Fundamentals and benefits of CI/CD to achieve, build and deploy automation for cloud-based software productions.

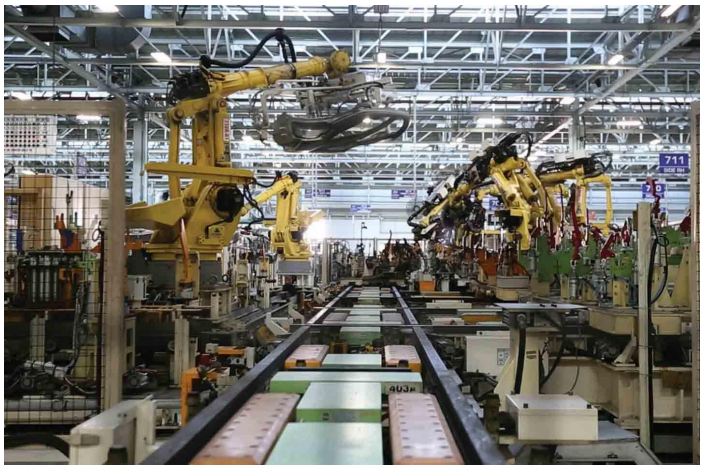
What is CI/CD? Before talking about the benefits of CI/CD, we need to know understand what CI/CD is, The term CI/CD are actually two different words which are

1. Continuous Integration
2. Continuous Deployment

To understand CI/CD, to take at the image below:

Manual Processing Factory

The Image above is factory that produces Air Conditions, it takes 2hours to produce one Air condition, through out the manufacturing process it involves manpower from lifting heavy metals to welding iron and moving objects around, this process sometimes causes fatigue to the workers which definitely will affect production and in turn affects revenue, now to do? Wouldn't it be nice to get machines to help in some of the manufacturing process? Now see the image below:



Automated Processing Factory

Now think of this image as the same factory but the process of manufacturing the Air conditions has been automated by the machines, this machines could manufacture 5 Air

conditions per hours with little effort required from human, Now CI/CD offers the same process in the world of software development. We'll start by talk Continuous Integration and how it relate to the example given in the about image and then do the same for Continuous Deployment.

Continuous Integration: This is the aspect that deals with the code(i.e product) itself, from building, testing and analyzing the code. It will be nice if we can automate all this process before pushing to production, this in turn improves the confidence of the team and eliminate doubts that could arise as a result of forgetfulness, not running sufficient test and so on which could affect the revenue of the company negatively.
Continuous Deployment: This is process of automation the deployment, verification(smoke test) and promoting to production,earlier on I gave the example of lifting heavy metals by the staff of the factory, lets say these staff move the products to the warehouse after it has been manufactured, and it cost the company 3 laborers to move the 10 Products at the rate of 2hours at a time to the warehouse which could, now imagine if the company decide to get a robot that requires a little human effort and can move 10 products at the rate of 30mins and that is what continuous deployment offers which could also in turn increase the revenue of the company