

# CI / CD

Sebastian Rydz

November 27, 2023

# What is CI/CD?

- **Continuous Integration (CI):** Practice of automatically integrating code changes from multiple contributors into a shared repository.
- **Continuous Deployment (CD):** Process of automatically deploying code to production after passing CI tests.

# pre-commit

- A framework for managing and maintaining multi-language pre-commit hooks.
- Ensures that code is properly formatted, follows best practices, and passes tests before commits.
- Hooks defined in the `.pre-commit-config.yaml` file.



**Pre-Commit**

Figure: pre-commit Logo

# pre-commit Example

```
- repo: https://github.com/pre-commit/pre-commit-hooks
  rev: v3.5.0
  hooks:
  - id: trailing-whitespace
  - id: end-of-file-fixer
  - id: check-yaml
```

Listing 1: .pre-commit-config.yaml

# GitHub Actions

- GitHub's CI/CD solution integrated into the repository.
- Workflow automation defined in YAML files within the `.github/workflows` directory.
- Triggers on events such as pushes, pull requests, or schedule.



Figure: GitHub Actions Logo

# GitHub Actions Example

```
name: CI/CD Pipeline

on:
  push:
    branches:
      - main

jobs:
  build:
    runs-on: ubuntu-latest

    steps:
      - name: Checkout Repository
        uses: actions/checkout@v2

      ...
```

Listing 2: GitHub Actions Workflow

# GitHub Actions Example

```
- name: Set up Python
  uses: actions/setup-python@v2
  with:
    python-version: 3.8

- name: Install Dependencies
  run: pip install -r requirements.txt

- name: Run Tests
  run: pytest
```

Listing 3: GitHub Actions Workflow

# Conclusion

- CI/CD streamlines development, testing, and deployment processes.
- GitHub Actions provides a powerful and integrated CI/CD solution.
- pre-commit ensures code quality before committing changes.



# Questions?

# Any Questions?