

Python for DevOps





About the speaker

- Education
 - HCM University of Science
- Experience
 - DRE at Axon
 - DevOps Engineer for a Germany payment-solution company.
 - Formerly working as Software Engineer at Teko.
- Certifications



Tu Doan



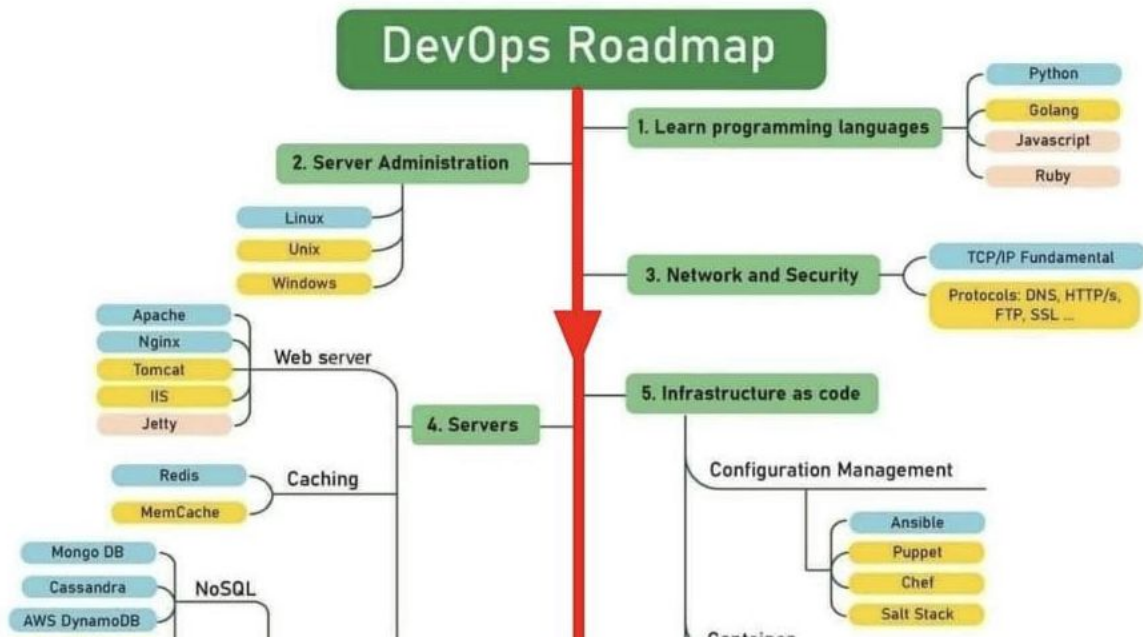
Agenda

- **Why is Python? Introduction.**
- **Automation in Python**
- **Demo: Writing a tool by Python to optimize CICD**
- **Q&A.**



Roadmap

Why Programming Language so important ?





What is Python

- Python is a Programming Language.
- Scripting like Bash or Javascript.
- Don't have to compile.
- Support by almost system.



Why is Python

- Easy to learn.
- Lightweight and Reliable
- Fastest growing programming language.
- Large community.
- Flexibility



Python in DevOps

- DevOps require a lot of Automation, Python is fit for it.
- Interact with Cloud computing.
- Ready-to-use API and Library.



Compared to Bash

Bash Script is most famous shell CLI on Linux.

	PYTHON	BASH
1	Highly efficient programming language General-purpose programming	Command-line interpreter (CLI) Not a programming language
2	Object-oriented programming (OOP)	Replacement for the original Bourne shell
3	Easy, simple and powerful language	Tough to write and not powerful as python.
4	Designed for web and app development.	Found on Linux distributions and macOS.
5	It supports OOP and allow users to easily and neatly break problems.	Bash does not support OOP and it only understands text
6	Require third-party programs to be installed	Does not require third-party apps/programs to be installed
7	Better to use when script is larger than 100 IOC.	For smaller script Bash is good.



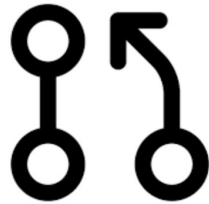
Automation

- Access files on system.
- API interaction.
- Monitoring.
- Custom script.



Demo 1

- Write an API webhook/caller on Cloud.
- From GitHub to Jira.



Open a Pull Request



Update to ticket



Demo 2

- Use python to health-check for a Database.
- Assume you have a Postgres Database.
 - How do you know DB is alive?
 - How do you know user/password is valid?



Dead or Alive ?



Prometheus



Grafana