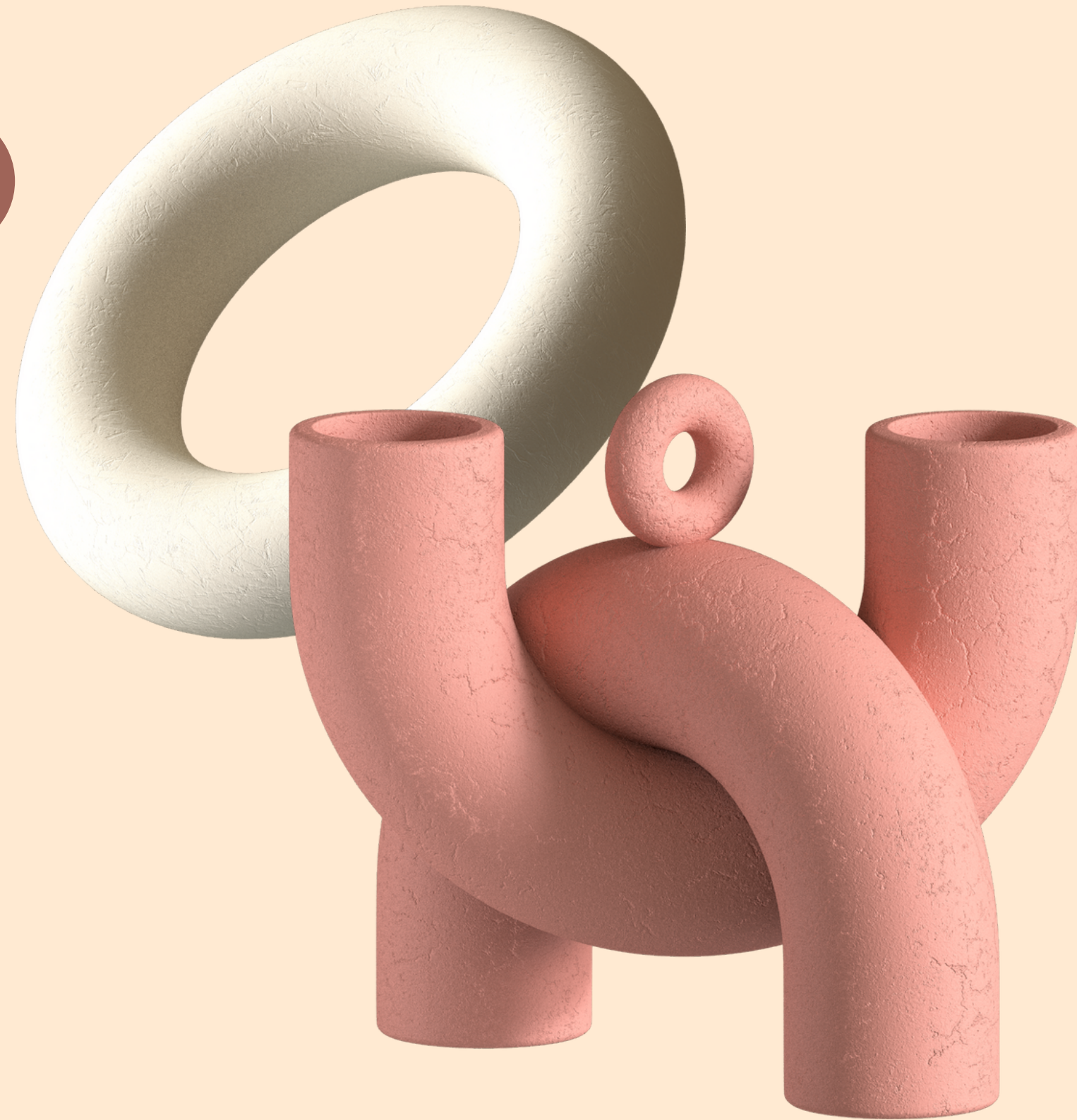


# Continuous Integration ● Continuous Delivery ● Continuous Deployment ● (CICD)

**Fundamentals and Benefits of CI/CD to Achieve,  
Build, and Deploy Automation for Cloud-Based  
Software Products**

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# What is CICD

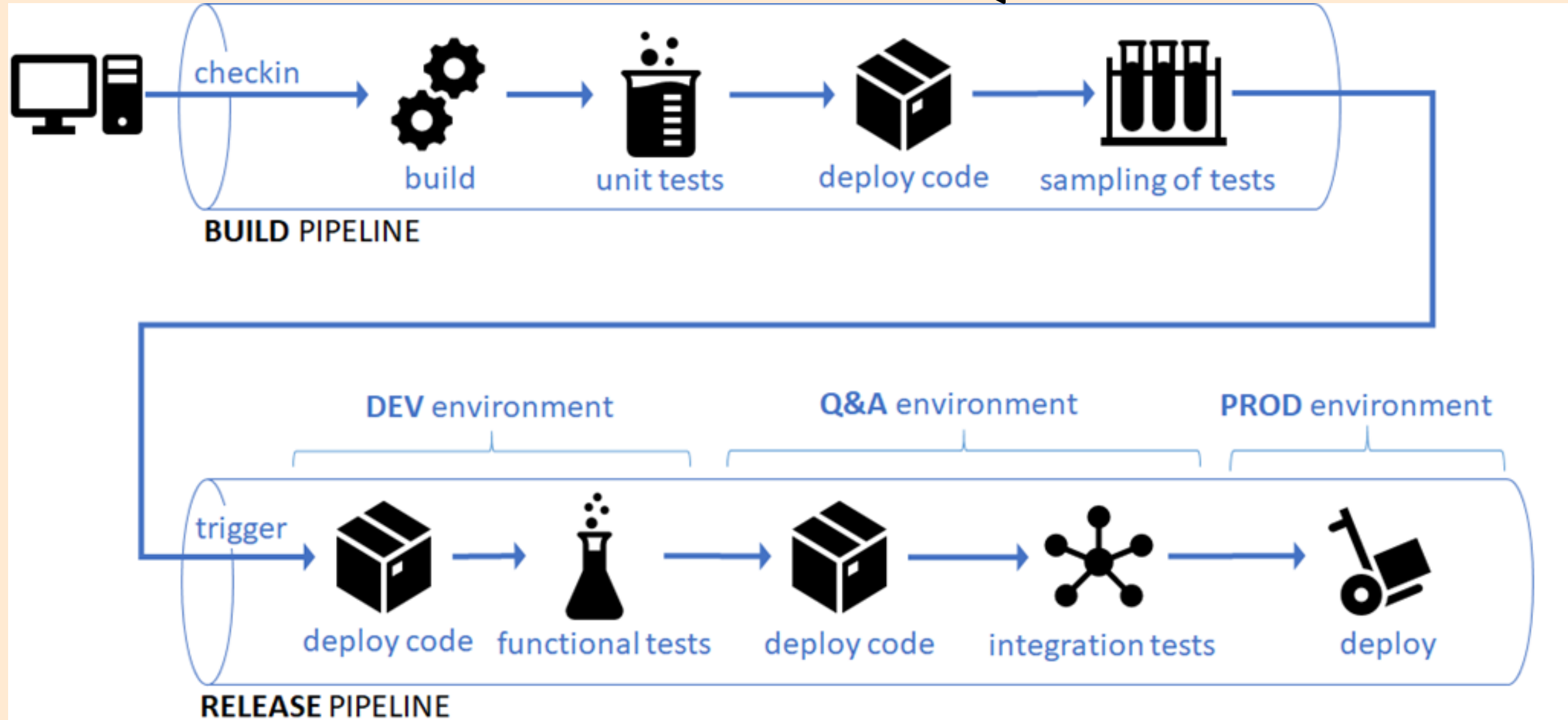
## Continuous Integration

Continuous integration is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run.

## Continuous Deployment

Continuous deployment is a strategy for software releases wherein any code commit that passes the automated testing phase is automatically released into the production environment, making changes that are visible to the software's users.

## CICD PIPELINE



# Benefits of CI/CD

- One specialized advantage of CI/CD is the ceaseless integration and nonstop conveyance in that it permits you to coordinate little pieces of code at one time.
- By using CI/CD rollbacks are automated in getting the system back into a working state.
- CI/CD ceaselessly consolidates codes and persistently sends them to generation after intensive testing, keeping the code in a release-ready state.
- CI/CD speeds up the time it takes to resolve an issue since the code changes are smaller and blame isolations are simpler to distinguish
- By using CI/CD it is easier to continuously merge changes in a shared branch and this reduces the chances of merge conflicts



# Motives for using CI/CD

- Improved Mean Time To Resolution (MTTR)– Incorporating CI/CD plays an important role in reducing the MTTR, that way keeping deployment failures to a minimal and recovering quickly from failures.
- Reducing Cost – Incorporating CI/CD helps reduce the time to finish a project and ship new features and products to the market.
- Returning and Happier Customers– Incorporating CI/CD into your firm helps cement customer loyalty. This implementation reduces time to fix code issues, helps detect bugs faster, market on demand and trendy products with the latest technology which gives the company a good reputation and name.
- Detection & Isolation– In CI/CD, you ceaselessly coordinate little clusters of code rather than the whole application, which makes it easier for developers to spot issues and eliminate them. You'll be able limit potential breakdowns and other basic issues by confining bugs and vulnerabilities before they put the whole app at risk.
- Automated builds – Incorporating CI/CD into your firm helps with automation will also execute unit tests and other types of tests. Testing gives imperative input to the coders that their code changes didn't break anything.

# What CI/CD Does and how the Firm Benefits from It

## Deed

1. It takes less time to take to market new features

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2. Automation reduces the cost

3. Fault isolation

4. Improved mean time to resolution (MTTR)

5. Catch Unit Test Failures Faster

## Value

1. Increase Revenue

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2. Avoid Cost

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3. Avoid Cost and Improve Productivity

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4. Increase Revenue

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5. Avoid Cost