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Experiment No. 05

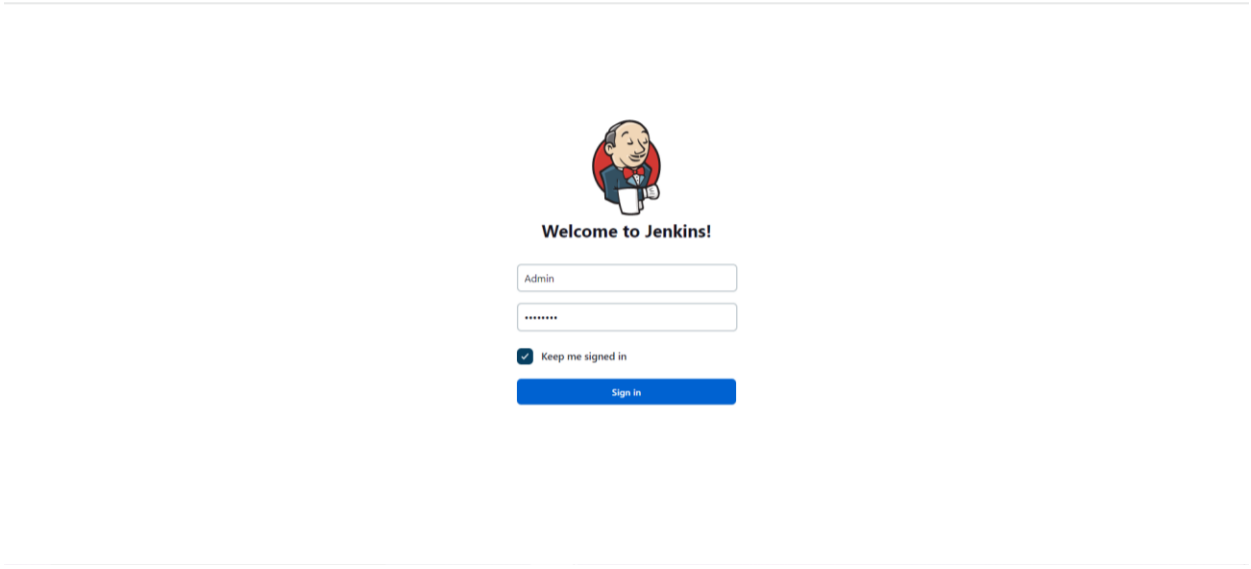
Aim: To perform a pipeline using Jenkins.

Theory:

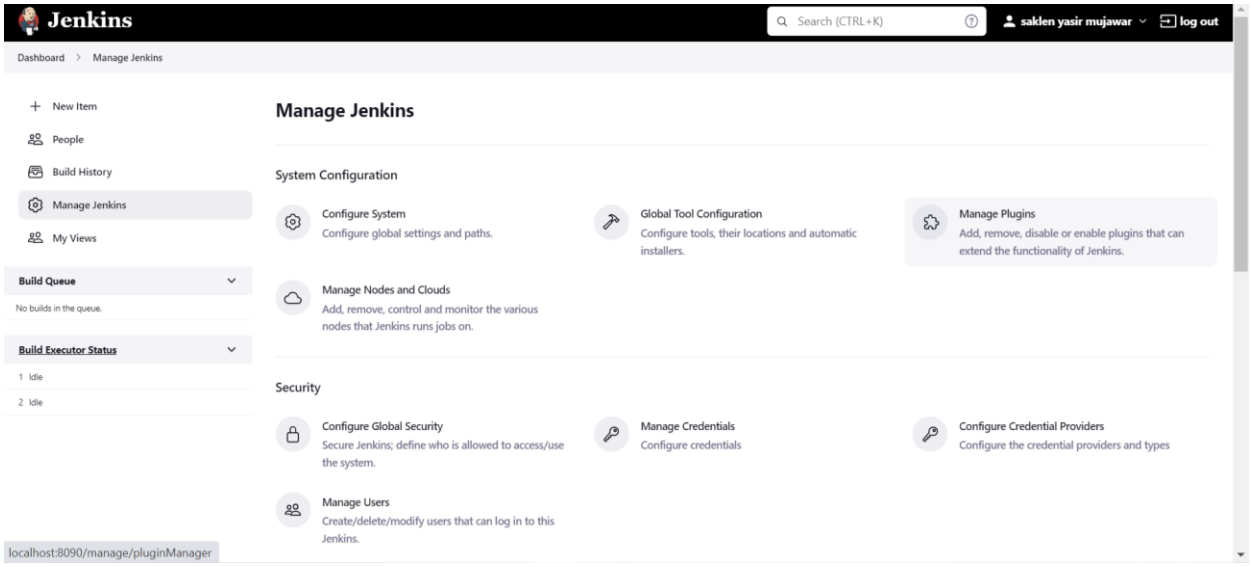
- Jenkins Pipeline (or simply "Pipeline" with a capital "P") is a suite of plugins which supports implementing and integrating continuous delivery pipelines into Jenkins.
- A continuous delivery (CD) pipeline is an automated expression of your process for getting software from version control right through to your users and customers.
- Pipeline provides an extensible set of tools for modeling simple-to-complex delivery pipelines "as code" via the Pipeline domain-specific language (DSL) syntax.
- Creating a Jenkinsfile and committing it to source control provides a number of immediate benefits:
    1. Automatically creates a Pipeline build process for all branches and pull requests.
    2. Code review/iteration on the Pipeline (along with the remaining source code).
    3. Audit trail for the Pipeline.
    4. Single source of truth for the Pipeline, which can be viewed and edited by multiple members of the project.
- Jenkins is, fundamentally, an automation engine which supports a number of automation patterns. Pipeline adds a powerful set of automation tools onto Jenkins, supporting use cases that span from simple continuous integration to comprehensive CD pipelines.
- By modeling a series of related tasks, users can take advantage of the many features of Pipeline discussed below:
    1. Code: Pipelines are implemented in code and typically checked into source control, giving teams the ability to edit, review, and iterate upon their delivery pipeline.
    2. Durable: Pipelines can survive both planned and unplanned restarts of the Jenkins master.
    3. Pausable: Pipelines can optionally stop and wait for human input or approval before continuing the Pipeline run.
    4. Versatile: Pipelines support complex real-world CD requirements, including the ability to fork/join, loop, and perform work in parallel.
    5. Extensible: The Pipeline plugin supports custom extensions to its DSL and multiple options for integration with other plugins.

Steps:

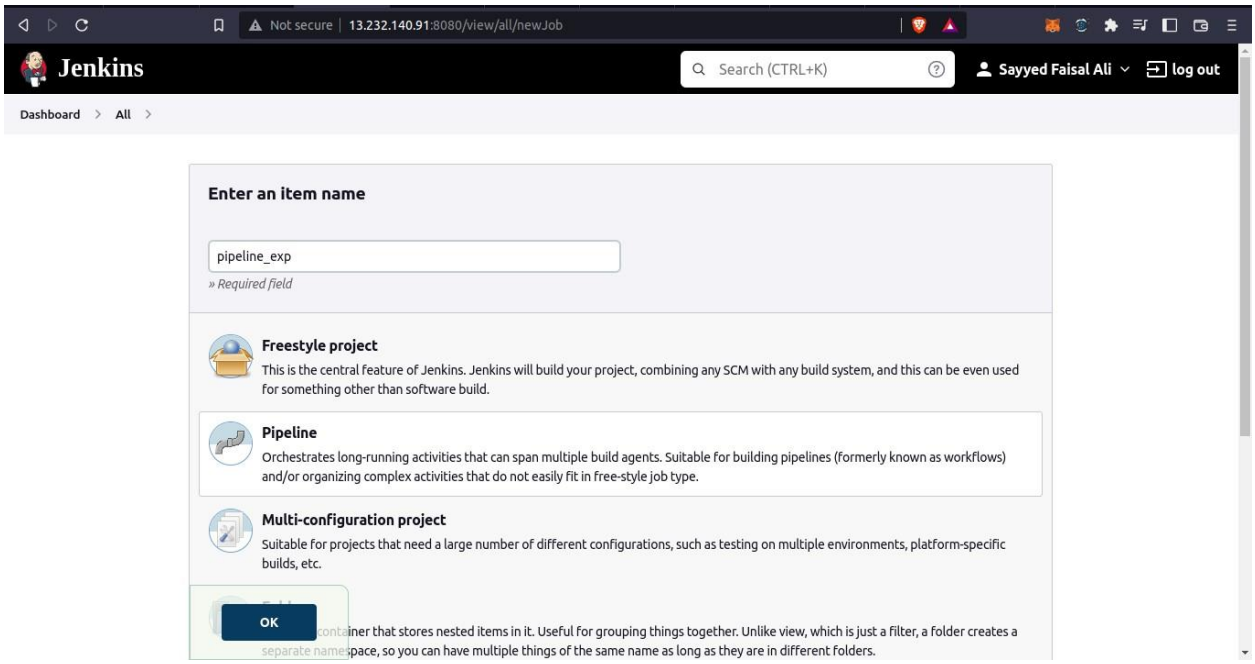
a. Fire Up your terminal and type “sudo service jenkins start” to start jenkins server and go to localhost:8080 in my case it will be 13.232.140.91:8080 and login to your account



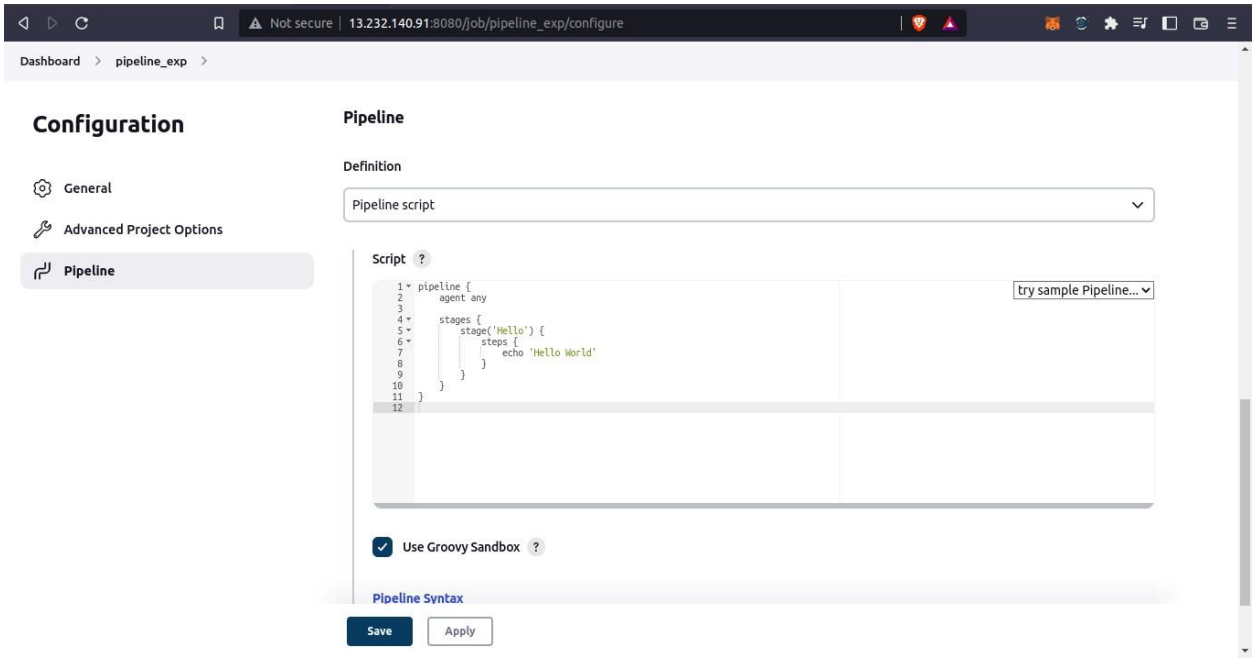
b. After login click on New Item



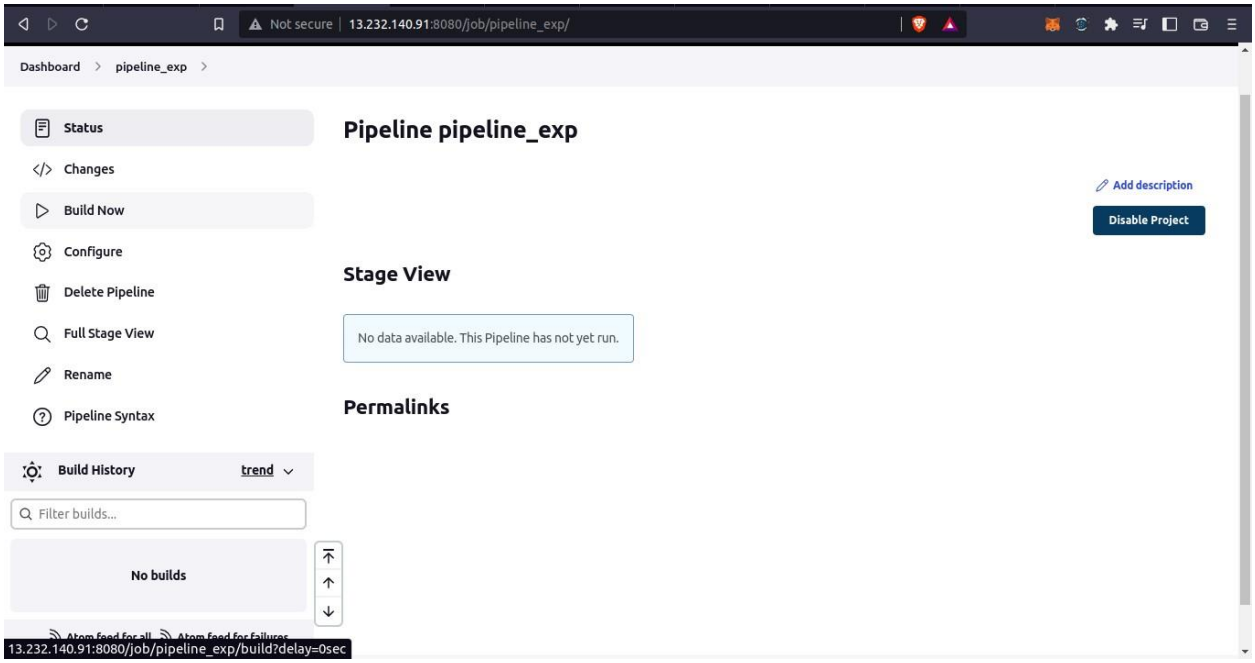
c. Select a name for your project and select Pipeline then click ok button



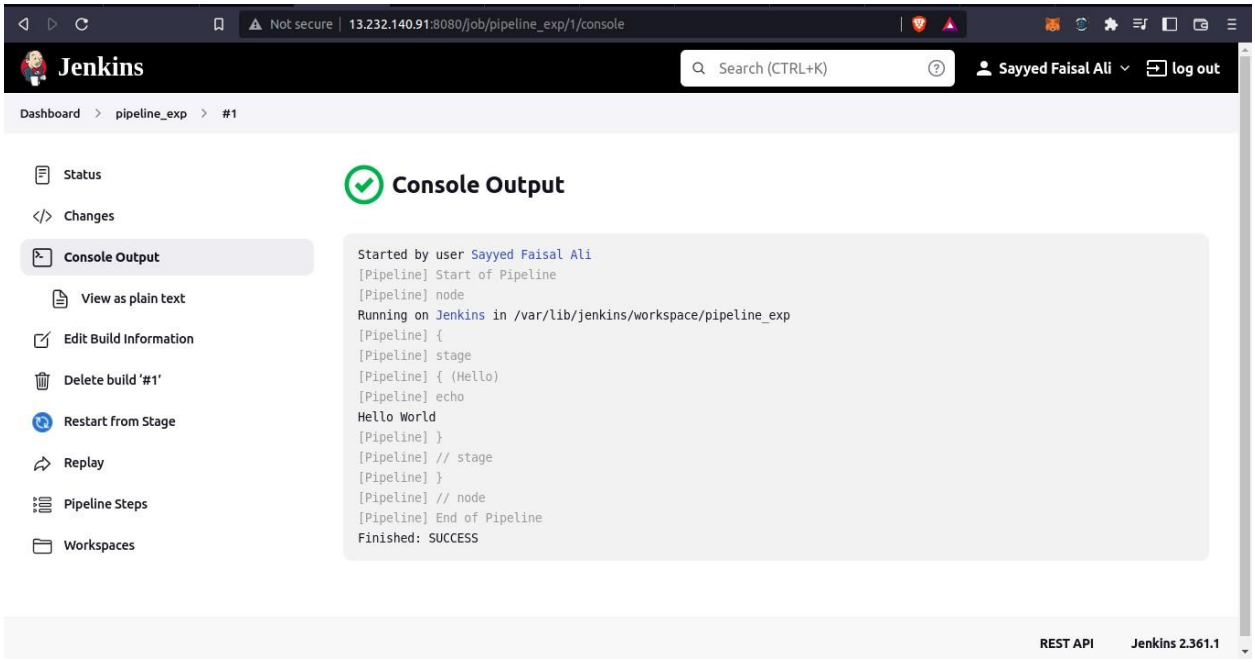
d. Head to Pipeline > Pipeline script > try simple pipeline > Hello World then click on save



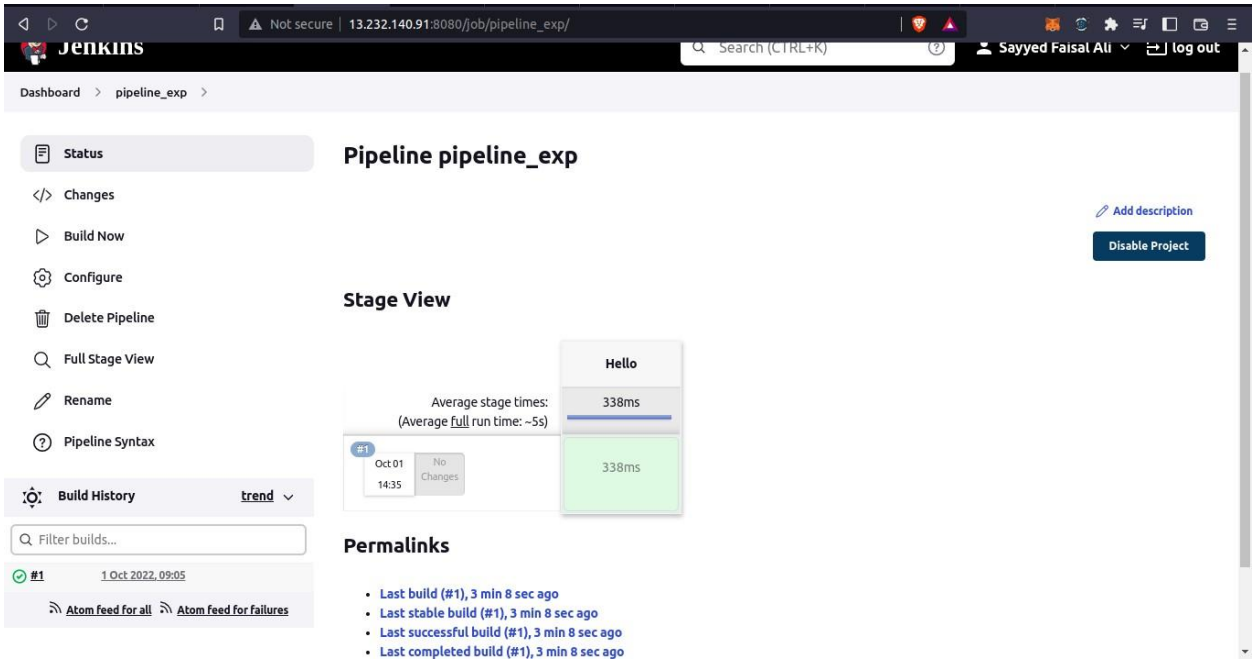
e. Now view the project and click on Build Now button on left sidebar



f. Head to Build History > #1 > Console Output and here we get our output which is Hello World



g. To view stage view of a project go to project view



Conclusion: We have successfully performed a pipelining process using Jenkins.