**Agile Software development process.**

* Define requirements
* UI/UX design
* Development
* QA
* UAT

If Yes 🡪 Release

If No got to 1.

* Developers builds code accordingly to project requirement or feature requirement.
* Developer write Unit tests.
* Updating the branch with latest merged code is called rebasing.
* After that tests are run again against the rebased code.
* Once the tests passed, then the code is ready to be committed with all the changes.
* The source code developed is then combined to build a deployment artifact which can run as instance, like the Server of the environment in the premises.
* This code is ready to be deployed to different testing environments.
* Then deployed to a test Server where testers start testing features. These tests can be automation as well as manual.
* If the commit that under testing is approved by the testers, then this merged into master branch.
* Then the code is merged into production.

The above process is repeated for every build coded by the developer.

**A build** is **what we get when we compile the source code along with any third-party libraries and packages it into an executable format**. like .apk etc **including Unit and Integration testing**.

**CI** means an **automated build** can be made **every time** a **new commit** is made. By **integrating frequently,** it becomes much **easier** to **identify** any **commit** that **break** the **build** is given a **label** or **version number** to **identify it**.

**Build Machine** is dedicated **Server**, all the **builds** are **created** in a **dedicated Server**.

We can **trigger builds manually** or **schedule** them to run **automatically** at **certain intervals.**

If we **follow CI/CD tools**, we **trigger** a **build** every time a **change** to **source code** is **detected**.

**Alpha/Beta phase**:

**Alpha build**: is **first working version of the application**, **not have all full features implemented but certain**, the **core functionalities of the software ready for testing**.

When the **application** become “**feature complete**” with **no major crashes** or **bug removed**.

Then **Alpha testing** is **conducted completed** and **final build then it becomes first beta version**.

**Beta build**: is the **first build available to user**.

**Nightly builds:** **any time in the development life cycle**.

**Production build**: once no new bugs on beta build the QA will mark has a “**release candidate**”. Then build will goes into production and distribution to end users.