CI/CD

CONTINUOUS INTEGRATION AND

CONTINUOUS DELIVERY

WHAT IS CI

- **Continuous Integration**
- Continuous integration (CI) is the practice of automating the integration of code changes from multiple contributors into a single software project. It’s a primary DevOps best practice, allowing developers to frequently merge code changes into a central repository where builds and tests then run. Automated tools are used to assert the new code’s correctness before integration.

WHAT IS CD

- **Continuous Delivery**
- Continuous Delivery is the ability to get changes of all types—including new features, configuration changes, bug fixes and experiments—into production, or into the hands of users, *safely* and *quickly* in a *sustainable* way.
- Our goal is to make deployments—whether of a large-scale distributed system, a complex production environment, an embedded system, or an app—predictable, routine affairs that can be performed on demand.

CI/CD Benefits

- Fast time to market
- Lower costs
- Better code quality
- Low risk at releasing cycle

Benefits

- **Faster time to market.**
  - It’s not uncommon for the integration and test/fix phase of the traditional phased software delivery lifecycle to consume weeks or even months.
- **Lower costs**
  - Any successful software product or service will evolve significantly over the course of its lifetime.
- **Better code quality**
  - When developers have automated tools that discover regressions within minutes, teams are freed to focus their effort on user research and higher level testing activities such as exploratory testing, usability testing, and performance and security testing.
- **Low risk at releasing cycle**
  - The primary goal of continuous delivery is to make software deployments painless, low-risk events that can be performed at any time, on demand.