DevOps Intro

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Profesor: alvaro.delcastillo@urjc.es

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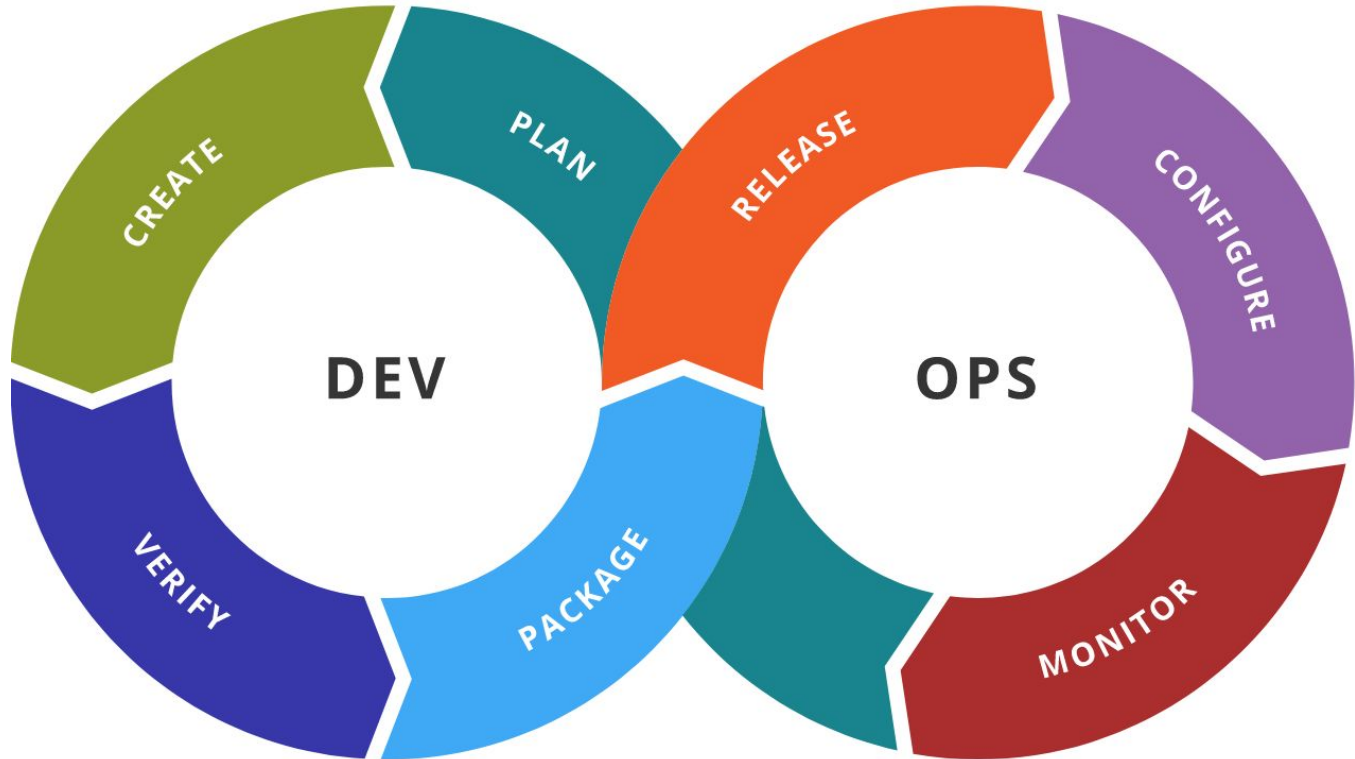 b. CD automation tools

DevOps Definition

DevOps is a set of practices that combines software development (*Dev*) and IT operations (*Ops*). It aims to shorten the systems development life cycle and provide continuous delivery with high software quality.[1] DevOps is complementary with Agile software development; several DevOps aspects came from the Agile methodology.

https://en.wikipedia.org/wiki/DevOps

DevOps Core Concepts/Best Practices

- Agile (SCRUM)
- Source Code Management
- Test Driven Development
- Continuous Testing
- Infrastructure as Code (IaC)
- Configuration Management
- Automation/Automated Builds
- Regression testing based on E2E
- Security Testing
- Rollback
- Failing Forward: Canary releases
- Break Silos
- Monitoring
- Learning

- CI And CD — The Backbone Of DevOps
- SRE: developer of infra as code. SDLC complete view. DevOps Engineer
- Dev->Stage->Production identical
- Ephemeral envs
- Culture: collaboration and communication, gradual changes, shared responsibility, early problem-solving, autonomous teams
- Minimize the cost of failure
- Continuous Improvement
- Scalability
- Virtualization
- Focus on Customer needs

DevOps Infinite Loop
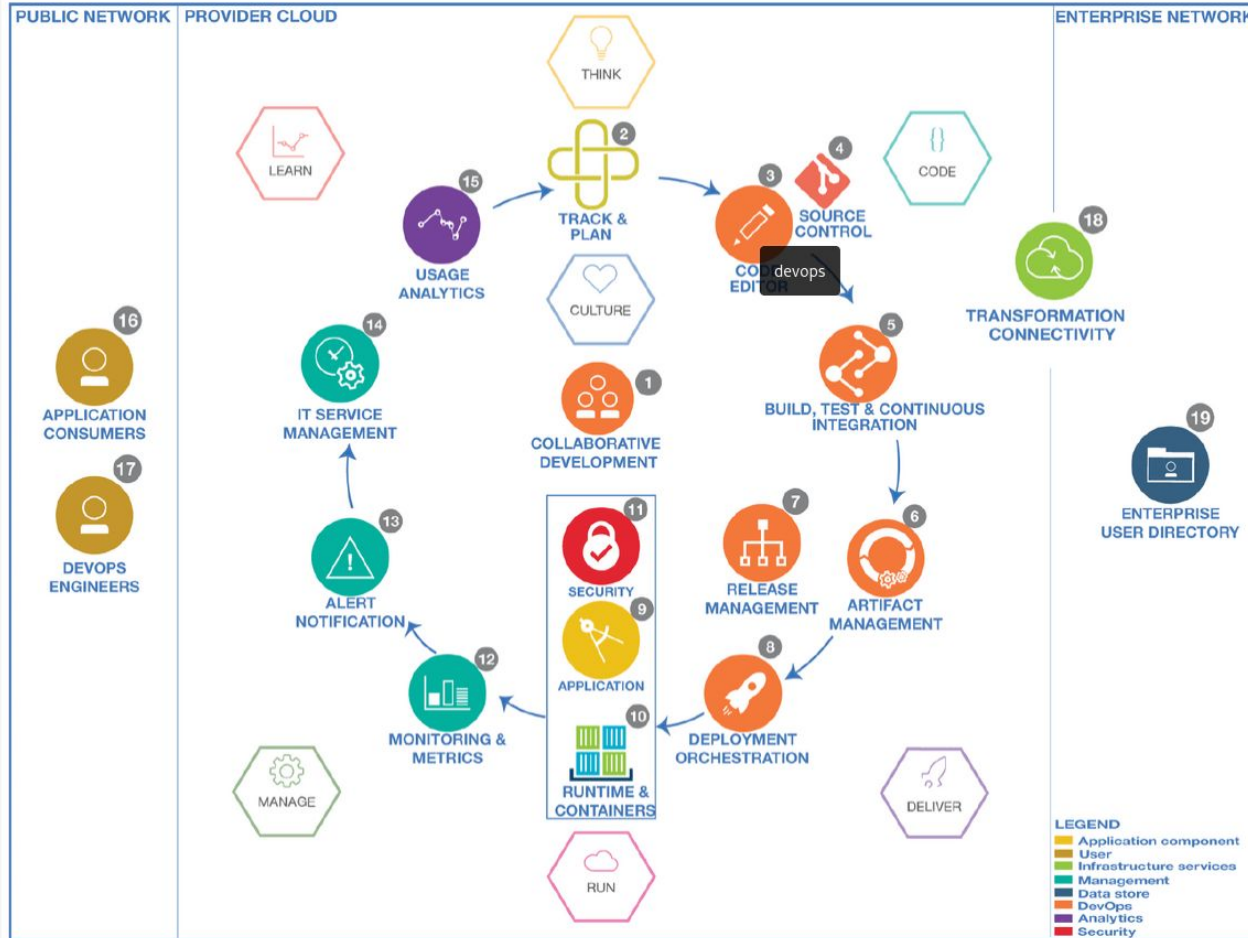
CI/CD

Continuous Integration

BUILD	→ auto →	AUTOMATED TESTS

Continuous Delivery

BUILD	→ auto →	AUTOMATED TESTS	→ auto →	DEPLOY TO STAGE	→ manual →	DEPLOY TO PRODUCTION

Continuous Deployment

BUILD	→ auto →	AUTOMATED TESTS	→ auto →	DEPLOY TO STAGE	→ auto →	DEPLOY TO PRODUCTION

DISTILLERY

DevOps Reference Architecture

Cloud Native Bootcamp

With IaC you can scale to the infinite

Network and Services Management

Let's cover from the practices to the concepts because it is a huge field

The networks used will be IP networks, normally virtual ones implemented over real ones (overlay networks)

The services will be offered from virtual systems also (virtual machines, containers) working together and offering scalability and fault tolerance

So we will manage this virtual networks and systems using different tools deployed on premise or on the cloud or in the edge