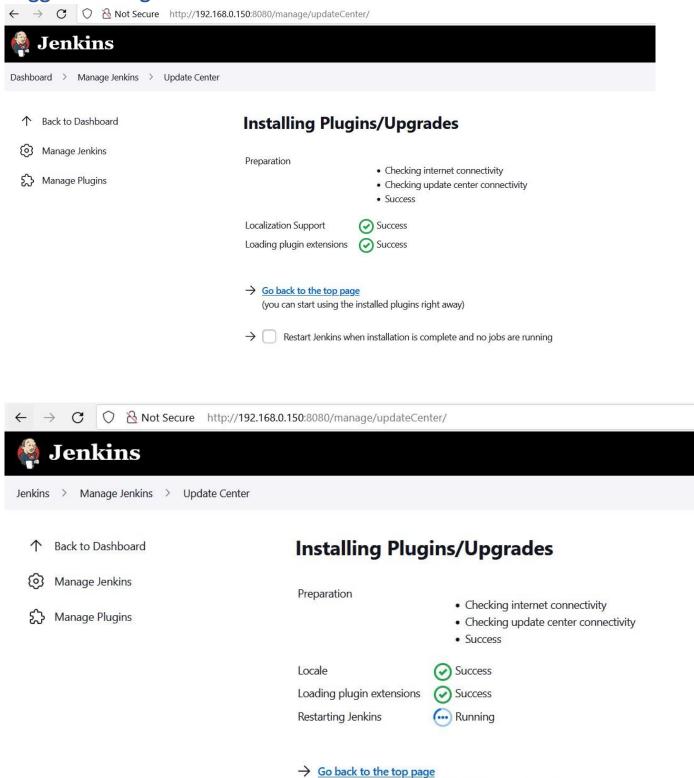
Boboshko Sergey

EPAM University Programs

DevOps L1 course

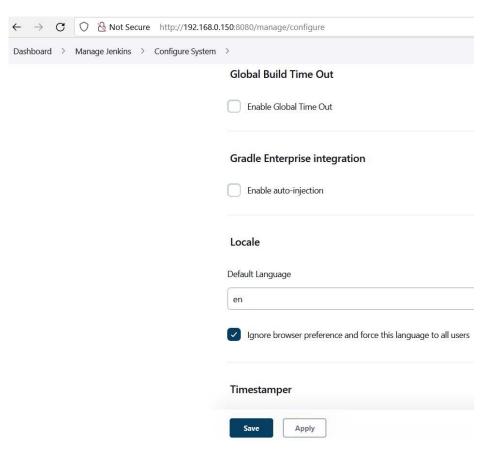
Jenkins

Suggested Plugins installation



(you can start using the installed plugins right away)

Restart Jenkins when installation is complete and no jobs are running



Simple job example in Jenkins



Dashboard > test > #3

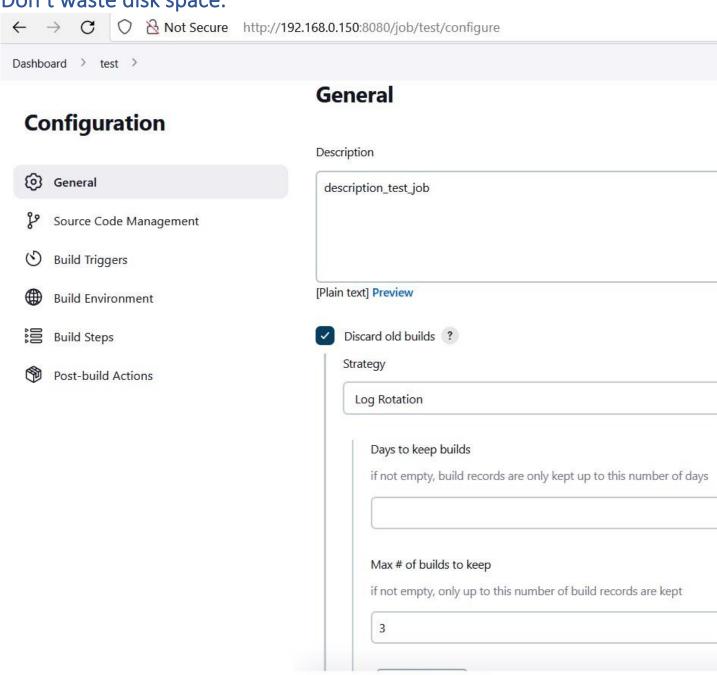
- ↑ Back to Project
- </>
 Changes
- Console Output
 - View as plain text
- Edit Build Information
- Delete build '#3'
- ← Previous Build



```
Started by user unknown or anonymous
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/test
[test] $ /bin/sh -xe /tmp/jenkins5299219900791144283.sh
+ echo ------BEGINING-----
-----BEGINING-----
+ echo Die Hard!!!
Die Hard!!!
+ hostnamectl status
 Static hostname: work
      Icon name: computer-vm
        Chassis: vm
     Machine ID: e3e0538408eb4d6682ae9ba85b823a9d
        Boot ID: dc81a9f67e264e60828de44b9da3afcd
 Virtualization: oracle
Operating System: Ubuntu 22.04.1 LTS
         Kernel: Linux 5.15.0-43-generic
   Architecture: x86-64
Hardware Vendor: innotek GmbH
 Hardware Model: VirtualBox
+ echo ------FINISHING-----
-----FINISHING-----
+ echo Build number#
Build number#
+ echo 3
3
Finished: SUCCESS
```

Simple job example in Jenkins.

Don't waste disk space.

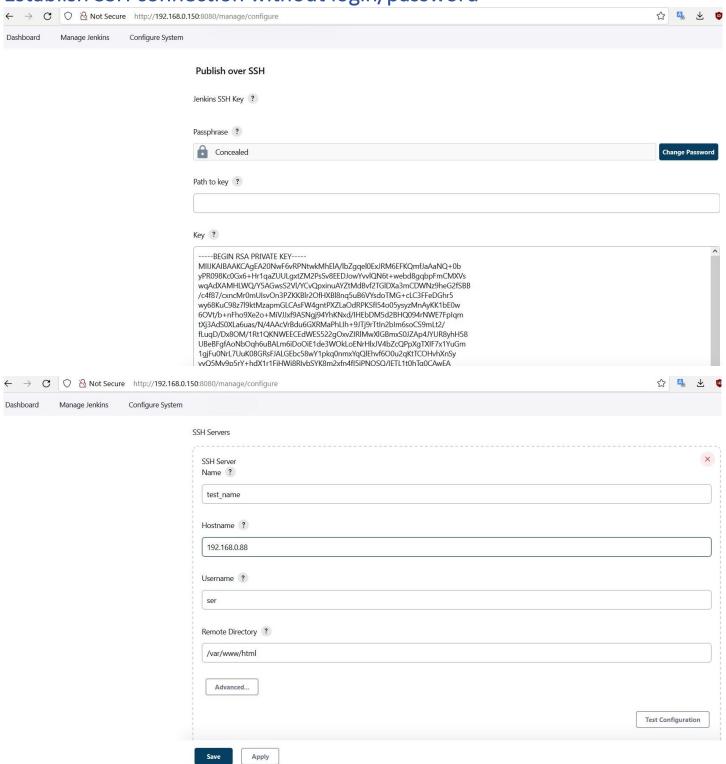


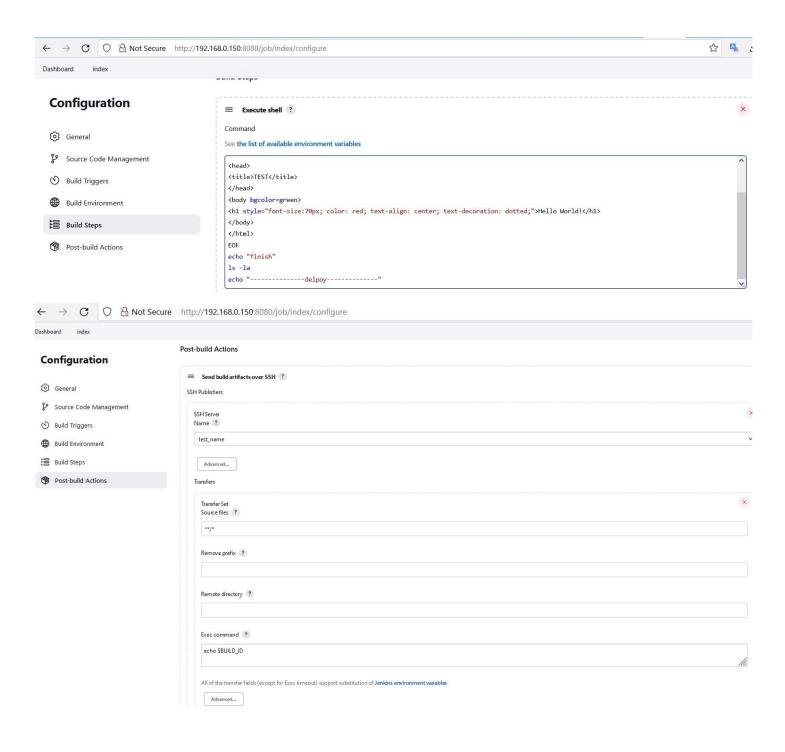
Save

Apply

Simple job example in Jenkins with deploy.

Establish SSH connection without login/password







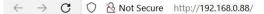
Jenkins

Dashboard index #39

- ↑ Back to Project
- </>
 Changes
- Console Output
 - View as plain text
- Edit Build Information
- Delete build '#39'
- ← Previous Build

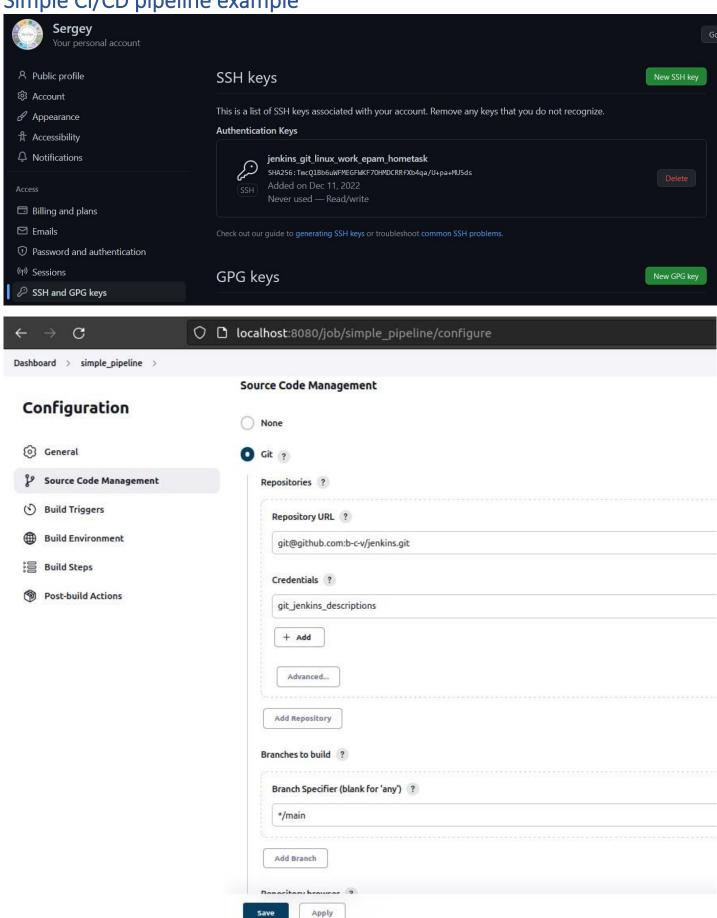


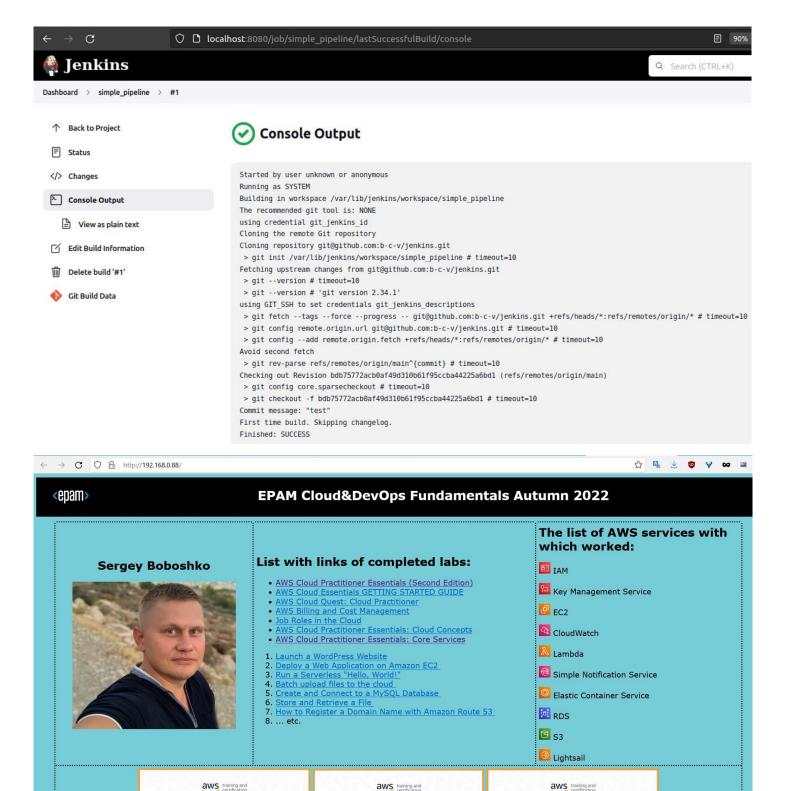
Started by user unknown or anonymous Running as SYSTEM Building in workspace /var/lib/jenkins/workspace/index [index] \$ /bin/sh -xe /tmp/jenkins1146882657824312700.sh + echo start start + cat + echo finish finish + 1s -la total 12 drwxr-xr-x 2 jenkins jenkins 4096 Nov 28 15:06 . drwxr-xr-x 4 jenkins jenkins 4096 Nov 28 15:06 .. -rw-r--r-- 1 jenkins jenkins 182 Nov 28 17:23 index.html + echo ------delpoy----------delpoy-----SSH: Connecting from host [work] SSH: Connecting with configuration [test name] ... SSH: EXEC: completed after 210 ms SSH: Disconnecting configuration [test_name] ... SSH: Transferred 1 file(s) Finished: SUCCESS



Hello World!

Simple CI/CD pipeline example



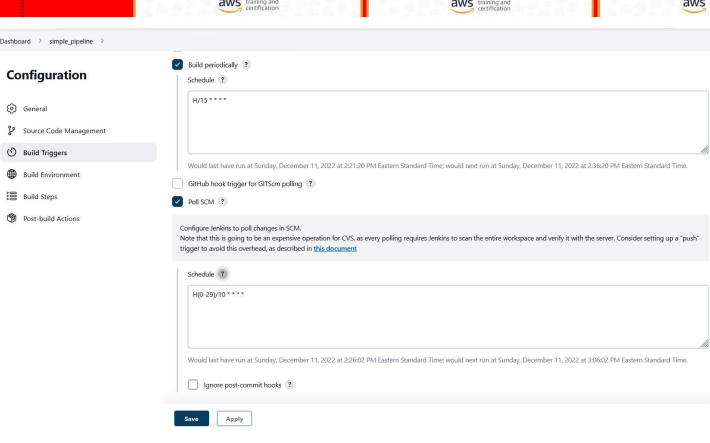


Certificate of Completion

Certificate of Completion

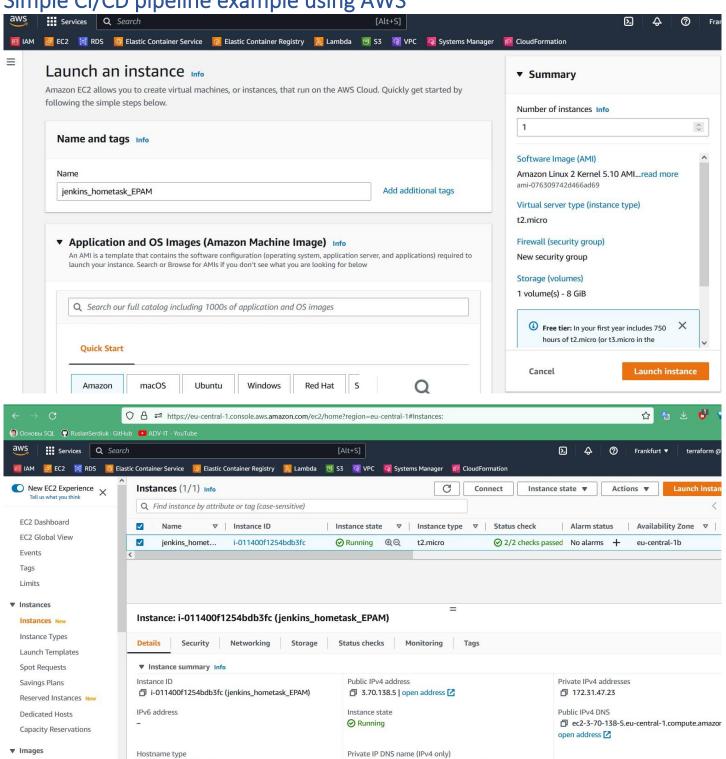
Certificate of Completion

```
Edit
             Selection View
                                                                           (ツ)_「index.html - GitHub - Vi
M Get Started
                index.html X
jenkins > 🥫 index.html > 😚 html > 😚 head > 😚 style > 😭 html
            <title>Sergey Boboshko</title>
            <meta
              name="description"
              content="EPAM Cloud&DevOps Fundamentals Autumn 2022"
            <style type="text/css">
              html {
                font-family: Verdana, Arial, Helvetica, sans-serif;
  12
                background-color: ■red; /* rgb(118, 205, 216); */
                font-size: 18px;
                font-size: 26px;
                color: white;
                padding: 20 20 10 20;
 PROBLEMS
                                    TERMINAL
                                              JUPYTER
PS D:\Dev\GitHub\jenkins> git commit -m "change background to red"
 [main afa47ac] change background to red
  1 file changed, 18 deletions(-)
  delete mode 100644 9del.svg
PS D:\Dev\GitHub\jenkins> git status
 On branch main
 Your branch is ahead of 'origin/main' by 3 commits.
   (use "git push" to publish your local commits)
 nothing to commit, working tree clean
PS D:\Dev\GitHub\jenkins> git push
 Enumerating objects: 10, done.
 Counting objects: 100% (9/9), done.
 Delta compression using up to 4 threads
 Compressing objects: 100% (6/6), done.
 Writing objects: 100% (6/6), 2.18 KiB | 1.09 MiB/s, done.
 Total 6 (delta 3), reused 0 (delta 0), pack-reused 0
 remote: Resolving deltas: 100% (3/3), completed with 1 local object.
 To https://github.com/b-c-v/jenkins.git
    bdb7577..afa47ac main -> main
PS D:\Dev\GitHub\jenkins>
```

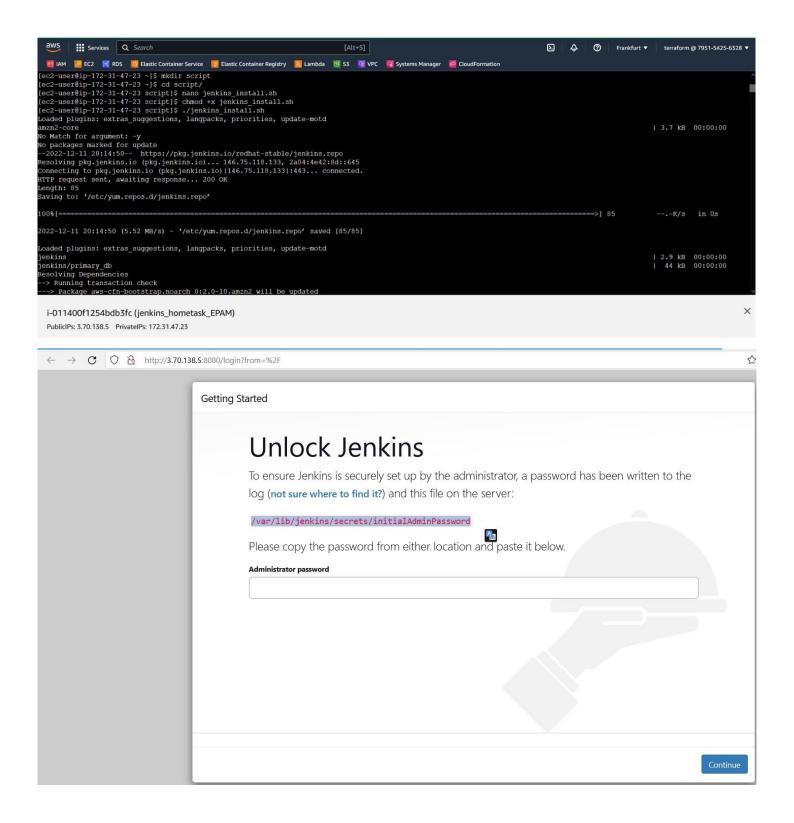


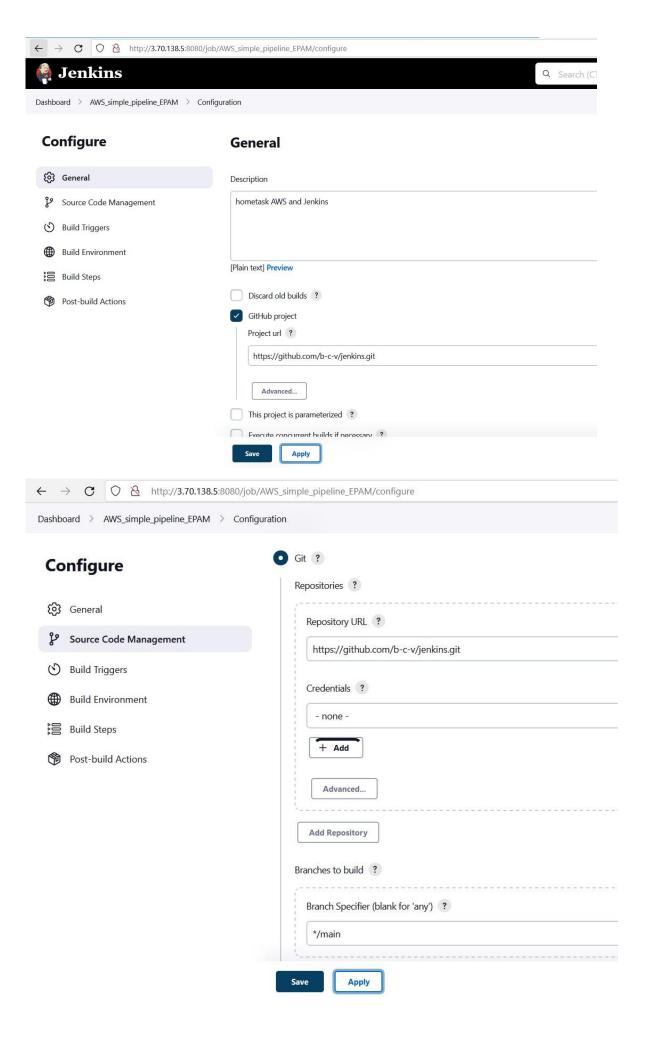
Simple CI/CD pipeline example using AWS

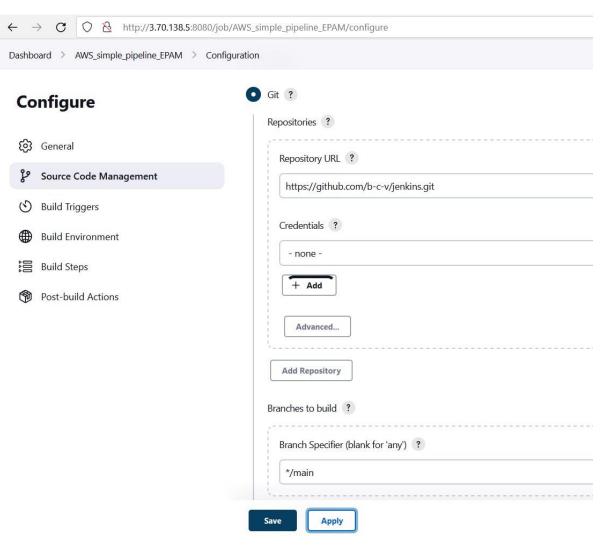
IP name: ip-172-31-47-23.eu-central-1.compute.internal

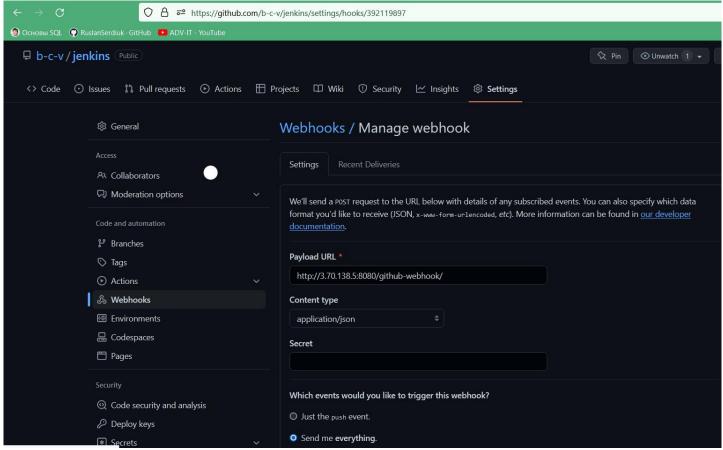


ip-172-31-47-23.eu-central-1.compute.internal

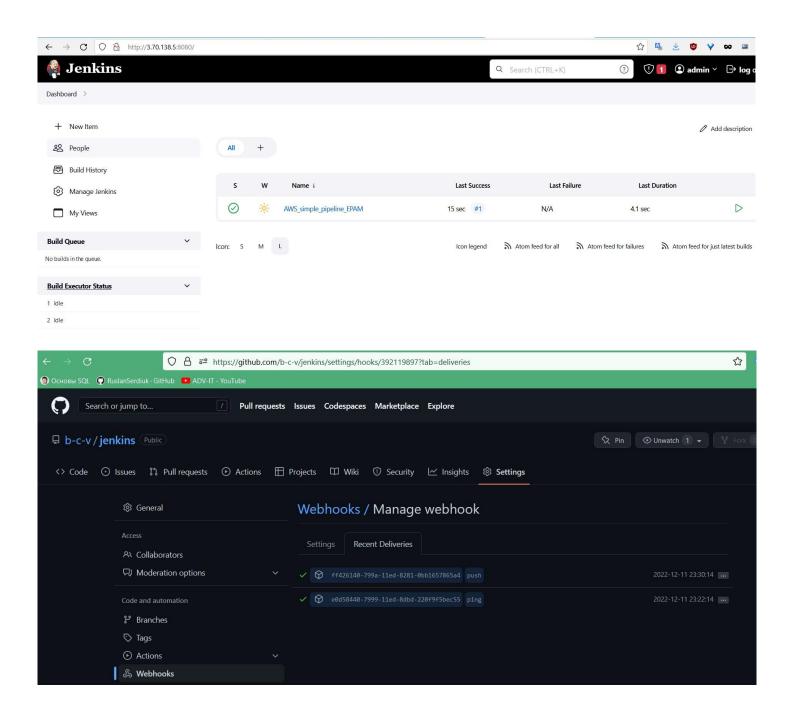




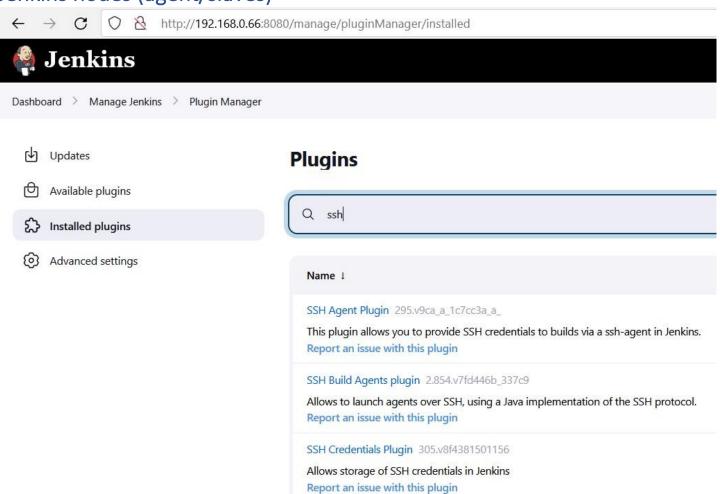


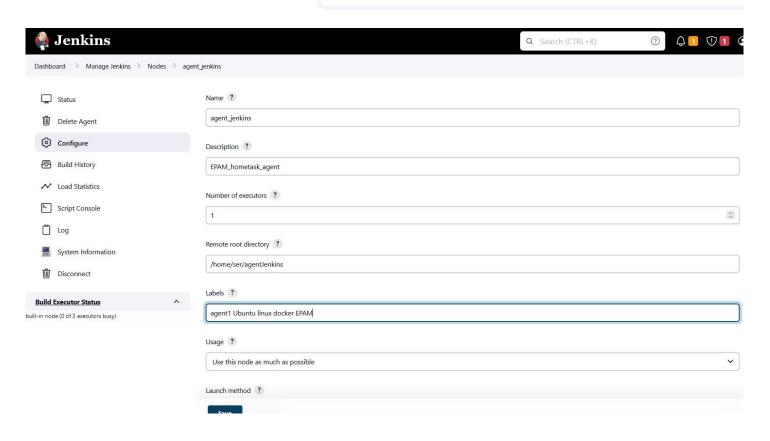


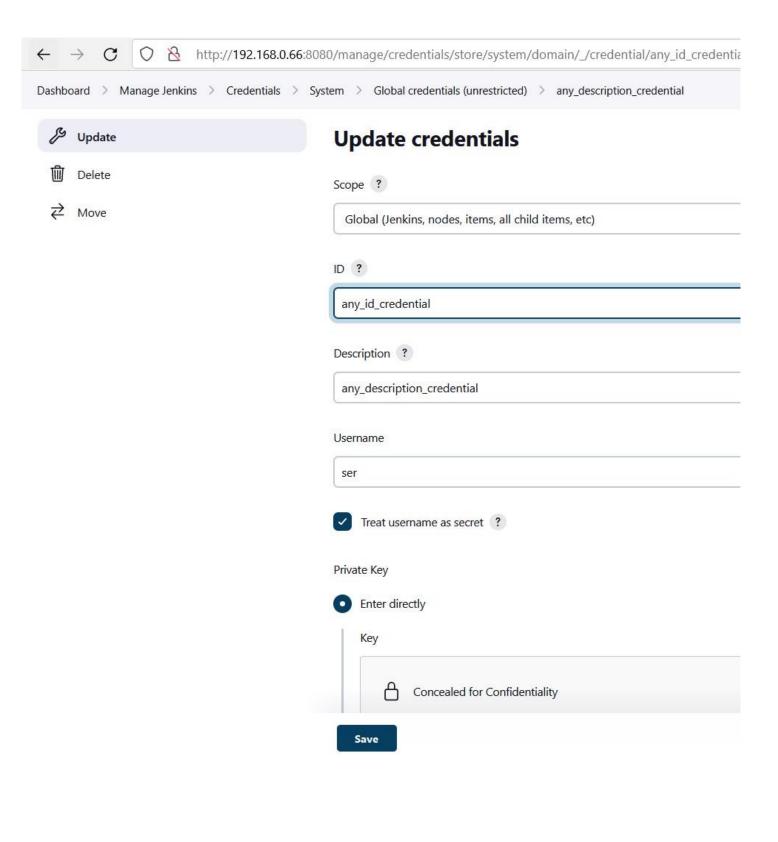
```
File
        Edit Selection View
                               Run
                                    Terminal Help
                                                                           (ツ)_「index.html - GitHub -
Get Started
                index.html X
jenkins > ■ index.html > ♦ html > ♦ head > ♦ style > 😝 html
            <title>Sergey Boboshko</title>
            <meta
              name="description"
              content="EPAM Cloud&DevOps Fundamentals Autumn 2022"
            <style type="text/css">
                font-family: Verdana, Arial, Helvetica, sans-serif;
  12
                background-color: _yellow; /* rgb(118, 205, 216); */
                font-size: 18px;
                font-size: 26px;
                color: white;
                padding: 20 20 10 20;
 PROBLEMS
          6
              OUTPUT
                      DEBUG CONSOLE
                                    TERMINAL
                                              JUPYTER
 Compressing objects: 100% (6/6), done.
 Writing objects: 100% (6/6), 2.18 KiB | 1.09 MiB/s, done.
 Total 6 (delta 3), reused 0 (delta 0), pack-reused 0
 remote: Resolving deltas: 100% (3/3), completed with 1 local object.
 To https://github.com/b-c-v/jenkins.git
    bdb7577..afa47ac main -> main
PS D:\Dev\GitHub\jenkins> git add .
PS D:\Dev\GitHub\jenkins> git commit -m "change background to yellow"
 [main 21def27] change background to yellow
  1 file changed, 1 insertion(+), 1 deletion(-)
PS D:\Dev\GitHub\jenkins> git push
 Enumerating objects: 5, done.
 Counting objects: 100% (5/5), done.
 Delta compression using up to 4 threads
 Compressing objects: 100% (3/3), done.
 Writing objects: 100% (3/3), 326 bytes | 326.00 KiB/s, done.
 Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
 remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
 To https://github.com/b-c-v/jenkins.git
    afa47ac..21def27 main -> main
 PS D:\Dev\GitHub\jenkins>
```

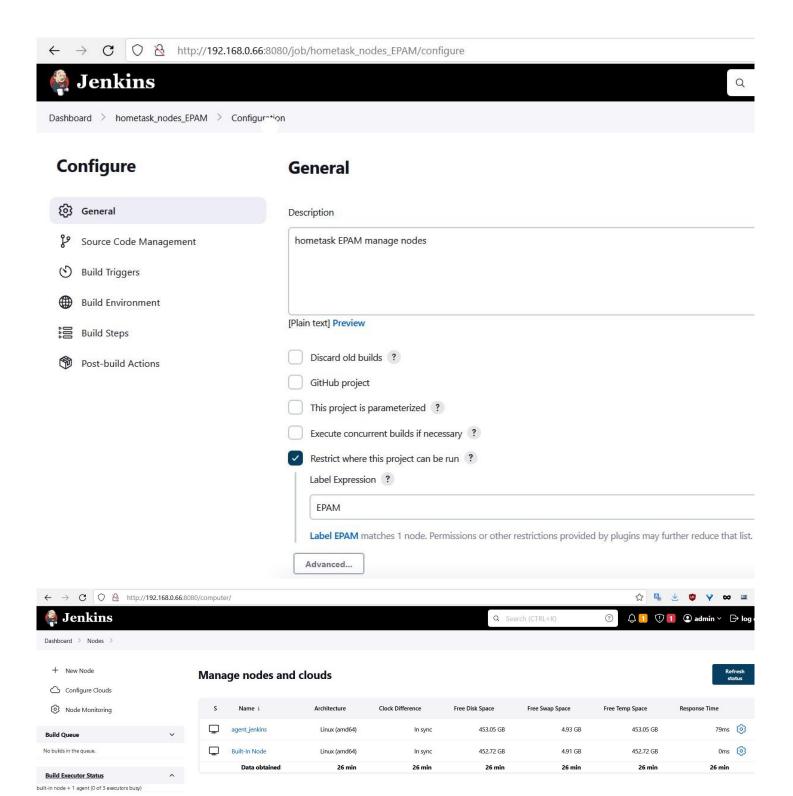


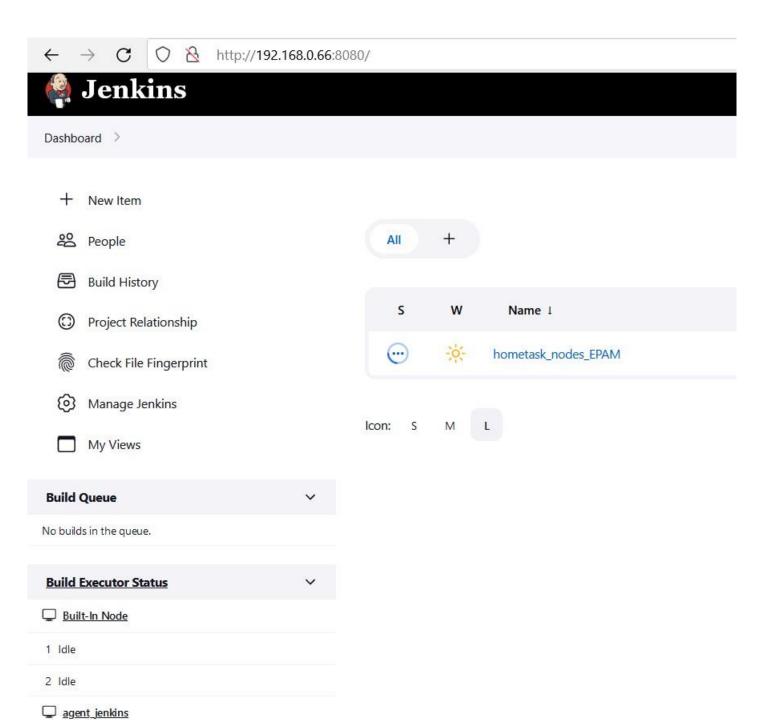
Jenkins nodes (agent/slaves)





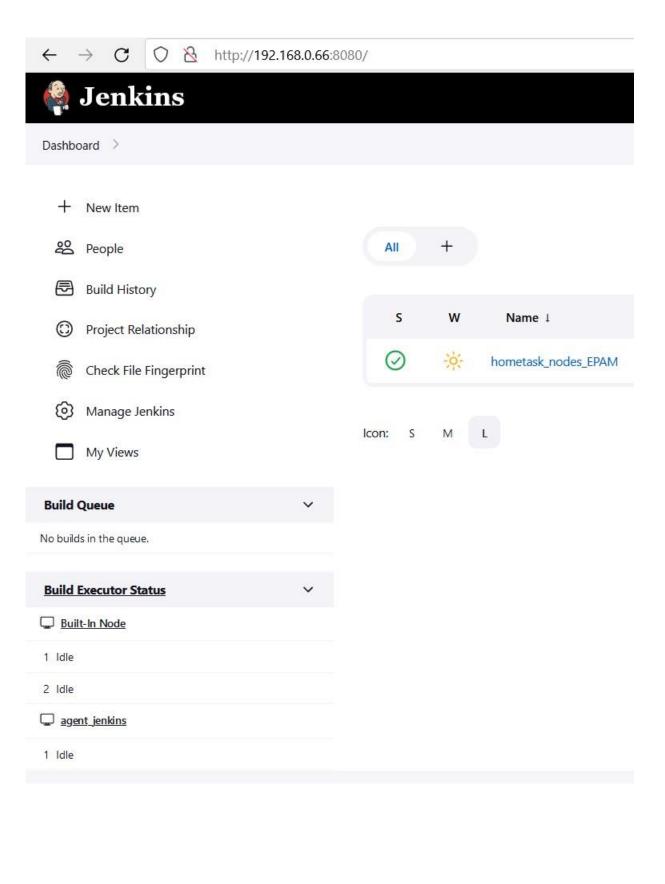






1 hometask nodes EPAM

<u>#1</u>



Jenkins CLI (command line interface)





Dashboard > Manage Jenkins > Jenkins CLI

+	New Item	

Build History

2 People

Project Relationship

Check File Fingerprint

Manage Jenkins



http://192.168.0.150:8080/jnlpJars/jenkins-cli.jar

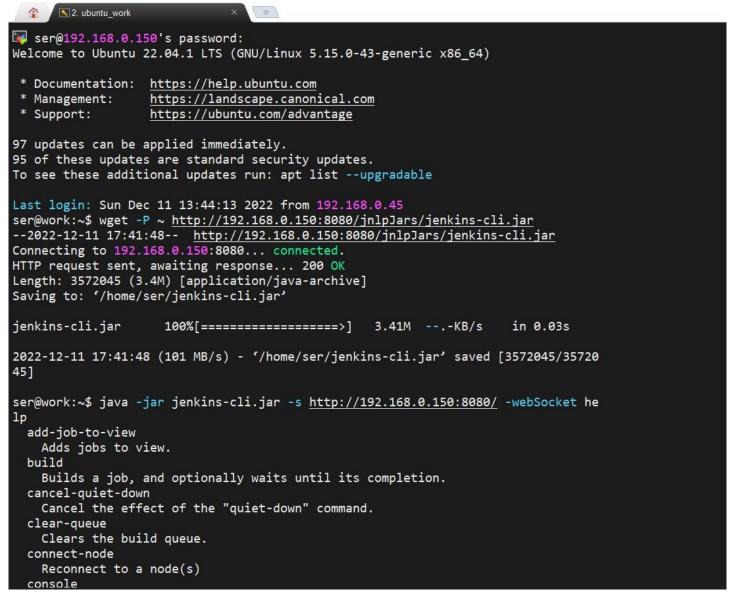
Jenkins CLI

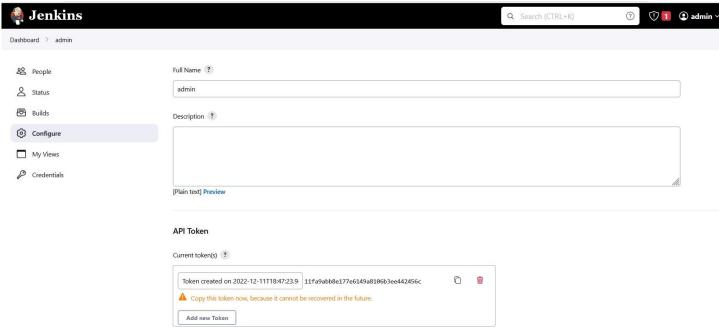
You can access various features in Jenkins through a command-line tool. See <u>the documentation</u>

java -jar jenkins-cli.jar -s http://192.168.0.150:8080/ -webSocket help

Available Commands

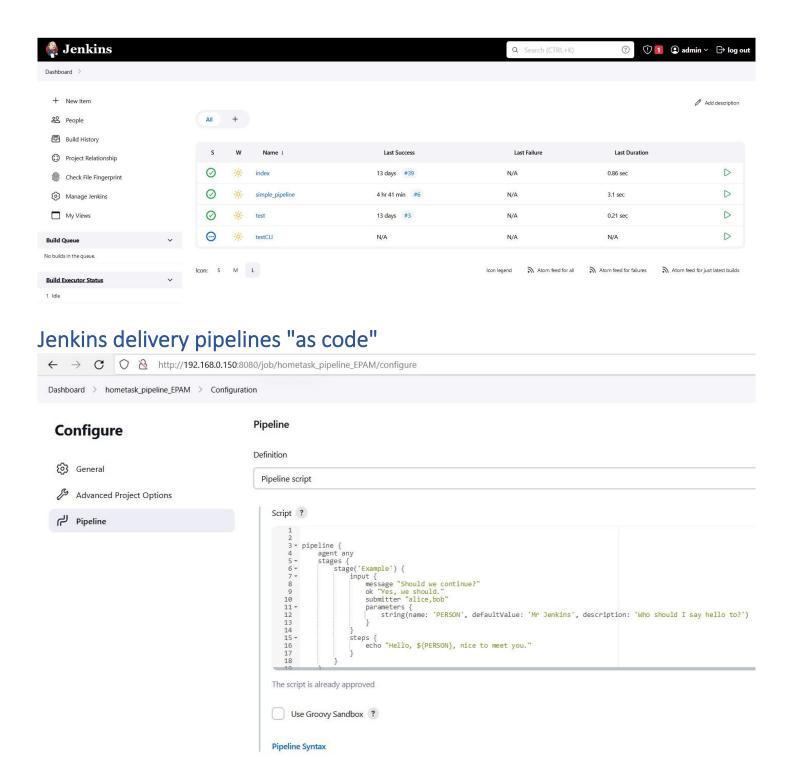
Name 1	Description
add-job-to-view	Adds jobs to view.
build	Builds a job, and optionally waits until its completion.
cancel-quiet-down	Cancel the effect of the "quiet-down" command.
clear-queue	Clears the build queue.
connect-node	Reconnect to a node(s)
console	Retrieves console output of a build.
copy-job	Copies a job.
create_credentialc_hv_vml	Crosta Cradential by YMI





```
ser@work:~$ java -jar jenkins-cli.jar -auth admin:11fa9abb8e177e6149a8106b3ee442456c -s <u>http://localhost:8080/</u> -webSocket who-am-i
Authenticated as: admin
Authorities:
  authenticated
ser@work:~$ export JENKINS_USER_ID=admin
ser@work:~$ export JENKINS_API_TOKEN=11fa9abb8e177e6149a8106b3ee442456c
ser@work:~$ env | grep JENKINS
JENKINS_API_TOKEN=11fa9abb8e177e6149a8106b3ee442456c
JENKINS_USER_ID=admin
ser@work:~$ java -jar jenkins-cli.jar -s http://localhost:8080/ -webSocket who-am-i
Authenticated as: admin
Authorities:
  authenticated
ser@work:~$
ser@work:~/Downloads/job_jenkins_cli$ #экспортировать из Jenkins настройки проекта index в файл с названием newJob.xml ser@work:~/Downloads/job_jenkins_cli$ java -jar ~/jenkins-cli.jar -s <a href="http://localhost:8080/">http://localhost:8080/</a> -webSocket get-job index > newJob.xml ser@work:~/Downloads/job_jenkins_cli$ 11
total 12
drwxrwxr-x 2 ser ser 4096 Dec 11 19:01 ./
drwxr-xr-x 5 ser ser 4096 Dec 11 19:00
 rw-rw-r-- 1 ser ser 3307 Dec 11 19:01 newJob.xml
ser@work:~/Downloads/job_jenkins_cli$ cat newJob.xml
<?xml version='1.1' encoding='UTF-8'?>
<actions/>
  <description>create simple site</description>
<keepDependencies>false</keepDependencies>
  operties>
     <jenkins.model.BuildDiscarderProperty>
       <strategy class="hudson.tasks.LogRotator">
          <daysToKeep>-1</daysToKeep>
          <numToKeep>2</numToKeep>
          <artifactDaysToKeep>-1</artifactDaysToKeep>
          <artifactNumToKeep>-1</artifactNumToKeep>
        </strategy>
     </jenkins.model.BuildDiscarderProperty>
  </properties>
  <scm class="hudson.scm.NullSCM"/>
  <canRoam>true</canRoam>
  <disabled>false</disabled>
  <blockBuildWhenDownstreamBuilding>false</blockBuildWhenDownstreamBuilding>
  <blockBuildWhenUpstreamBuilding>false</blockBuildWhenUpstreamBuilding>
  <triggers/>
  <concurrentBuild>false</concurrentBuild>
  <builders>
     <hudson.tasks.Shell>
       <command>echo &quot;start&quot;
 at <&lt;EOF &gt; index.html
  🗿 Jenkins
                                                                                                             Q Search (CTRL+K)
                                                                                                                                            ① 1 ② admin ∨ ⇒ log ou
 Dashboard
   + New Item
                                    All +
  22 People
                                       S
                                             w
                                                    Name 1
                                                                                Last Success
                                                                                                              Last Failure
                                                                                                                                      Last Duration
  Project Relationship
                                      0
                                                                              13 days #39
                                                                                                                                                               D
  Check File Fingerprint
                                      0
                                             -0-
                                                                              4 hr 35 min #6
                                                                                                                                                               0
                                                                                                                                    3.1 sec
  Manage Jenkins
                                      (
                                             -0-
  test
                                                                              13 days #3
                                                                                                            N/A
                                                                                                                                    0.21 sec
                                    Icon: S M L
                                                                                                        Icon legend Atom feed for all Atom feed for failures Atom feed for just latest builds
 No builds in the queue.
```

ser@work:~/Downloads/job_jenkins_cli\$ #импортировать в Jenkins настройки проекта из файла newJob.xml
ser@work:~/Downloads/job_jenkins_cli\$ java -jar ~/jenkins-cli.jar -s http://localhost:8080/ -webSocket create-job testCLI < newJob.xml
ser@work:~/Downloads/job_jenkins_cli\$



Apply

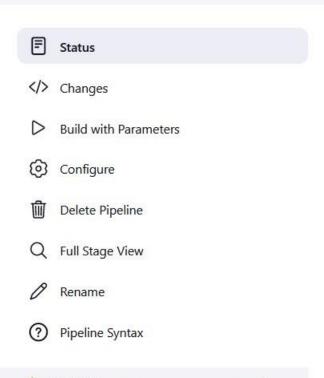


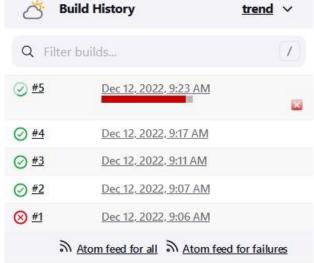






Dashboard > hometask_pipeline_EPAM >





Pipeline hometask_pipeline_EPAM

Jenkins Pipeline

Stage View



Permalinks

- Last build (#5), 17 min ago
- Last stable build (#4), 23 min ago
- · Last successful build (#4), 23 min ago
- · Last failed build (#1), 35 min ago
- Last unsuccessful build (#1), 35 min ago
- Last completed build (#4), 23 min ago



Dashboard > hometask_pipeline_EPAM > #5

Status

</>
Changes

Console Output

View as plain text

Edit Build Information

Parameters

✓ Thread Dump

Pause/resume

Replay

Pipeline Steps

Workspaces

← Previous Build



Started by user admin [Pipeline] Start of Pipeline [Pipeline] node Running on Jenkins in /var/lib/jenkins/workspace/hometask_pipeline_EPAM [Pipeline] { [Pipeline] stage [Pipeline] { (Example) [Pipeline] input Input requested Approved by admin [Pipeline] withEnv [Pipeline] { [Pipeline] echo Hello, Sergey, nice to meet you. [Pipeline] } [Pipeline] // withEnv [Pipeline] } [Pipeline] // stage [Pipeline] } [Pipeline] // node [Pipeline] End of Pipeline Finished: SUCCESS