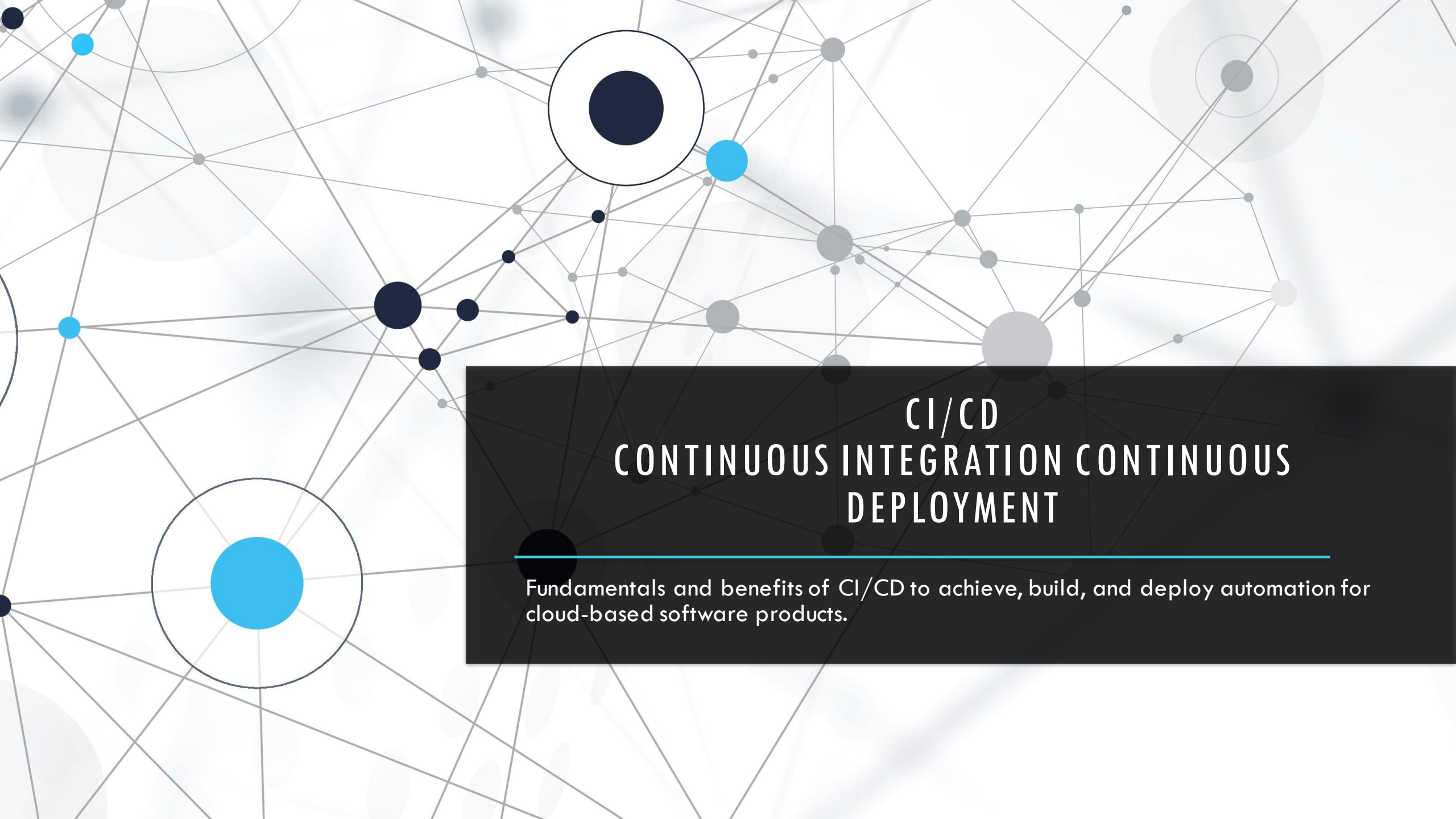


CI/CD
CONTINUOUS INTEGRATION CONTINUOUS DEPLOYMENT

Fundamentals and benefits of CI/CD to achieve, build, and deploy automation for cloud-based software products.

OVERVIEW

Continuous Integration

CI is a software development practice in which all developers merge code changes in a central repository multiple times a day.

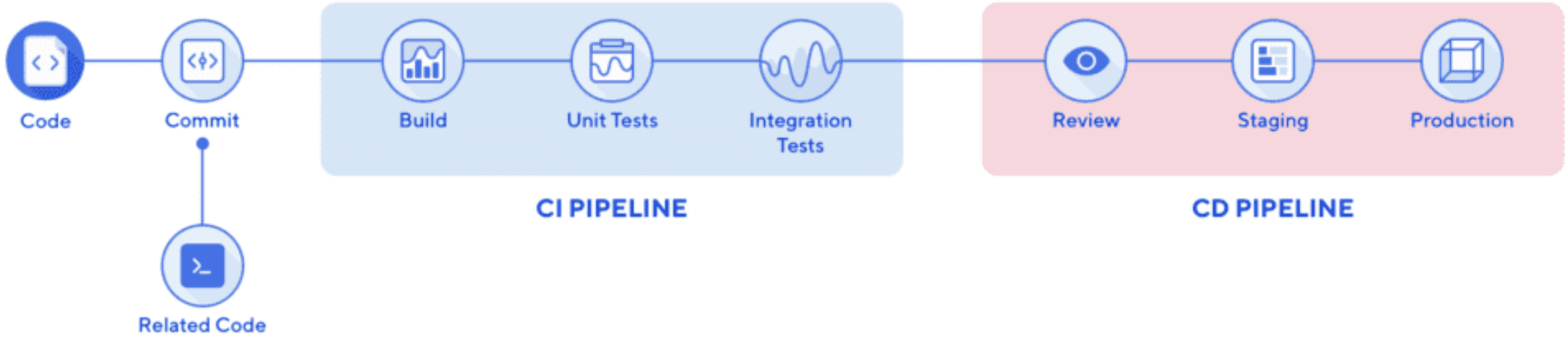
Each change in code triggers an automated build-and-test sequence for the given project, providing feedback to the developer(s) who made the change.

Continuous Deployment

CD is the process by which verified changes in codebase or system architecture are deployed to production as soon as they are ready and without human input.

Some steps in this stage include: setting up infrastructure, provisioning servers, copying files, smoke testing, promoting to production and even rolling back a change if something did not look right.

CI/CD PIPELINE



BENEFITS OF CI/CD

1. Automate Infrastructure Creation and clean up: Eliminating human errors and avoid unnecessary cost of unused or invalid infrastructure.

2. Faster to production: By automating the pipeline to production this way we can deploy features as soon as created which will help increase revenue.

3. Automated Rollback Triggered by Job Failure: Automate the process of rolling back and cleaning any infrastructure left which would help in reducing cost and lower down time.

BENEFITS OF CI/CD

4. Catch Compile Errors After Merge: Discover errors as soon as the developer make his commit which will help reduce the time of developers and reduce cost.

5. Catch Unit Test Failures: Unit tests are not neglected with CICD which will increase code quality and catch errors early before production which would decrease cost.

6. Automated Smoke Tests: Automate smoke test after deployment and automatic rollback in case of failure which will decrease downtime and reduce cost.