staging and production deployment. Telemetry is analyzed into service indicators, while toil and errors are managed with automated workflows and continuous response.

PRINCIPLES

GET GOING

Automating netops has a large barrier to entry if you don't have a lab. There are no downloads, hypervisors or cobbling together here. Get automating right away, all in your web browser.

EXPERIMENT

Remove that protective eyewear used when trying something in production. NRE Labs is a safe place to experiment by trying various approaches to a solution, while still having guardrails and a learning path.

LEARN FAST

Lessons break down into quick, short and simple labs that only take a few minutes or less. Progressive improvement is more fun and beats delayed perfection.

REAL WORK

Learn by doing real work curated by fellow networkers. Lessons are based on real-life NetOps workflows and often include tools in the backend that you can take with you.

ALL LEVELS

NRE Labs is built for all domains and all levels of network engineers. Regardless of experience level automating, you'll have a place to begin.

OPEN

The platform and lessons powering NRE Labs are based on the Antidote open source project. Improvements and new lesson contributions are welcome.

PATH

MANUAL OPS

- NetOps at the device or system UI
- People are more technicians than technologists
- Caffeine-powered triage and midnight maintenance windows

AUTOMATED WORKFLOWS

- Document tribal knowledge and automate NetOps processes / workflows
- Focus on frequent troubleshooting or read-only tasks before configuration management
- Lab learning by doing

NETWORK AS CODE

- Connect actions to triggers and think test-driven
- Rethink troubleshooting as testing
- All code, configuration, artifacts are codified and can be tested

CONTINUOUS PROCESSES

- CI-CD-CR
- Continuous pipeline automates accuracy and agility
- Fast feedback/fail, small changes, safe/canary deployments
- Automate analytics response for auto-regulation and remediation

ENGINEERING OUTCOMES

- Use SRE/NRE outcomes with service-level objectives, indicators and agreements (SLO/SLI/SLA)
- Use error budgets and toil budgets
- Measure higher-order metrics to manage, but not necessarily maximize, reliability

TECH

Caution: It's not what you use, it's how you use it

(examples found on the path above)