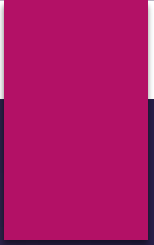


UDAPEPOLE

CI/CD PRESENTATION



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- What does CI/CD stand for?
 - What problems can CI/CD FIX?
 - The way to FIX our problems using CI/CD .
 - What are the challenges we will be confronted with?

WHAT DOES CI/CD STAND FOR?

- **Continuous Integration**

- Continuous Integration describes the process of merging developer branches to the main branch several times a day. CI puts an emphasis on test automation and finally generates a high quality, deployable artifact.

- **Continuous Delivery**

- In addition to Continuous Integration, Continuous Delivery makes sure that changes of a software product can be released quickly to customers in an automated way and at any point in time.

- **Continuous Deployment**

- Continuous Deployment extends Continuous Delivery in such a way that it allows frequent automated deployments without any human interaction. Typical phases in Continuous Deployment are Infrastructure Provisioning, Smoke Testing, Production Deployments and automated Rollbacks

What problems can CI/CD FIX?

- Investing more time in a release cycle than delivering value
- Going through integration hell every time we finish a feature
- Code gets lost because of botched merges
- The unit test suite hasn't been green in ages
- Deployments contribute to schedule slip
- Friction between ops and development departments
- Only one engineer can deploy a system
- Deployments are not causing celebration

The way to FIX our problems using CI/CD?

- **Catch Compile Errors After Merge:** Less developer time on issues from new developer code.
- **Automate Infrastructure Cleanup:** Less time and infrastructure costs from unused resources.
- **Catch Unit Test Failures :** Less bugs in production and less time in testing.
- **Detect Security Vulnerabilities :** Prevent embarrassing or costly security holes.
- **Automate Infrastructure Creation :** Less human error, Faster deployments.
- **Faster and More Frequent Production Deployments :** New value-generating features released more quickly
- **Deploy to Production Without Manual Checks :** Less time to market
- **Automated Smoke Tests :** Reduced downtime from a deploy-related crash or major bug

WHAT ARE THE CHALLENGES WE WILL BE CONFRONTED WITH?

- ▶ Establishing CI/CD comes with a high amount of initial cost and learning. At first sight this might seem overwhelming compared to current best practices .
- ▶ Delivering CI/CD pipelines is not a one time effort, but requires constant support and maintenance as well as continuous development and improvement .
- ▶ Even though there are some challenges, CI/CD will improve overall business processes and dramatically reduce costs on the long run