RunLabs: Rapidly create virtual labs based on a simple configuration file

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Project Goal

- Accept configuration files and generate virtual machines and networks
- Allow students to access these virtual machines to perform exercises

Motivation

- Need virtual environments generated quickly
- VM and network configuration should be easy
- Generate environments from simple JSON config file
- Lab should be isolated

Features

- GRE tunneling for creating network across multiple hosts
- Ability to capture network traffic from host
- VNC for students
- Web UI for administration

Use cases

- Virtual pentesting network
- Malware analysis
- Networking and security exercises
- CTF's

Current usage at IUPUI

- Malware analysis
- Virtual labs for offensive security and forensics classes

Tools

- Python
- Flask
- Sqlite
- QEMU/KVM
- Minimega
- Openvswitch

Future development

- Bug fix
- VM auto-reboot
- Repository of exercise VM's
- Repository of different scenarios

www.livlab.org

https://github.com/itlivlab

LIVING LAB
DATABASE
NETWORK
SECURITY
WEB DESIGN

CERIAS

PURDUE
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