What is a Continuous Integration Service:

Continuous Integration is the practice of merging all developer working copies to a shared mainline several times a day.

It was first proposed by Grady Booch in 1991.

The main aim of a CI is to prevent integration problems. It is intended to be used in combination with automated unit tests.

It is used to quickly merge your code changes into a central repository after which automated builds and tests are run. Continuous Integration refers to the build and/or integration stage of software release processes.

It is the process of automating the build and testing of code every time a team members commits changes to version control.

It encourages developers to share their code and unit tests to a shared repository after every small change.

Committing code will trigger an automated build system to grab the latest code from the shared repository and to build, test and validate the full master branch.

CI Keeps the master branch clean.

The four stages of a CI is:

* Source Control – Commit Changes
* Build – Run and Build Unit Tests
* Staging – Deploy to Test Environment. Run Integration Tests, Load Tests and other Tests
* Production – Deploy to Production Environment