DEVOPS

An org is contacted to develop a working webapp. The process of making one is something like

DEV ENV → QA

this is Development

the Developers develop/code the web app for the longest time and hands it over to the QA Env team to check for bugs n issues to resolve. The tested code is sent back to the development team to resolve them. The Code is sent back to the QA Env to check again after fixing the issues.

The Next Env/Stage is Staging

DEV ENV → QA ENV → STAGING ENV/UAT

The showcase to the client happens in staging env. the client gets a demo and working idea of the developed code.

Why Devops?

Devops eliminates the hassle between software development and IT operations
It addresses

- slow release cycles
- manual deployments
- poor reliability in production
- late discovery of defects

What is Devops?

Its a set of practices, culture and automation that integrates development and Operations. its not a single tool or job title.

Its a workflow mindset supported by tooling

How devops work?

Devops operate as a continuous loop

1. Plan n develop
2. build n test
3. release n deploy
4. operate n monitor

BENEFITS

- Faster software delivery : automates build, test and deployment pipeline, releases happen in minutes instead of days or weeks
- Improved collaboration : breaks silos between dev and ops teams, shared responsibility for product success.
- Higher deployment frequency : small and frequent releases reduce the risk and easier to rollback if failure occurs
- Better product quality : continuous testing catches bugs early and automated monitoring ensures stability
- Reduced failure rate : infrastructure as code ensures consistent environment and eliminates manual configuration errors.
- Faster issue recovery : monitoring and logging detect problems quickly and auto-healing and rollback reduce downtime.

- Cost efficiency : cloud automation reduces manual labor
- Scalability : applications scale automatically with app demand and supports modern cloud native architectures
- Enhanced security : security integrated into cicd pipeline and early vulnerability detections
- Customer satisfaction : faster feature delivery and more stable and reliable applications

Business level Benefits

- Faster time to market
- competitive advantage
- Innovation enablement

Technical level Benefits

- CICD automation
- Infrastructure as code
- Containerization and kubernetes
- cloud native deployments

Devops principles

- Culture : collaboration between dev and ops, shared ownership
- automation first : eliminate manual steps whereve rpossible
- continuous everything : CI, testing, delivery, monitoring
- shared responsibility : dev and ops produce together
- small frequent changes : lower risk and easier rollback
- observability : logs n metrics are mandatory