

**What impact the scalability?**

- ↳ less code quality
- ↳ choose wrong DB
- ↳ not caching
- ↳ no load balancer
- ↳ selecting correct API
- ↳ Async, Sync

**How to overcome problems?**

- ↳ Identify the metric impacting the performance
- ↳ optimize the DB queries, check the performance
- ↳ Try to scale the hardware, use load balancer
- ↳ DB optimization
- ↳ Async, Sync
- ↳ Test the app
- ↳ optimize code, follow the folder structure

**SE Techniques**

- Waterfall - Traditional
- Agile - Scrum
- Software Requirement Gathering Doc
- Series of meetings
- No. of Frontend, No. of Backend, No. of Testing Team
- Technical Manager
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- Project 100 (2 weeks)



**Test driven development**

- ↳ Dev depends on automated unit testing
- ↳ Write the test
- ↳ Write code
- ↳ Run the test
- ↳ Refactor the code
- ↳ Repeat

**What are benefits?**

- 1. QA
- 2. Code Maintainability
- 3. Faster feedback loop
- 4. CI/CD
- 5. Refactoring code & validation
- 6. Promotes culture of quality

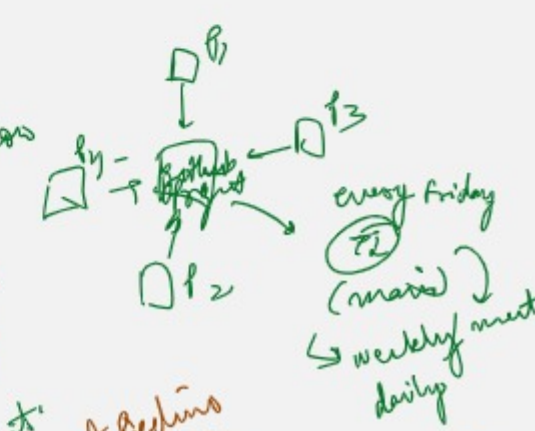


**CI/CD**

- ↳ continuous integration
- ↳ code changes
- ↳ code integration
- ↳ build & testing
- ↳ rapid feedback

**continuous deployment**

- ↳ automated deployment
- ↳ deployment to staging env.
- ↳ testing in staging
- ↳ user acceptance testing
- ↳ performance / production testing



**Principles**

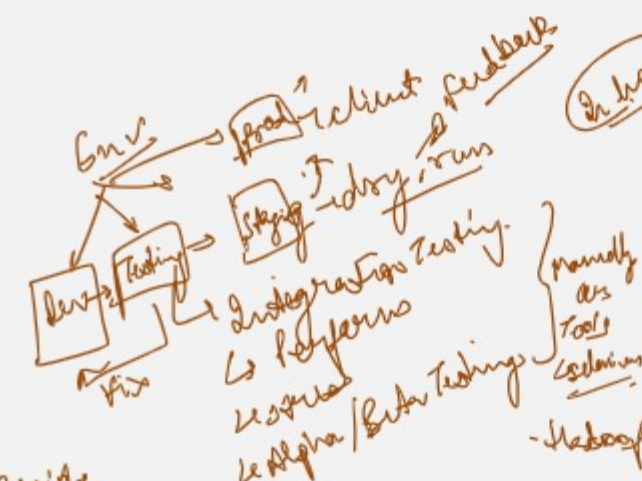
- 1. Single Responsibility Principle
- 2. Open/Closed Principle
- 3. Liskov Substitution Principle
- 4. Interface Segregation Principle
- 5. Dependency Inversion Principle
- 6. SOLID

**Principles**

- 1. Single Responsibility Principle
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**Dev Ops**

- ↳ Dev
- ↳ Ops
- ↳ Testing
- ↳ Code Review
- ↳ Deployment
- ↳ Monitoring
- ↳ Incident Response
- ↳ Security
- ↳ Compliance
- ↳ Documentation
- ↳ Collaboration
- ↳ Communication
- ↳ Transparency
- ↳ Accountability
- ↳ Ownership
- ↳ Empowerment
- ↳ Flexibility
- ↳ Adaptability
- ↳ Resilience
- ↳ Innovation
- ↳ Continuous Improvement
- ↳ Customer Focus
- ↳ Data Driven
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- ↳ Continuous Improvement
- ↳ Customer Focus
- ↳ Data Driven
- ↳ Automation



**Real world**

- ↳ 1000-2000
- ↳ Web App
- ↳ Real estate