МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ  
РОССИЙСКОЙ ФЕДЕРАЦИИ

федеральное государственное автономное   
образовательное учреждение высшего образования  
«Самарский национальный исследовательский университет   
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(Самарский университет)

Институт информатики, математики и электроники

Факультет информатики  
Кафедра суперкомпьютеров и общей информатики

**Отчет по лабораторной работе №2**

Дисциплина: «Развертывание и жизненный цикл программного обеспечения»

Тема: **«Git and CI»**

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Группа: 6133-010402D

Самара 2021

**TASK**

Steps

1. Download Gitlab-Bitnami vm image from https://bitnami.com/stack/gitlab/virtual-machine
2. Upload https://github.com/olindata/sample-gitlabci-cpp-project to your Gitlab server.
3. To unblock SSH https://docs.bitnami.com/virtual-machine/faq/get-started/enable-ssh/
4. https://askubuntu.com/questions/204400/ssh-public-key-no-supported-authentication-methods-available-server-sent-publ
5. Install GitLab Runner using the official GitLab repositories https://docs.gitlab.com/runner/install/linux-repository.html
6. Update /etc/gitlab/gitlab.rb to disable https on gitlab (yes, it is not for production)

# use here your IP, but is must be HTTP

external\_url 'http://192.168.88.228'

nginx['redirect\_http\_to\_https'] = false

nginx['ssl\_verify\_client'] = "off"

1. Reconfigure GitLab for the changes to take effect:

$ sudo gitlab-ctl reconfigure

1. Register runner. Choose shell executor type. Use your ip and registration-token for command below:

$ sudo gitlab-runner register --url http://192.168.88.228/ --registration-token yqjsLYNFrbjaC-QhmycE

1. Edit .gitlab-ci.yml to run runner in shell mode (without Docker)

job:

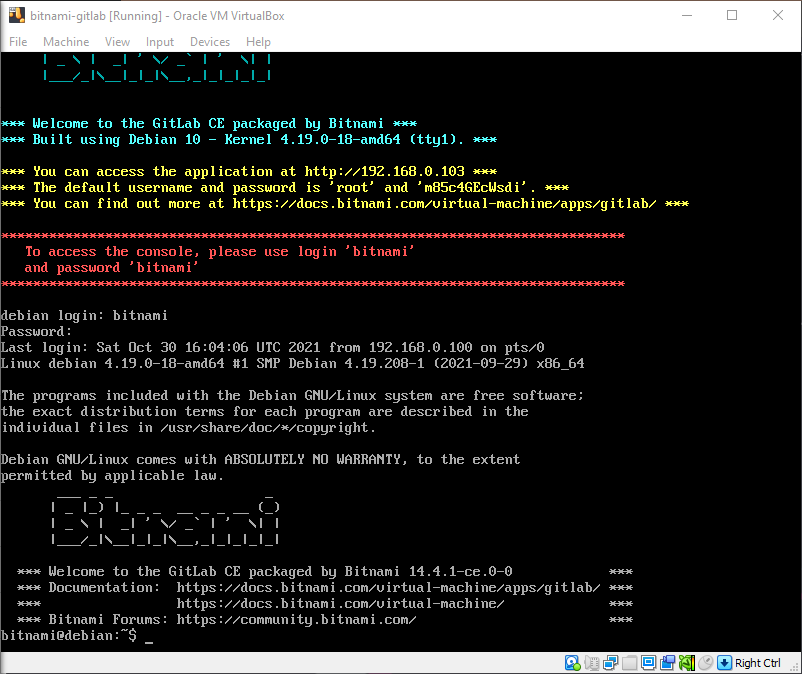
script:

g++ helloworld.cpp -o helloworld

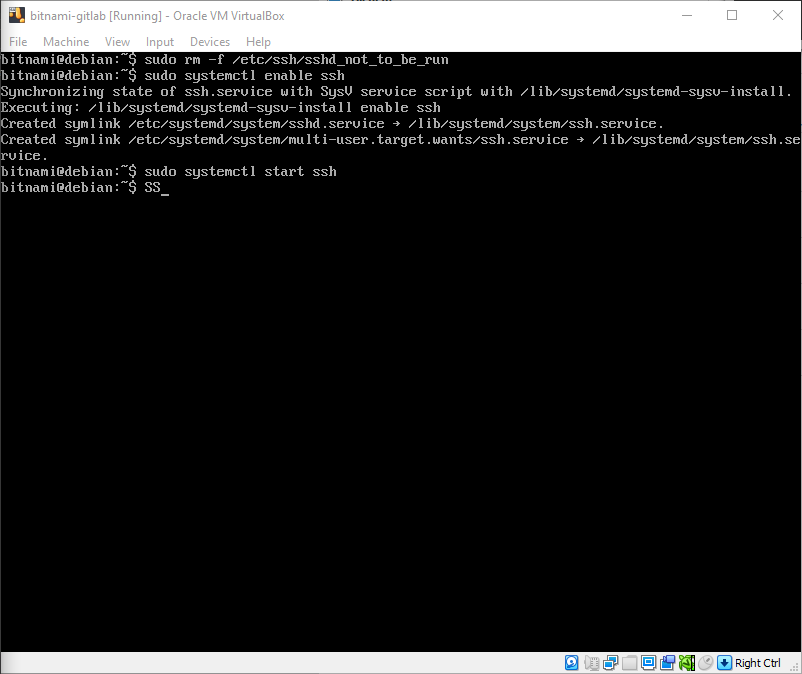
1. Run Pipeline: CI/CD > Pipelines > Run pipeline

**PROCEDURE**

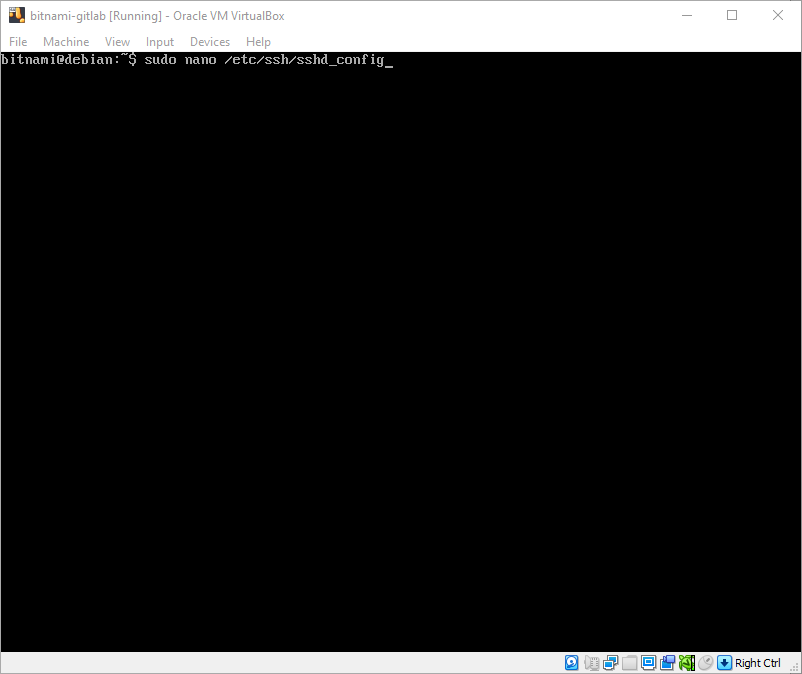
Download and open the Gitlab-Bitnami VM:

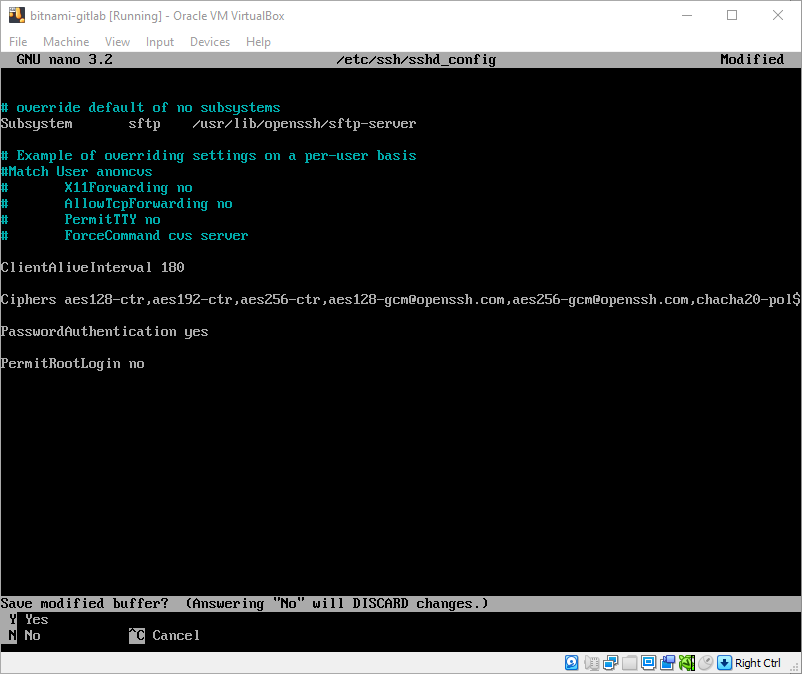


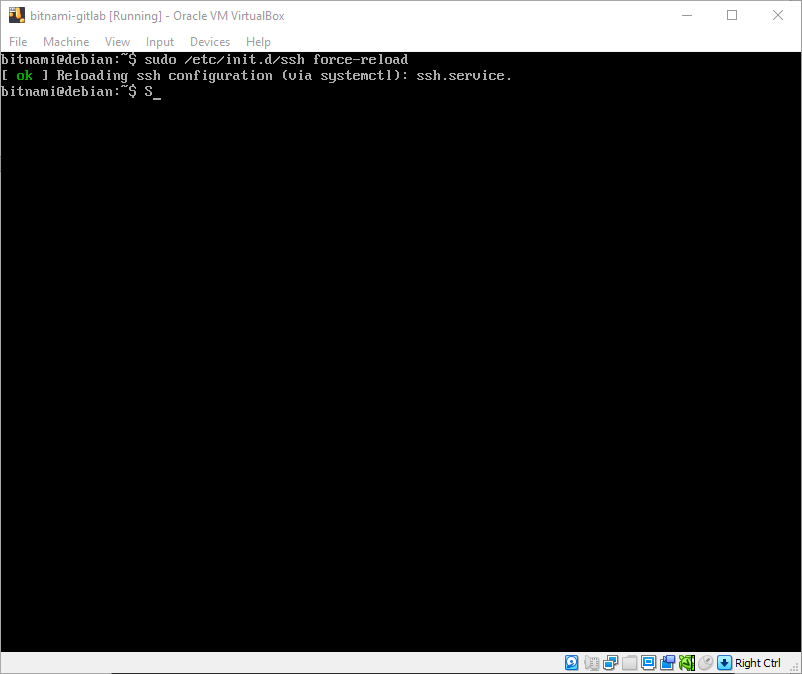
Enable SSH on that VM:



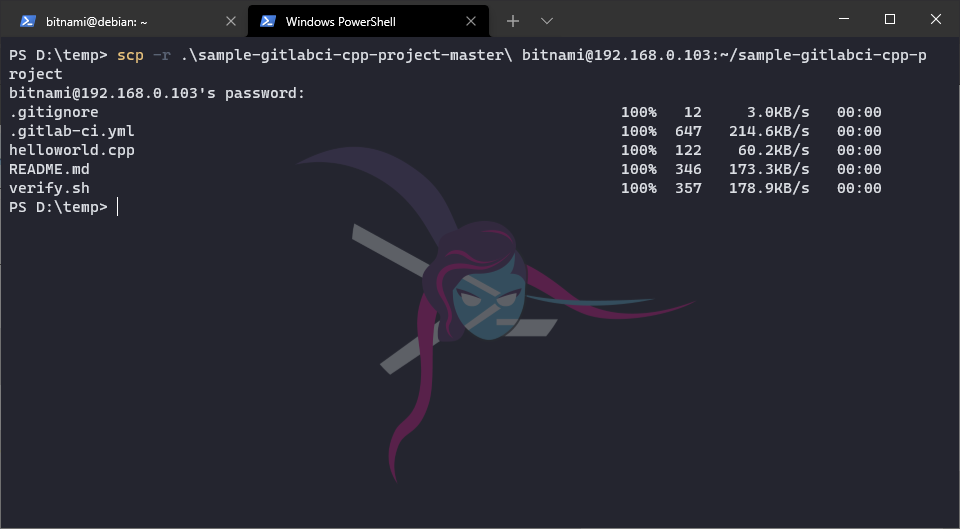
Edit the SSH configuration file to support password authentication:



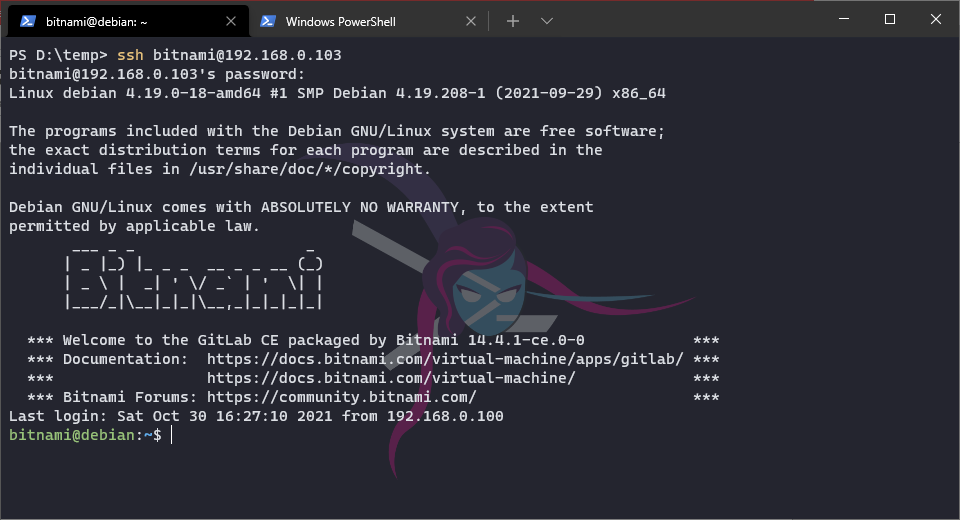




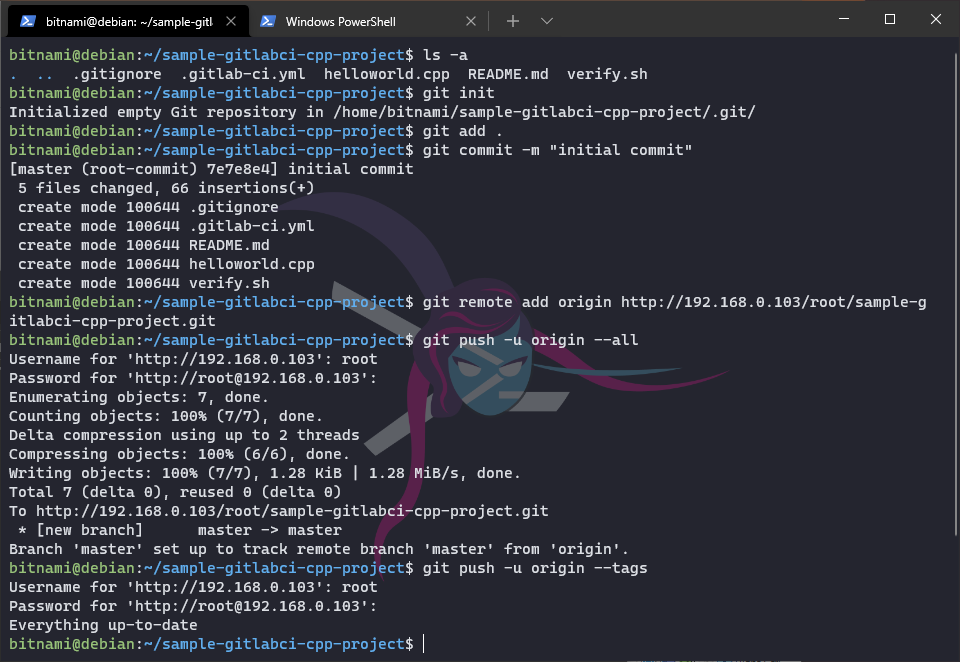
Clone the project to the host machine and then copy it to the VM via SSH:



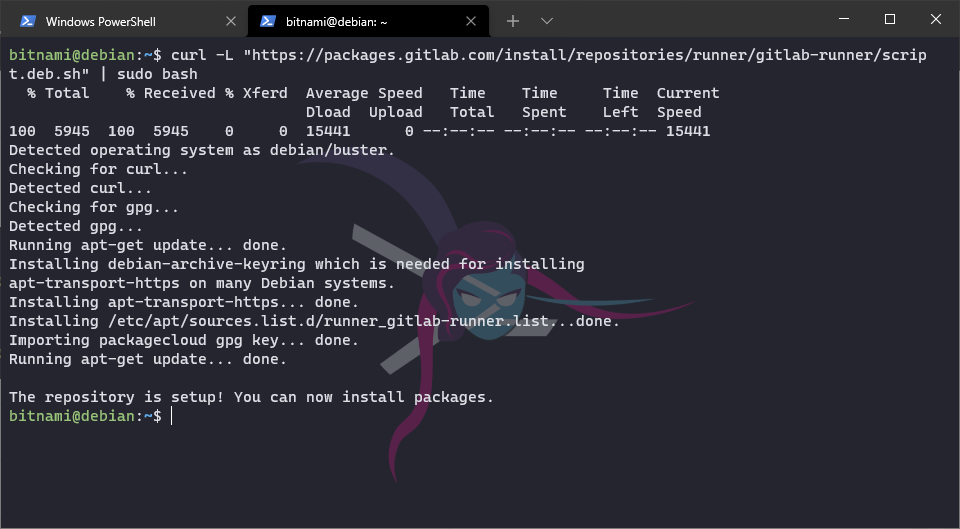
Connect to the VM via SSH:

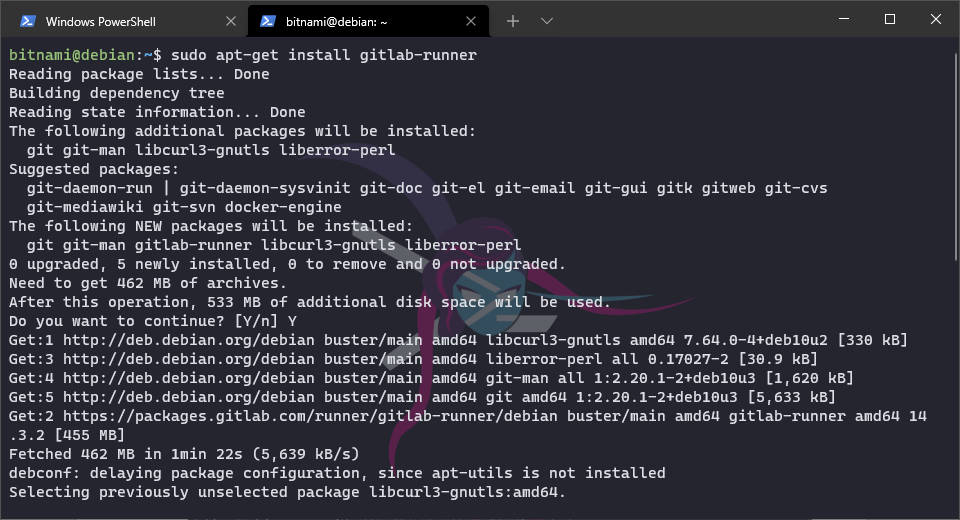


Once connected, go to the project directory and initialize the Git repository in it. Then push it to the GitLab repository.

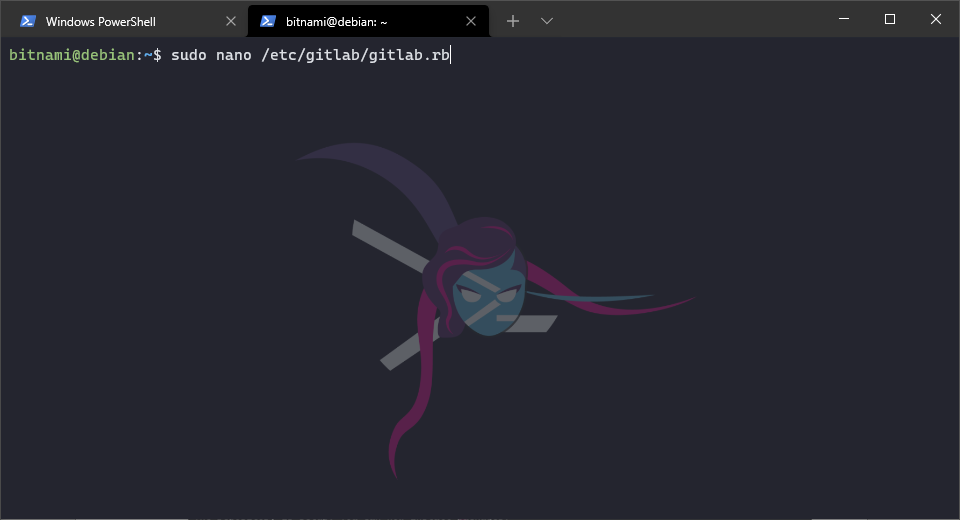


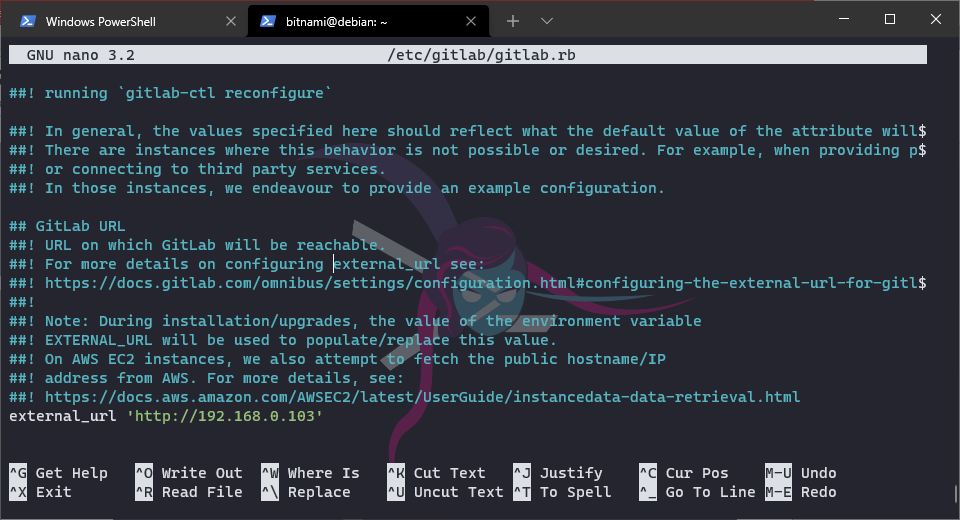
Install GitLab Runner:

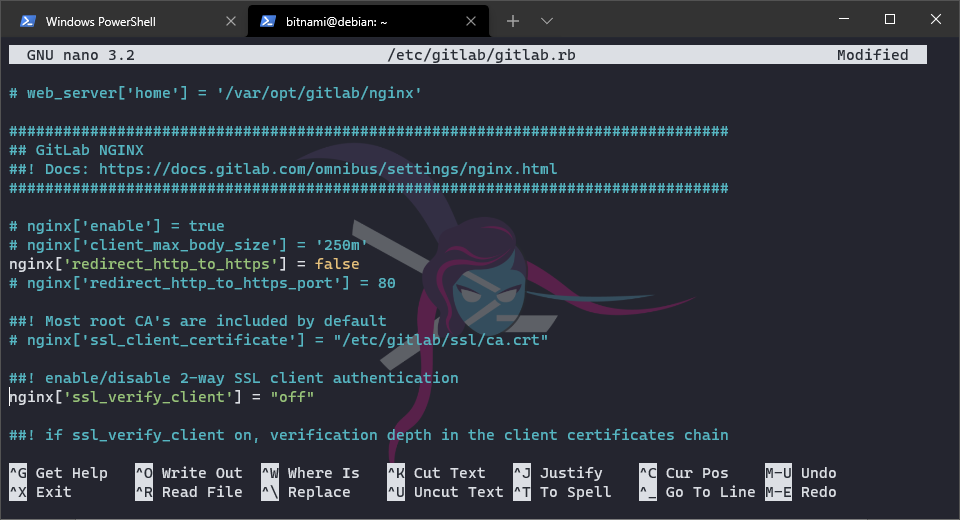




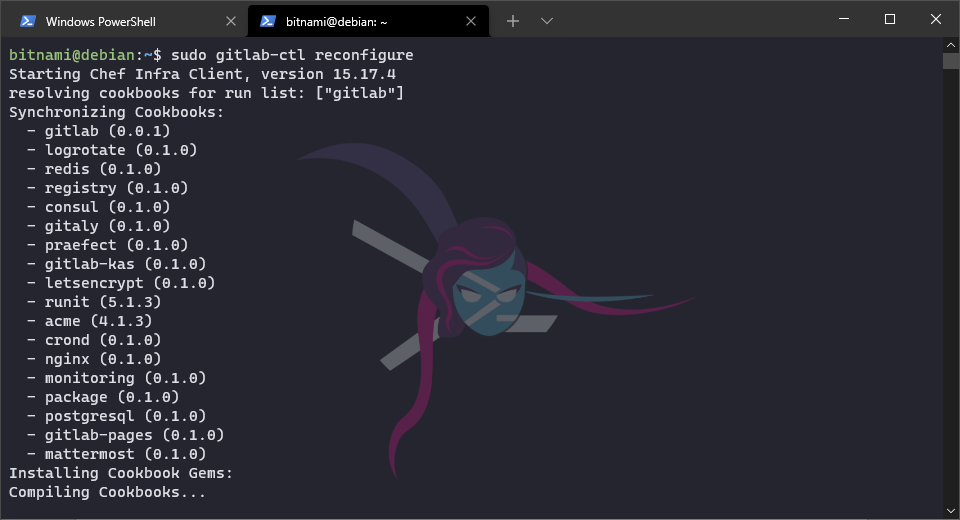
Update the /etc/gitlab/gitlab.rb file to disable HTTPS on GitLab:



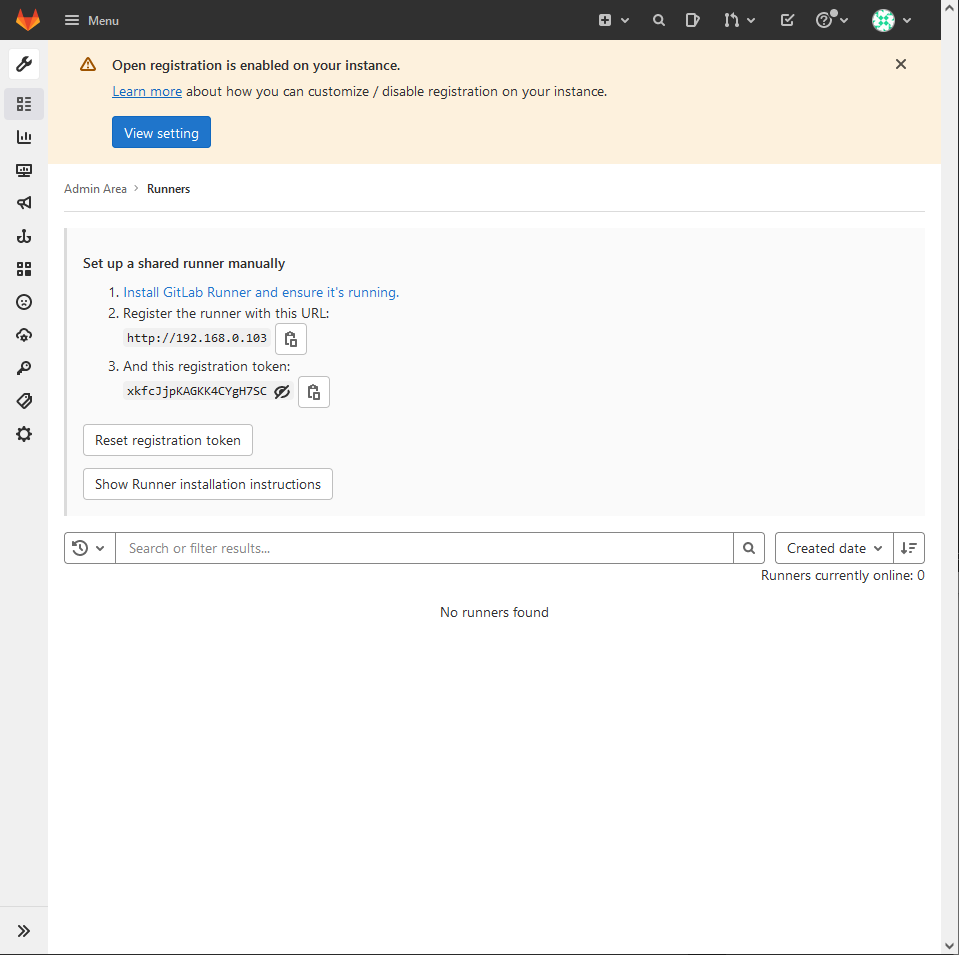




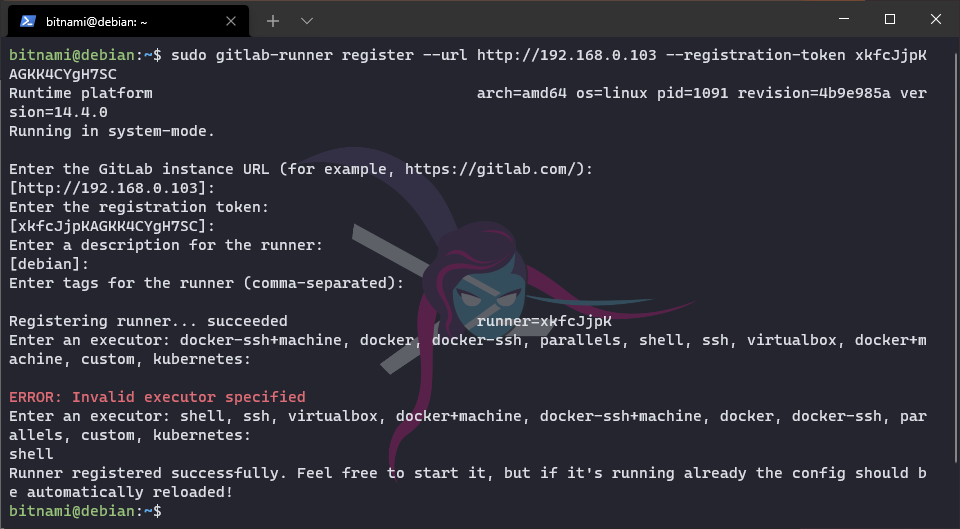
Reconfigure GitLab for the changes to take effect:



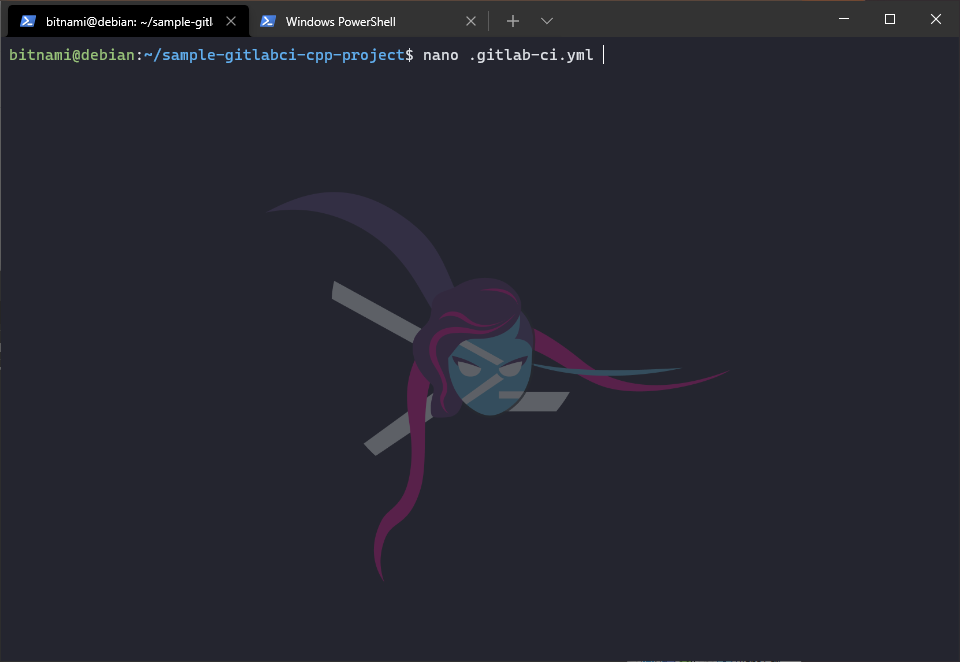
Open the GitLab server to get the runner registration token:

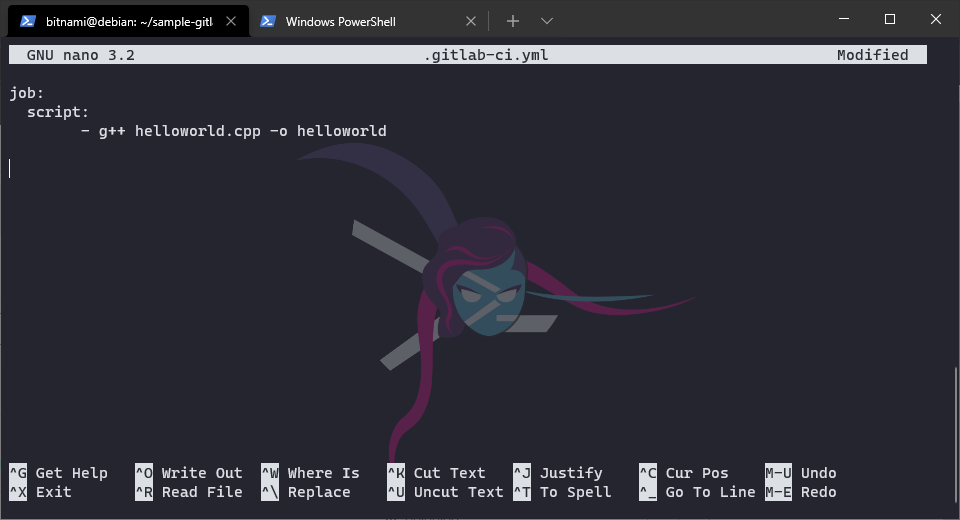


Register a runner:

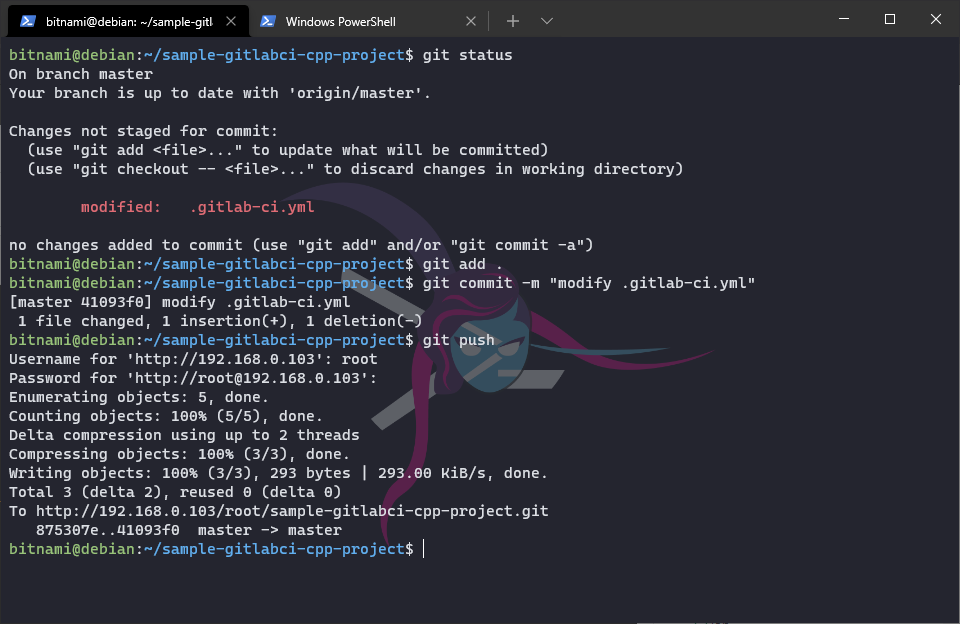


In the project directory, edit .gitlab-ci.yml to run runner in shell mode:

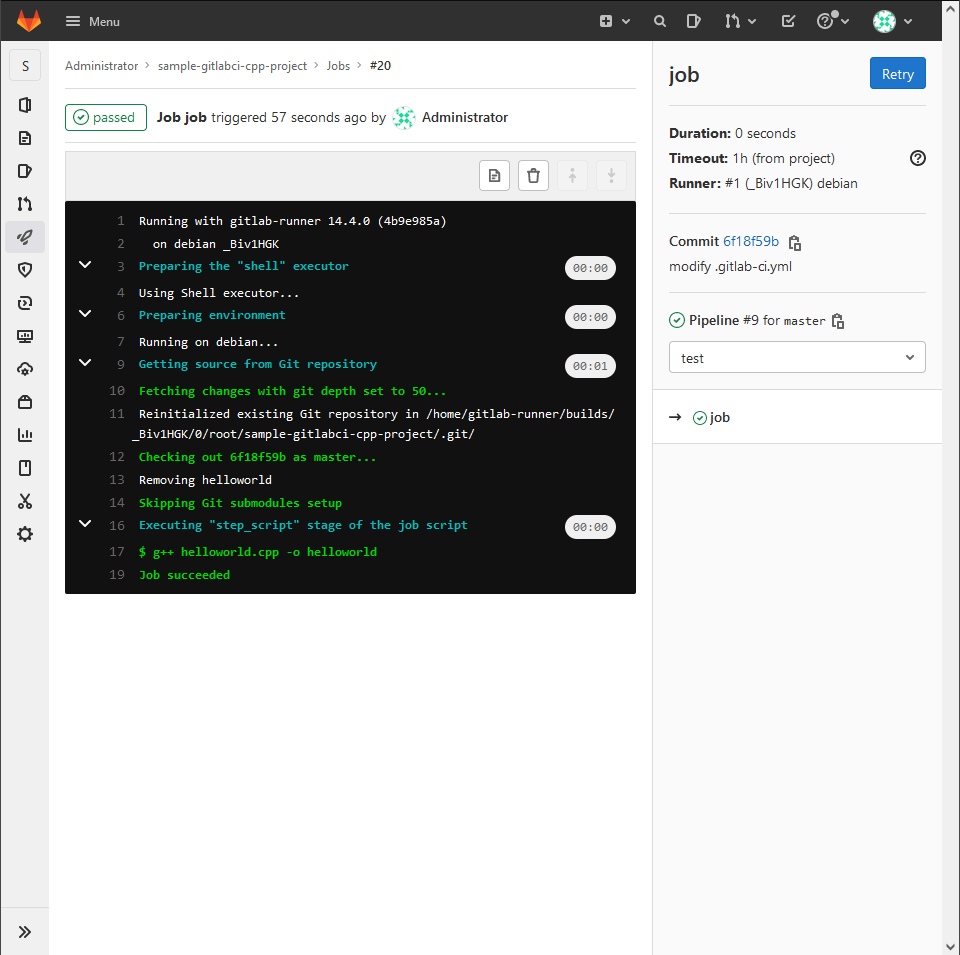




Commit and push the changes to the server:



Check if the pipeline runs successfully or not:



The pipeline runs successfully.

**CONCLUSION**

In the conclusion of the laboratory work, the basic utilities of Git and CI were studied for working with repositories, runners and pipelines; all steps completed successfully.