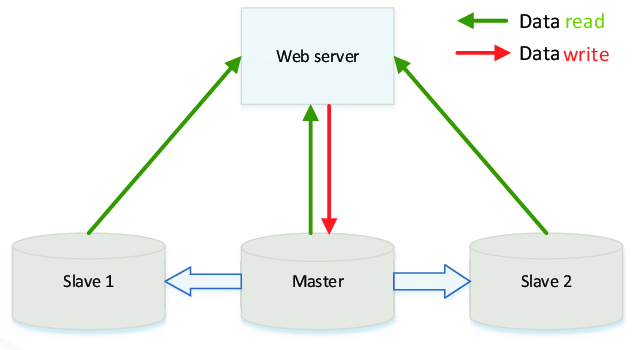
**MASTER-SLAVE**

Master-slave architecture (often referred to as Controller-Agent in modern terminology) distributes build and testing tasks across multiple machines. This setup helps manage large-scale continuous integration and deployment pipelines effectively.

**MASTER SLAVE ARCHITECTURE:**

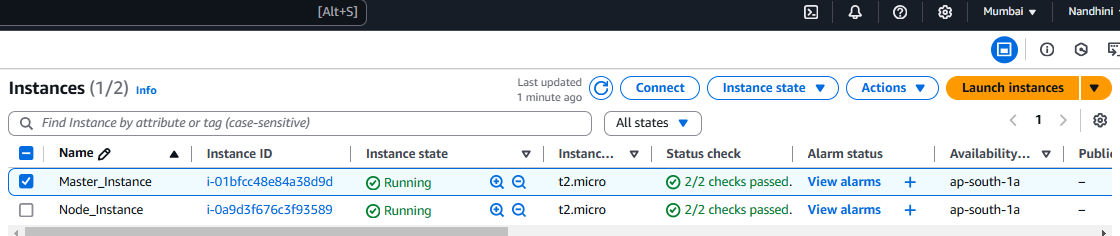
**Why Use Master-Slave Architecture in Jenkins?**

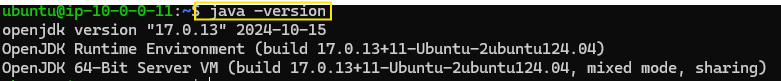
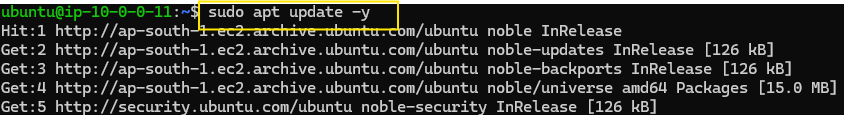
* **Load Distribution:** Offloading builds to slaves reduces the workload on the master and improves performance.
* **Scalability:** Enables the use of multiple machines, allowing for parallel execution of builds.
* **Environment-Specific Builds:** Different slaves can be configured for specific environments (e.g., Java, Python, Windows, Linux).
* **Fault Tolerance:** If one slave fails, others can continue executing tasks, reducing downtime.

**Master (Controller):** The Master is the central Jenkins server.

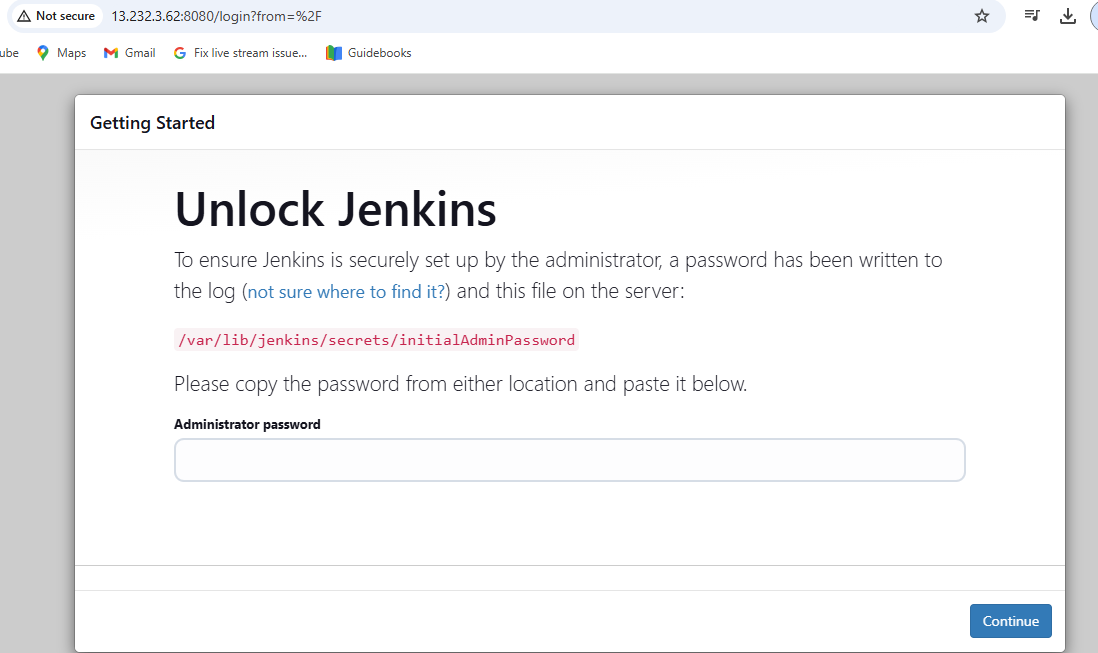
**Slave (Agent):** The Slave is a remote machine (physical or virtual) that performs tasks assigned by the master.

**Create Ubuntu Master and Node instance in AWS console:**

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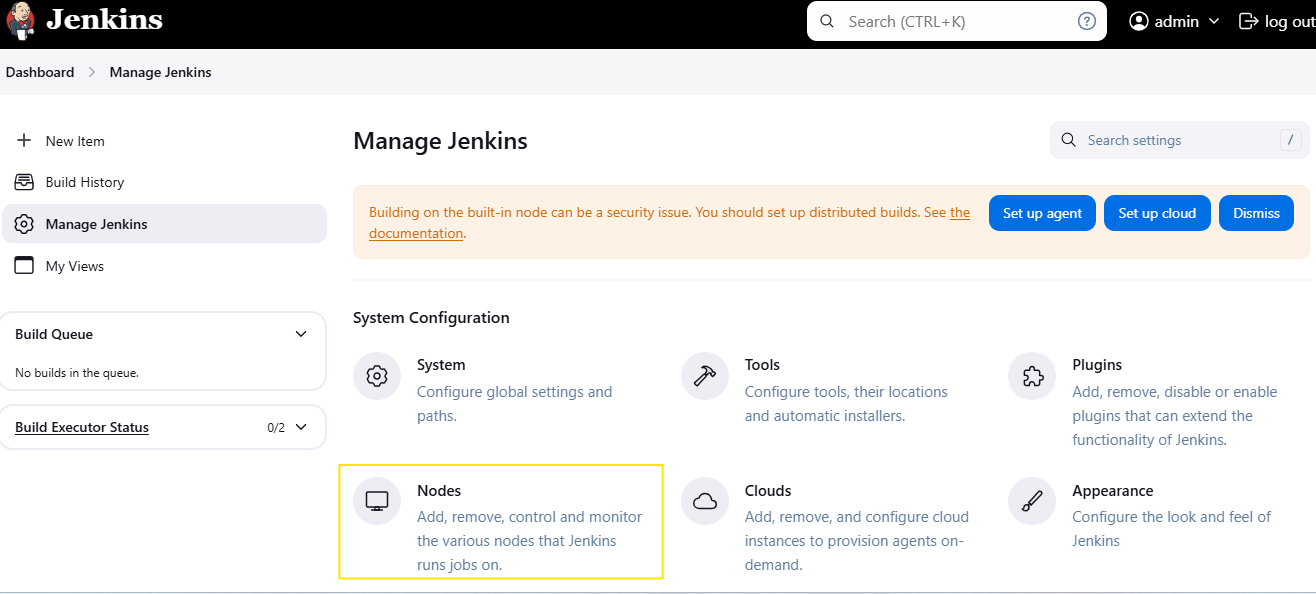
**Update the server and check for java connection:**

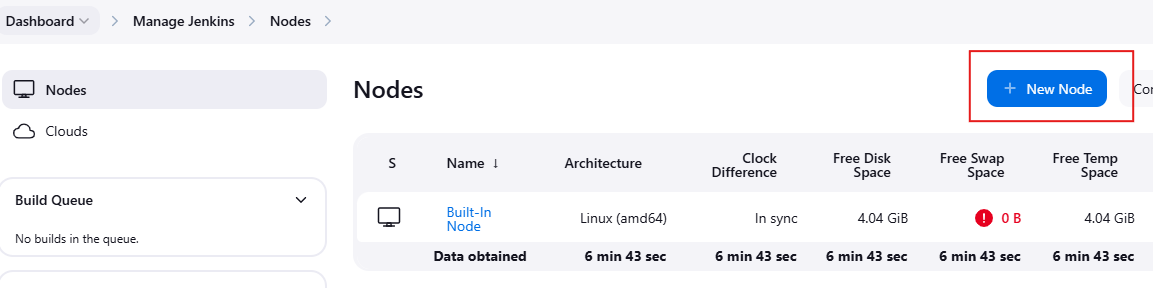
**Install Jenkin in Ubuntu Master server and connect through public ip:**

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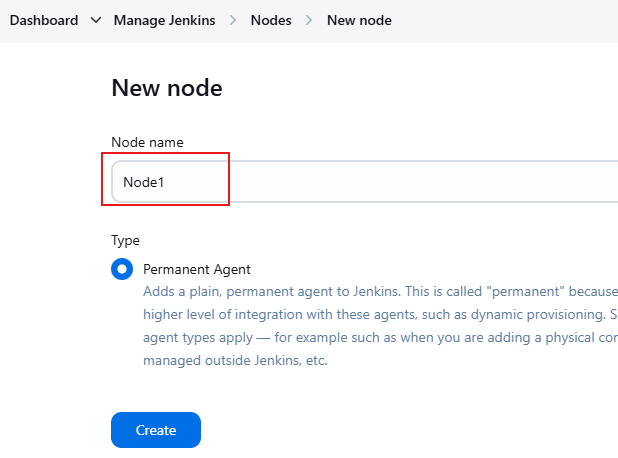
**Setup in Jenkins**

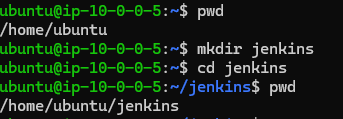
**Add a Node (Agent): Navigate to Manage Jenkins > Manage Nodes and Clouds > New Node.**

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Configure the node by specifying its name, remote directory, and usage.

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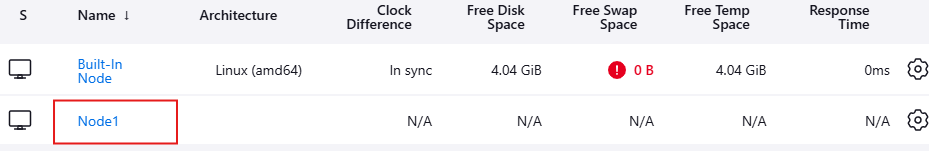
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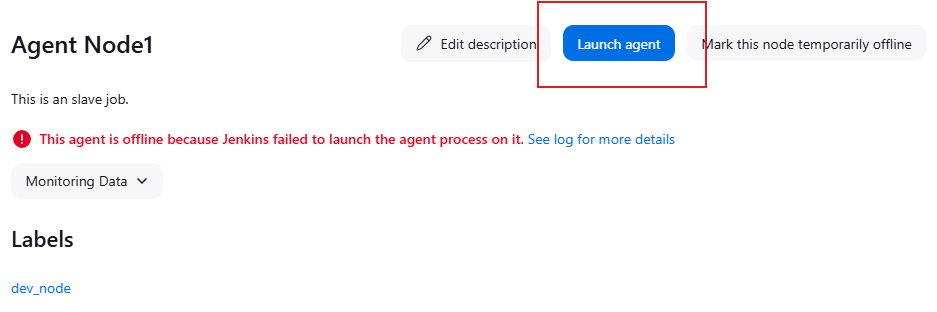
**Establish Communication**:

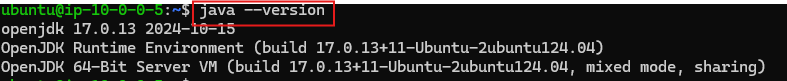
Use SSH for the agent to connect with the master. Ensure the agent has the necessary permissions and credentials.

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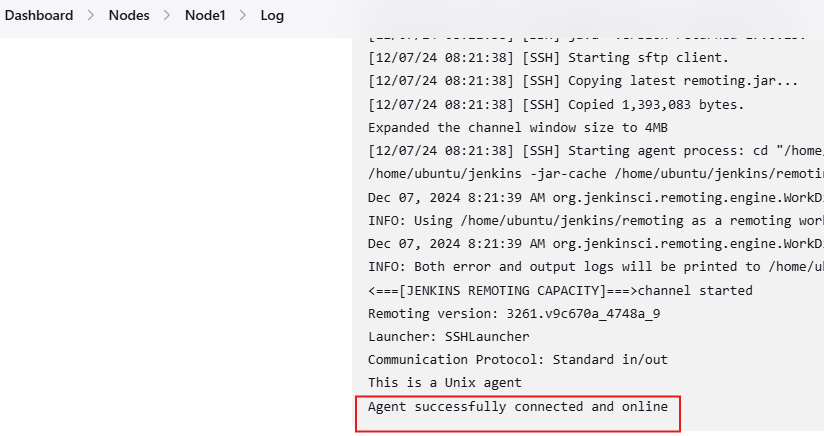
Launch agent if it is in offline:

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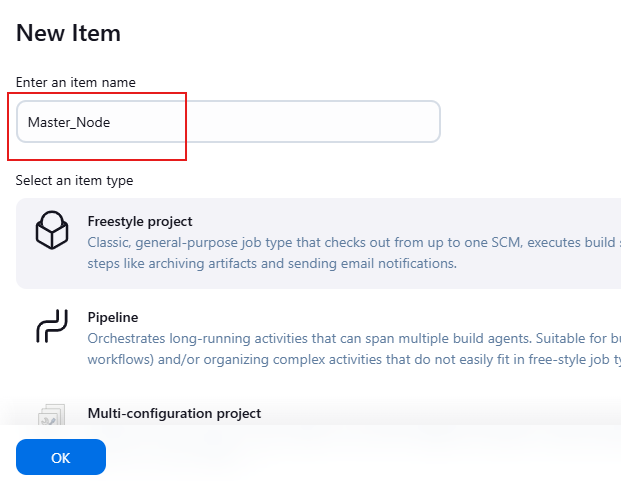
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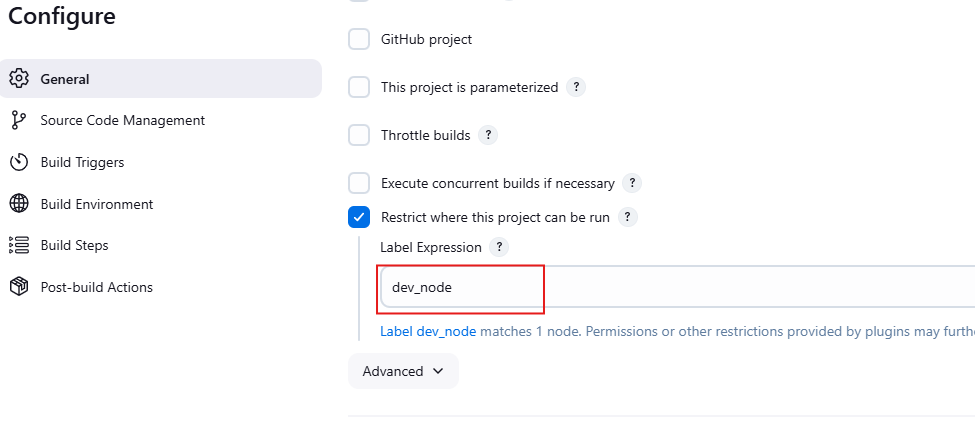
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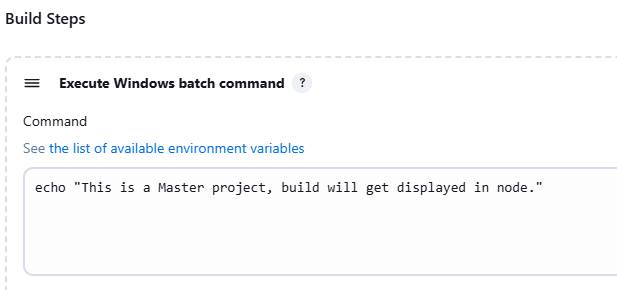
Slave job console output:

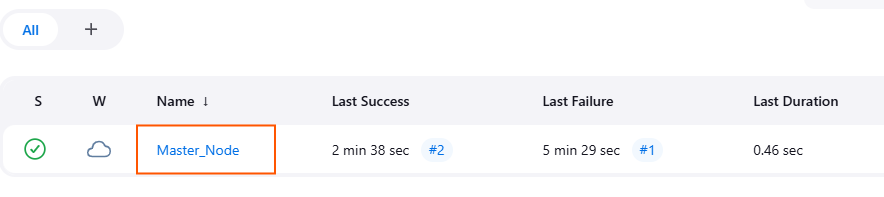
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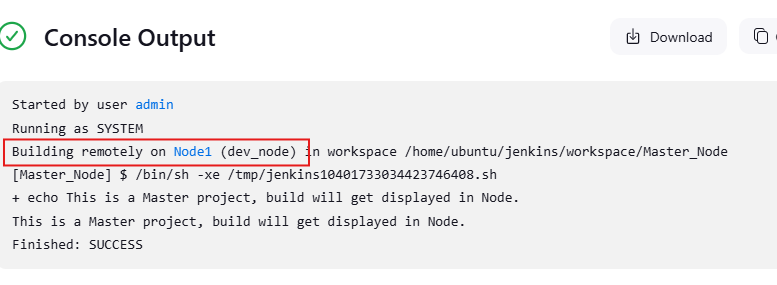
Create new job and assign it to a specific agent,

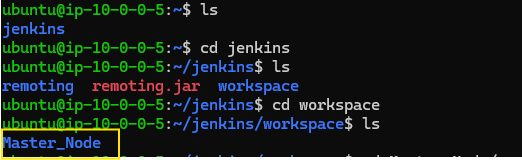
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