Types of architectures

- The monolith
- Front and back end
- Microservices

Four pillars of Devops

- Ease of use
- Flexibility – no dependences relying on each other
- Robustness
- Cost

# What is DevOps?

**Practical definitions**

- A collaboration of Development (Dev) and Operations (Ops).
- A culture which promotes collaboration between Development and Operations Team to deploy code to production faster in an automated & repeatable way.
- A practice of development and operation engineers taking part together in the whole service lifecycle.
- An approach through which superior quality software can be developed quickly and with more reliability.
- An alignment of development and IT operations with better communication and collaboration.

# DevOps Value

CAMS Model

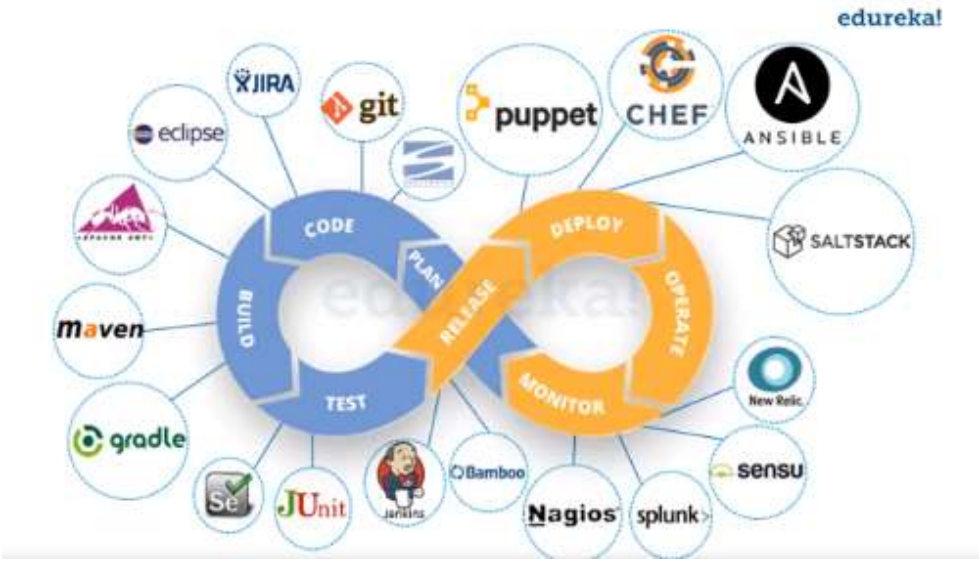

# DevOps Principles

1. Customer-Centric Action
2. End-To-End Responsibility
3. Continuous Improvement
4. Automate everything
5. Work as one team
6. Monitor and test everything

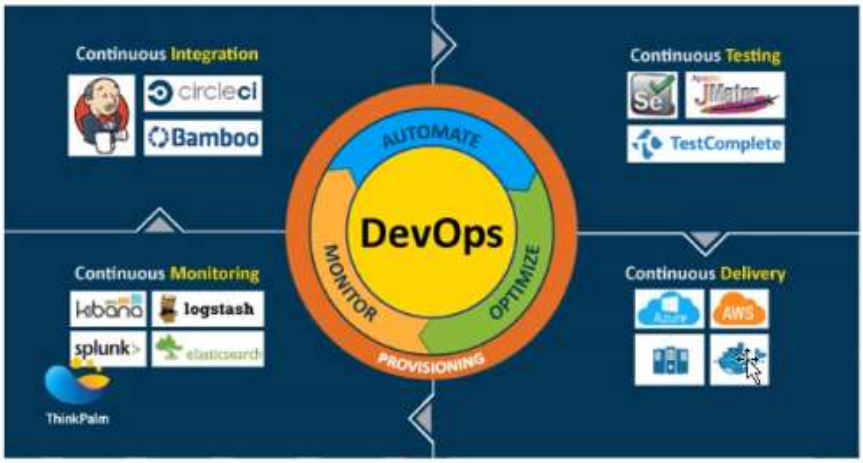
# Stages in DevOps Lifecycle

- Continuous Development
- Continuous Testing
- Continuous Integration
- Continuous Deployment
- Continuous Monitoring

## DevOps Tools



# DevOps Architecture and Platform




# DevOps Implementation

- Cloud Platform
  - AWS
  - GCP
  - Azure
- Infrastructure Architecture
  - Virtualization
  - Containerization (Docker)
- DevOps Implementations
  - Infrastructure as code (IaC)
  - infrastructure as a service (IaaS)
  - infrastructure as a platform (IaaP)
  - infrastructure as a product

# Risk Register

A typical risk register might look like this:

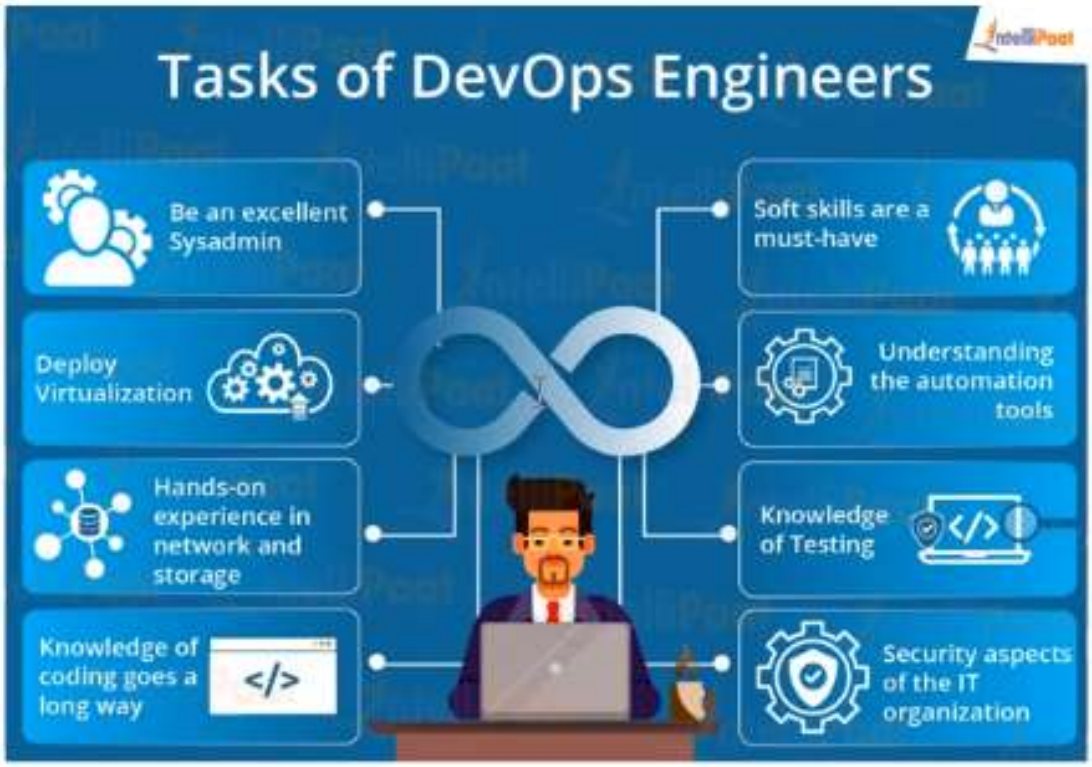
| Description | Chance of occurrence | Potential Damage | Risk |
|---|---|---|---|
| Dev Environment broken | Medium | Developers can not work | Low/Medium |
| Testing server broken | Medium/High | New code cannot be tested | Low/Medium |
| Automated testing broken | Medium/High | New code cannot be tested | Low/Medium |
| Jenkins server broken | Medium | New code cannot be pushed live | Low/Medium |
| Production server fails | Medium | Loss of revenue | High |

# Conclusion

**DevOps impacts**

- Culture
- Collaboration
  - People/teams
- Principles
- Automation tools ÷
- Software development Lifecycle
- System quality
- Cost efficiency
- Business value

# Will you be a good DevOps engineer?




## Summary

- Why do we need DevOps
- What is DevOps
- DevOps Lifecycle
- DevOps Implementation
- Risk Register

## Questions to ask in a real life environment

What language has been used to build this app?

What framework has been used? I.E. NVC

Are there any dependencies to be installed together?

What will the app look like?

Chmod +x = can have different permissions given to different files, turns the file into a executable

.sh extention of shell script/file