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Assignment 3.1 – Deployment Pipeline

A pipeline is a set of automated process that allow us to reliably and efficiently assemble, build and deploy code to production computed platforms. There are no rules as to how this pipeline should look or the tools that it must utilize. The most common components are build automation/continuous integration, test automation, and deployment automation. A pipeline most often consists of a set of tools that are broken down into categories. Source Control, Build tools, containerization, configuration management and monitoring. The key object is automation with no manual steps or changes that are required in or many any steps of the pipeline.

A Deployment pipeline is the process of taking code from version control and making it readily available to users of your application in an automated fashion. (Merron, 2020) It is a concept used to avoid waste in the software development process. It is used for providing fast feedback to the team during deployment. It works in different stages where task are run in each stage. Example would be pushing your code to a repository on github. As soon as you push the deployment pipeline starts. First building the application, then running code analysis, unit test, and integration/API test. (Filho, 2016) If all pass, a smoke test suite is triggered, if that passes it triggers the regression test suite and visual regression test suite. If this all passes each stage, it is promoted to productions for the user to enjoy. Another important point is using deployment pipelines, you can separate task that may take longer time to execute from other tasks that run faster.

References:

Filho, Walmyr. July 11, 2016. Wat is a deployment pipeline and how does it help software development teams? Retrieved on July 21, 2020 from <https://medium.com/the-making-of-whereby/what-is-a-deployment-pipeline-and-how-it-helps-software-development-teams-6cb29917ceea>

Merron, Dan. May 14, 2020. Deployment Pipelines (CI/CD) in Software Engineering. Retrieved on July 21, 2020 from <https://www.bmc.com/blogs/deployment-pipeline/>