Quick Introduction

Intro to DevOps

Who Am I?

- Computer Engineering Bachelor's @ Palestine Polytechnic - 2017
- Computer Science Master's @ UNCG - 2019
- I work as a software engineer (doing something of everything) since 2019:
  - Backend development and architecture (APIs/Microservices)
  - DevOps & Cloud
  - Data Science & Machine Learning (although it's been a while)

You can find me on:

- https://saedx1.xyz/

What to expect?

- More practical knowledge than just theory
  - Most of the time, we'll be scripting, coding, and applying concepts we learn.
- To have an understanding of the problems with a DevOps-less flow and how DevOps can help your current flow and processes by the end of this course.
- Understanding the purpose and benefits of the cloud (more like CloudOps).
- Ability to facilitate a more regular and automated release of your projects.
- Making your software project high in quality.
- A little bit dense lectures; which might require you rewatching sometimes.

What to expect?

- Basics of Networking & HTTP
- Linux Scripting
- Git & Gitflow – Software Development Lifecycle (SDLC)
- Docker
- CI/CD Pipelines
- AWS
- Terraform (mostly with AWS)
- Maybe: Ansible

What to expect?

- Two days weekly (Saturday & Sunday); one 2-hour meeting 7:00PM-9:15PM
  - 07:45PM-08:00PM Break for Maghrib
- A task(s) will be given after the meeting on our facebook group; this task will make sure you understood and can apply what's been given.
  - Group name: DevOps Community - Palestine
  - Group link: www.facebook.com/groups/devops.palestine/

What not to expect from this?

- System administration.
- If you are already on an advanced level of understanding/practice of DevOps, this training might not be of much benefit.
- A whole lot of application programming experience. Although you might learn some.
- To get 100% of what is going to be talked about. You're still free to ask questions.

What is DevOps?

- Automation of everything around development (except coding/programming), mainly the delivery of the new features and bug fixes.
  - Test & Build (Continuous Integration - CI)
  - Release (Continuous Delivery)
  - Deploy (Continuous Deployment - CD)
- Most of this is done through ***scripts*** and is preferred to be done in the cloud.

Why DevOps?

- Increasing our ability to deliver versions of our apps and services
  - Less errors since it's automated
- Saving time due to automation and being able to proactively monitor your apps.
- Saving money, means you can profit more, or lower your prices!
- All leads to better customer satisfaction

How to DevOps?

- Usually you'll contribute using:
  - Shell Scripting (mostly with bash).
  - Python is also great for scripting when you wanna get too complicated!
  - Yaml files (in multiple areas)
- Medium to High-level understanding of networks
  - DNS
  - HTTP
  - TLS (SSL)
- Somewhere to put your scripts and run them – that's source control (git)
- Somewhere to put your code and run it – that's the cloud

What do I need to start?

- Debian (or any other linux distribution you're comfortable with)
  - You can use WSL if you are on Windows (it's just linux on windows)
  - You can install it on a Virtual Machine (checkout "VirtualBox", it's free)
- Code Editor
  - VS Code
  - Vim
- Patience
  - We are going to go over a whole bunch of concepts and ideas
  - Do not expect yourself to master all of this in an hour
  - Make it a natural habit for you to adopt new technology, this makes your life easier