


The pipeline is better because:

- you can reuse all things you did
- you can put your build code inside project together with your code
- you can version the job code
- the change in pipeline is showed in "Changes" inside job history

All changes to git the job is started. With Jenkinsfile(file with pipeline script) inside your git project, all changes in pipeline or your project the job will start and the modification is logged by Jenkins.

Installing Node.js tool

In Jenkins (Jenkins -> click on Manage Jenkins:

 Jenkins

Dashboard

My Nodes

Tools

Build History

System Admin

View Blue Ocean

Testimonials

Help

Click to Manage Plugins

Manage Plugins

Click to Manage Plugins

In Plugin manager, click on Available tab and after load the tab, search the plugin.

Available

Installed

Uninstalled

Install a plugin

Search for **nodejs** and mark the checkbox.

nodejs

nodejs

Click on button "Download now and install after restart".

Download now and install after restart

On next screen, mark the checkbox "Restart Jenkins when installation is complete and no jobs are running".

Installing Plugins/Upgrades

Progress

1

Checking internet connectivity

2

Downloading plugins and their dependencies

NodeJS

Installing Jenkins

Installing

Go back to the last step

Go back and retry the installation process right now!

Restart Jenkins when installation is complete and no jobs are running

Installing Plugins with Restart - checked

Wait a moment, if the screen not change, go to jenkins home clicking in Jenkins's login on top, in the left side of the site.

Configuring NodeJS tool

After installed and restarted, go to Jenkins's home > Manage Jenkins >

Global Tool Configuration.

Click on NodeJS configuration

Click on Add configuration

Click on Configure

Search for NodeJS and click on NodeJS installation button.

NodeJS

Search for NodeJS

NodeJS installation button

Put a name for node configuration, ex: **node**. Select the version of



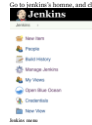
The screenshot shows the Node.js website with the "Download" button highlighted in red. The page title is "node that you need." and the sub-header is "Windows". The download button is labeled "Download" and is located next to the "Windows" link in the navigation bar.

NodeJS config

Test the nodejs plugin

OK, NodeJS is installed with success. Let's try it.

Go to *jenkins's* homepage, and click on **New Item** on *jenkins's* menu.



Let's create a job. Name it with **build-test** and select Pipeline. Click on "OK".

Enter an item name

build-test

 Pipeline

 Project

 Job

You will see this:

Overview

Build Pipeline

Advanced Pipeline Options

Pipeline

Pipeline name: build-test

Job info

In pipeline, past this code:

```
project test {
  agent any

  tasks {
    build {
      name "Build"
    }
  }
}
```

The job will be like this:



Pipeline explanation

Before continue, let's understand the pipeline job:

agent: any

The job will run in any Jenkins agent.

- You can have a lot of Jenkins nodes, one master and some slaves, and the job will run in any node.
- You can run the job on specific Jenkins, as You have 2 Jenkins with Linux and one with Windows. You can run this job only in Jenkins slave with Windows.

Linux Jenkins (Agent1)

This line search for nodeip tool named "nodeip" and use it in pipeline. It's necessary for next scripts find the commands.

script: 1

Stages is the initialization from pipeline steps.

```
stage("Example")
stage {
  ...
}
```

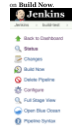
This command starts a new stage named "Example" and run the steps

```
inside this stage.
sh %cp /usr/sbin/lx
```

It execute a sh script in machine. With this, we can test the open

Running the test

Now, let's run the script. Save the job. Inside the job, in left menu, click



Bookings, full names

Wait some time for the build appear in **build history** below the menu

(If necessary, reload the page).

[illegible]

Event History

After the build over, the ball can be red or blue. If the ball is blue, the job is builded with success.

In center of page, you can visualize the stage view

Stage View



Stage View

```
[Pipeline] node
Running on Jenkins in /var/jenkins_home/workspace/build-test
[Pipeline] {
[Pipeline] stage
[Pipeline] { @Declarations: Tool Install}
[Pipeline] Tool
```



```
pipeline {
    agent any

    stages {
        stage("Cloning Git") {
            steps {
                git "https://github.com/guotravis/pipelineio/node-token-generator"
            }
        }
    }
}
```

Now, in job screen. Click on "configure" and let's change the code.

Average stage time:
(Average full run time - 4s)

4s
No Change

2s

Now, in job screen, click configure and let's change the code.

```
pipeline {
  agent.any

  tools {nodejs "node"}

  stages {
    stage("Cloning Git") {
      steps {
        git "https://github.com/gustavoguilherme/node-todo-
        frontend"
      }
    }

    stage("Install dependencies") {
      steps {
        sh "npm install"
      }
    }
  }
}
```

```

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```

After cloning step, we install the open dependencies. Finally, the test is executed.

Dependency Management		Cloning file	Install dependencies	Test
Cloning file		100%	100%	100%
Install dependencies		100%	100%	100%
Test		100%	100%	100%

Step View with git download dependencies and execute

All right, the application is tested with success.

Pipeline inside project

Now, put the script of pipeline inside your git project in a file named Jenkinsfile.

Git credentials

If you need credential to access your git repository, click on "Add button."

Add your git credentials



And the configuration will be right with your credentials.

We have the node project tested. Now we can build the docker container with our project.