Introduction to DevOps & DevOps Philosophy

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Overview

Session 1

Introduction to DevOps & DevOps Philosophy

Session 2

Introduction to CI/CD (Continuous Integration / Continuous Delivery)

Session 3

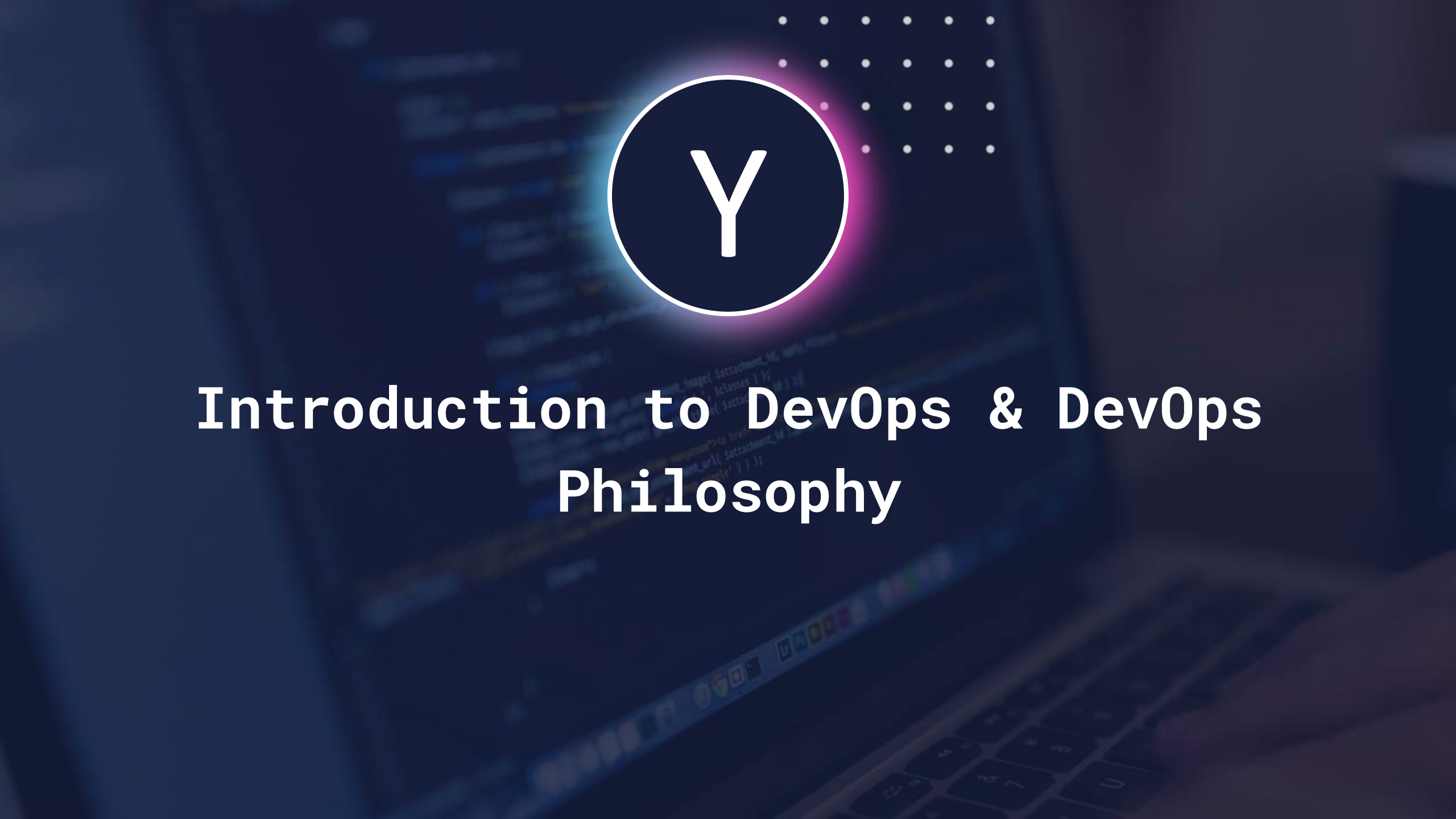
Implementing CI

Introduction round

 Current role, background and ambitions

 Hobbies / interests / life outside of work

 What do you hope to learn?



Introduction to DevOps & DevOps Philosophy

Learning objectives

O

Define the work of the **operations team** in the traditional sense, understand its tasks and the role in the software development lifecycle.

P

Discuss the **philosophy** beyond DevOps, emphasizing collaboration, automation, continuous improvement, and high efficiency in development and operations teams.

Schedule

Intro + theory

Introduction round + what is the operations team

b

Exercise

Manual deployments

D

Debrief + theory

Debrief exercise + challenges

b

Exercise

Thought experiment

q

DevOps theory

Concepts + mini quiz

Operations team

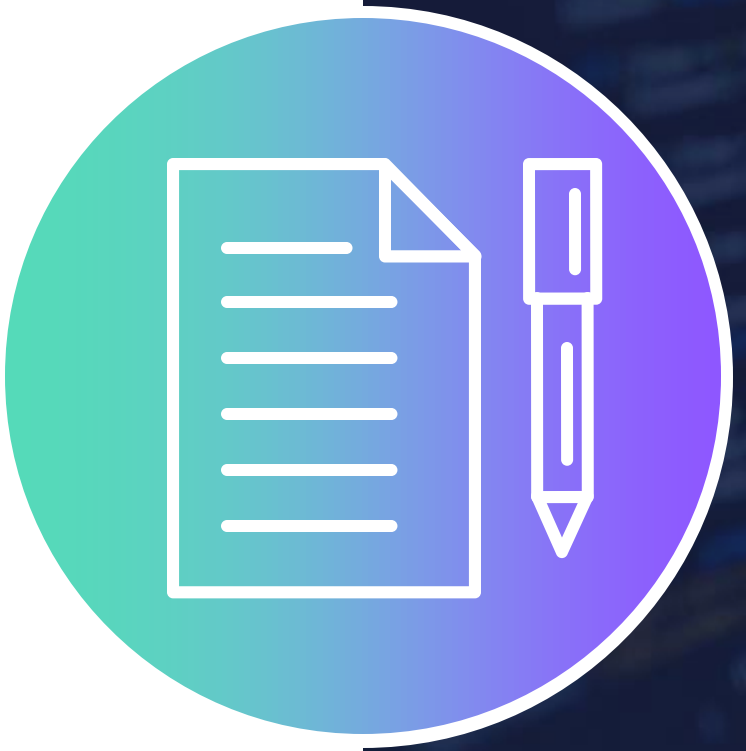
- 
  Responsible for maintaining IT infrastructure
- J
  Handles server setup, deployment and maintenance
- 
  Manages network configurations and security
- I
  Works separately from development teams
- B
  Reactive approach to issues

Deploying software

- Receive code from developers
- Manually configure servers
- Install dependencies and packages
- Deploy code to production environment

Exercise

Manually deploy a basic application with a frontend and backend to experience the work of the operations team first-hand.



Debrief - Steps taken

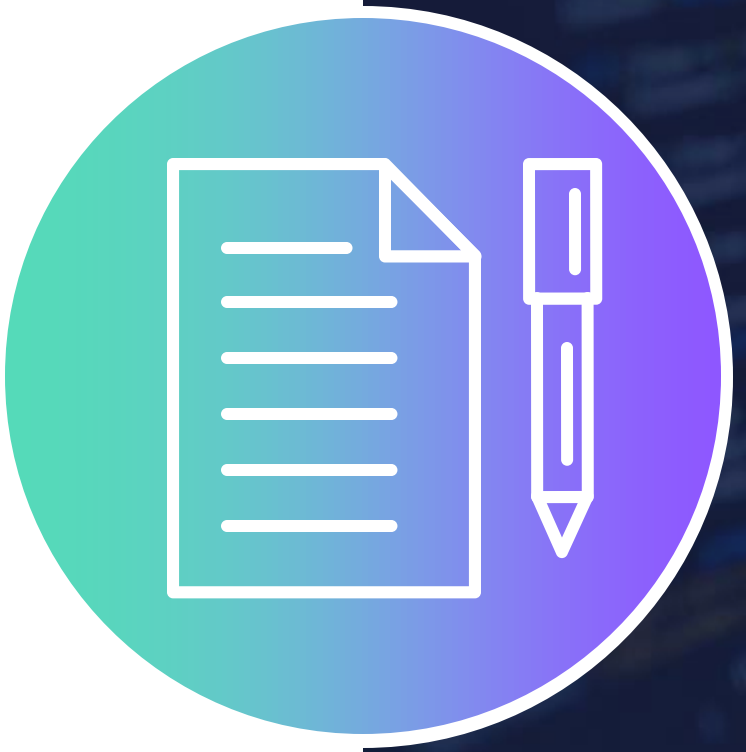
- Server setup and configuration
- Installed dependencies manually
- Configured environment variables
- Deployed frontend and backend code
- Started application services

Challenges

- Time-consuming and error-prone
- Lack of standardization
- Minimal collaboration with developers
- Difficulty in reproducing environments

Exercise

Thought experiment: scaling up



Debrief

d

Scaling up manually makes it very complex and time-consuming

Imaging having to manage all this

r

Can you feel the headache yet?

What is DevOps?

- DevOps = Development + Operations
- A cultural movement, not just tools
- Unifies development and operation teams
- Focuses on collaboration and communication
- Enhances efficiency and quality

DevOps principles

- Collaboration
- Shared goals and responsibilities
- Automation
- Continuous Integration/Continuous Delivery (CI/CD
- Infrastructure as Code (IaC)
- Monitoring and logging
- Continuous feedback

Benefits of the software lifecycle

- 
  Faster time to market
- m
  Improved quality
- X
  Enhanced collaboration and breaking down silos
- B
  Increased reliability
- h
  Automation reduces manual tasks
- R
  Continuous improvement

Philosophy behind DevOps

- n — People over processes and tools
- B — Shared responsibility and ownership
- b — Lean and agile principles
- P — Embracing failure as learning
- R — Customer-centric focus
- D — Culture of trust and transparency

Business value of DevOps

- Faster delivery meets market demands
- Optimized resources reduce expenses
- Improved quality, less errors due to automation
- Customer satisfaction
- Competitive advantage
- Risk mitigation and early detection of issues
- Scalability

Which of the following best defines DevOps?

{A} A set of programming languages for automation

{B} A methodology that prioritizes manual intervention in deployments

{C} A cultural movement unifying development and operations

{D} A way to eliminate the need for testing

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What is the role of an operations team in traditional IT?

{A} Writing code

{B} Managing IT infrastructure and deployments

{C} Designing UI/UX for applications

{D} Handling customer support

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Which of the following is NOT a challenge of manual deployments?

{A} Difficulty in reproducing environments

{B} Minimal collaboration with developers

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{D} Automatic rollback in case of failure

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Why does scaling up manually become a problem?

{A} It becomes complex and time-consuming

{B} Manual deployments are faster than automated ones

{C} Automation makes deployments unreliable

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Which is NOT one of the key principles of DevOps

{A} Security must be separate from development

{B} Continuous feedback

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Next up:

Introduction to CI/CD

Questions or suggestions?

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See you tomorrow!

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