

**Государственное автономное образовательное
учреждение высшего образования «Московский городской
педагогический университет»**

**Институт цифрового образования
Департамент информатики, управления и технологий**

**Практическая работа № 3
«Rabbit MQ»**

Выполнил: студент ТП-191
Кряжева К.С.

2022 г

Установка Docker.

```
lemp@u20-05: ~  
lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x  
lemp@u20-05:~$ sudo apt update  
[sudo] password for lemp:  
Hit:1 http://ru.archive.ubuntu.com/ubuntu focal InRelease  
Hit:2 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:3 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease  
Hit:4 https://dl.google.com/linux/chrome/deb stable InRelease  
Hit:5 http://deb.anydesk.com all InRelease  
Hit:6 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease  
Hit:7 https://download.docker.com/linux/ubuntu focal InRelease  
Hit:8 http://security.ubuntu.com/ubuntu focal-security InRelease  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
66 packages can be upgraded. Run 'apt list --upgradable' to see them.  
lemp@u20-05:~$ sudo apt install apt-transport-https ca-certificates curl software-properties-common  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
ca-certificates is already the newest version (20211016-20.04.1).  
curl is already the newest version (7.68.0-1ubuntu2.13).  
software-properties-common is already the newest version (0.99.9.8).  
The following packages were automatically installed and are no longer required:  
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi libfwupdplugin1  
  libgstreamer-plugins-bad1.0-0 libva-wayland2  
Use 'sudo apt autoremove' to remove them.  
The following packages will be upgraded:  
  apt-transport-https  
1 upgraded, 0 newly installed, 0 to remove and 65 not upgraded.  
Need to get 1 704 B of archives.  
After this operation, 0 B of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://ru.archive.ubuntu.com/ubuntu focal-updates/universe amd64 apt-transport-https all 2.0.0 [1 704 B]
```

```
lemp@u20-05: ~  
Setting up apt-transport-https (2.0.9) ...  
lemp@u20-05:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -  
OK  
lemp@u20-05:~$ sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu focal stable"  
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease  
Hit:2 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease  
Hit:3 http://deb.anydesk.com all InRelease  
Hit:4 https://download.docker.com/linux/ubuntu focal InRelease  
Get:5 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Err:6 http://ru.archive.ubuntu.com/ubuntu focal InRelease  
  Cannot initiate the connection to ru.archive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable)  
  ) Could not connect to ru.archive.ubuntu.com:80 (213.180.204.183), connection timed out  
Err:7 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease  
  Cannot initiate the connection to ru.archive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable)  
  )  
Err:8 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease  
  Cannot initiate the connection to ru.archive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable)  
  )  
Fetched 114 kB in 30s (3 750 B/s)  
Reading package lists... Done  
W: Failed to fetch http://ru.archive.ubuntu.com/ubuntu/dists/focal/InRelease Cannot initiate the connection to ru.  
rchive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable) Could not connect to ru.archive.ubunt  
.com:80 (213.180.204.183), connection timed out  
W: Failed to fetch http://ru.archive.ubuntu.com/ubuntu/dists/focal-updates/InRelease Cannot initiate the connectio  
n to ru.archive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable)  
W: Failed to fetch http://ru.archive.ubuntu.com/ubuntu/dists/focal-backports/InRelease Cannot initiate the connect  
on to ru.archive.ubuntu.com:80 (2a02:6b8::183). - connect (101: Network is unreachable)  
W: Some index files failed to download. They have been ignored, or old ones used instead.  
lemp@u20-05:~$ sudo apt update  
Hit:1 http://ru.archive.ubuntu.com/ubuntu focal InRelease  
Hit:2 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:3 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease  
Get:10 http://ru.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [391 kB]  
Get:11 http://ru.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-11 Metadata [944 B]  
Get:12 http://ru.archive.ubuntu.com/ubuntu focal-backports/main amd64 DEP-11 Metadata [7 972 B]  
Get:13 http://ru.archive.ubuntu.com/ubuntu focal-backports/universe amd64 DEP-11 Metadata [30,5 kB]  
Fetched 1 045 kB in 1s (1 111 kB/s)  
Reading package lists... Done  
lemp@u20-05:~$ sudo apt update  
Hit:1 http://ru.archive.ubuntu.com/ubuntu focal InRelease  
Hit:2 http://ru.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:3 http://ru.archive.ubuntu.com/ubuntu focal-backports InRelease  
Hit:4 http://deb.anydesk.com all InRelease  
Hit:5 https://dl.google.com/linux/chrome/deb stable InRelease  
Hit:6 http://ppa.launchpad.net/serge-rider/dbeaver-ce/ubuntu focal InRelease  
Hit:7 https://download.docker.com/linux/ubuntu focal InRelease  
Get:8 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]  
Fetched 114 kB in 1s (102 kB/s)  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
65 packages can be upgraded. Run 'apt list --upgradable' to see them.  
lemp@u20-05:~$ apt-cache policy docker-ce  
docker-ce:  
  Installed: 5:20.10.16~3-0~ubuntu-focal  
  Candidate: 5:20.10.18~3-0~ubuntu-focal  
  Version table:  
   5:20.10.18~3-0~ubuntu-focal 500  
     500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages  
   5:20.10.17~3-0~ubuntu-focal 500  
     500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages  
   *** 5:20.10.16~3-0~ubuntu-focal 500  
     500 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages  
     100 /var/lib/dpkg/status
```

```
lemp@u20-05: ~
Processing triggers for systemd (245.4-4ubuntu3.17) ...
lemp@u20-05:~$ sudo systemctl status docker
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset:
   Active: active (running) since Tue 2022-09-27 09:26:08 MSK; 1min 18s ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 45231 (dockerd)
      Tasks: 8
     Memory: 40.7M
    CGroup: /system.slice/docker.service
            └─45231 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/con>

ceH 27 09:26:07 u20-05 dockerd[45231]: time="2022-09-27T09:26:07.831784965+03:0>
ceH 27 09:26:07 u20-05 dockerd[45231]: time="2022-09-27T09:26:07.832012869+03:0>
ceH 27 09:26:07 u20-05 dockerd[45231]: time="2022-09-27T09:26:07.832093671+03:0>
ceH 27 09:26:07 u20-05 dockerd[45231]: time="2022-09-27T09:26:07.832348975+03:0>
ceH 27 09:26:08 u20-05 dockerd[45231]: time="2022-09-27T09:26:08.238457531+03:0>
ceH 27 09:26:08 u20-05 dockerd[45231]: time="2022-09-27T09:26:08.289620032+03:0>
ceH 27 09:26:08 u20-05 dockerd[45231]: time="2022-09-27T09:26:08.311374116+03:0>
ceH 27 09:26:08 u20-05 dockerd[45231]: time="2022-09-27T09:26:08.311650621+03:0>
ceH 27 09:26:08 u20-05 systemd[1]: Started Docker Application Container Engine.
ceH 27 09:26:08 u20-05 dockerd[45231]: time="2022-09-27T09:26:08.360326578+03:0>
lines 1-21/21 (END)...skipping...
● docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
   Active: active (running) since Tue 2022-09-27 09:26:08 MSK; 1min 18s ago
   TriggeredBy: ● docker.socket
     Docs: https://docs.docker.com
    Main PID: 45231 (dockerd)
      Tasks: 8
     Memory: 40.7M

lemp@u20-05:~$ sudo curl -L "https://github.com/docker/compose/releases/download/1.25.0/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
[sudo] password for lemp:
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
  0     0    0     0    0     0      0      0  --:--:-- --:--:-- --:--:--    0
100 16.2M 100 16.2M    0    0 19.8M    0  --:--:-- --:--:-- --:--:-- 60.2M
lemp@u20-05:~$ sudo chmod +x /usr/local/bin/docker-compose
lemp@u20-05:~$ docker-compose --version
docker-compose version 1.25.0, build 0a186604
lemp@u20-05:~$ docker-compose ps
ERROR:
       Can't find a suitable configuration file in this directory or any
       parent. Are you in the right directory?

       Supported filenames: docker-compose.yml, docker-compose.yaml
lemp@u20-05:~$
```

Вариант запуска RabbitMQ в Docker контейнере.

```
lemp@u20-05: ~  
lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x  
lemp@u20-05:~$ sudo docker pull rabbitmq:3.6.14-management  
[sudo] password for lemp:  
3.6.14-management: Pulling from library/rabbitmq  
7bb522d92ff: Pull complete  
d90649c4d84: Pull complete  
a318b914d6c: Pull complete  
edd60f70052: Pull complete  
754361b064d: Pull complete  
024d880d342: Pull complete  
3d775050fc8: Pull complete  
e9f52fff670: Pull complete  
af9c86e1071: Pull complete  
0eef1b61d37: Pull complete  
2f0271a3b5e: Pull complete  
6f959a3f62b: Pull complete  
289a4ffa099: Pull complete  
Digest: sha256:8f4d1feacc3f160a8e426dd33c57b7147c8e863d6283e917e3ce5f790830cca3  
Status: Downloaded newer image for rabbitmq:3.6.14-management  
docker.io/library/rabbitmq:3.6.14-management  
lemp@u20-05:~$ sudo docker volume create rabbitmq_data  
rabbitmq_data  
lemp@u20-05:~$ sudo docker run -d --hostname rabbitmq --log-driver=journald --name rabbitmq -p 5672:5672 -p 15672:15672 -p 15674:15674 -p 25672:25672 -p 61613:61613 -v rabbitmq_data:/var/lib/rabbitmq rabbitmq:3.6.14-management  
ad6f05bdc9dfec4879bc04d0a7c1a0bc562be815302ddcf921e23e06b9b2  
lemp@u20-05:~$ sudo docker container inspect rabbitmq  
.  
{  
  "Id": "6ad6f05bdc9dfec4879bc04d0a7c1a0bc562be815302ddcf921e23e06b9b2",  
  "Created": "2022-09-27T06:47:12.4311679Z",  
  "Path": "docker-entrypoint.sh",  
  "Args": [  
    "rabbitmq-server"  
  ]  
}
```

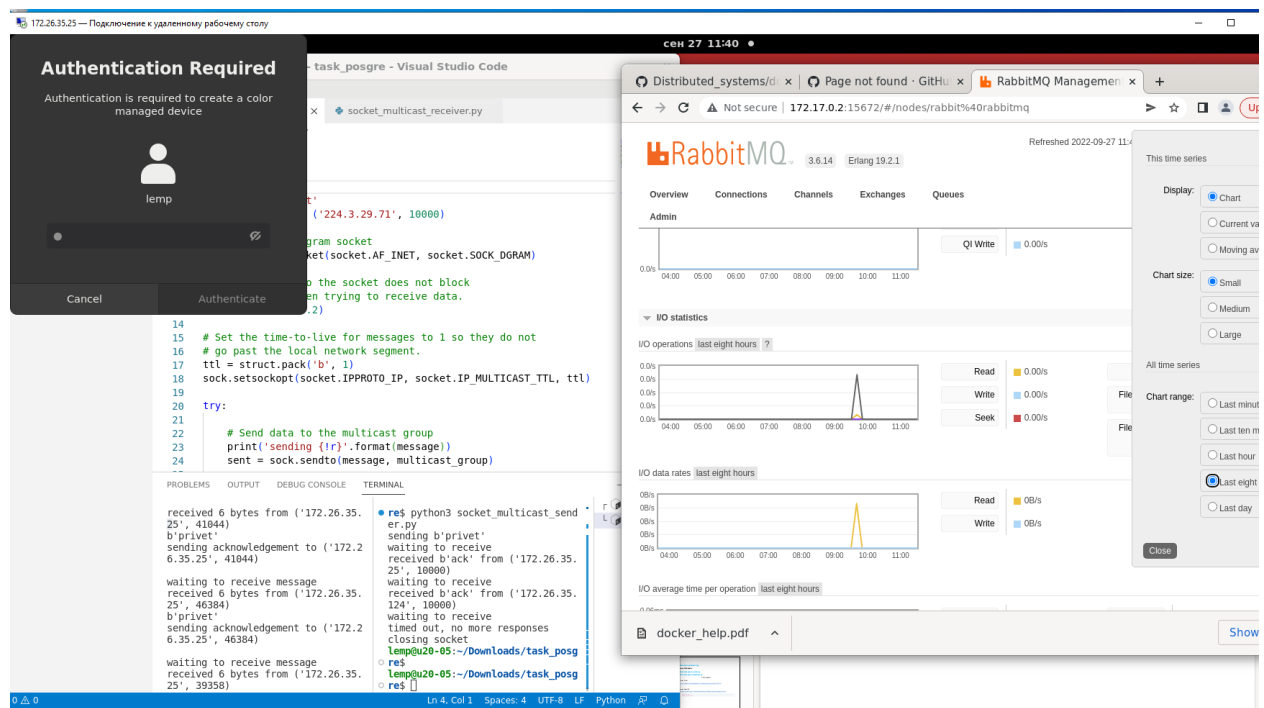
```
lemp@u20-05: ~  
lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x  
"SandboxKey": "/var/run/docker/netns/9adc0d696952",  
"SecondaryIPAddresses": null,  
"SecondaryIPv6Addresses": null,  
"EndpointID": "9bca292595f32d6baac3708d70d8d8f128c202eea9beb1223e4eda5ae4366137",  
"Gateway": "172.17.0.1",  
"GlobalIPv6Address": "",  
"GlobalIPv6PrefixLen": 0,  
"IPAddress": "172.17.0.2",  
"IPPrefixLen": 16,  
"IPv6Gateway": "",  
"MacAddress": "02:42:ac:11:00:02",  
"Networks": {  
  "bridge": {  
    "IPAMConfig": null,  
    "Links": null,  
    "Aliases": null,  
    "NetworkID": "e6ddf0f9d6a92a02cd2da7a6b8bff94ade87e39ef5940517c00beb3828774127",  
    "EndpointID": "9bca292595f32d6baac3708d70d8d8f128c202eea9beb1223e4eda5ae4366137",  
    "Gateway": "172.17.0.1",  
    "IPAddress": "172.17.0.2",  
    "IPPrefixLen": 16,  
    "IPv6Gateway": "",  
    "GlobalIPv6Address": "",  
    "GlobalIPv6PrefixLen": 0,  
    "MacAddress": "02:42:ac:11:00:02",  
    "DriverOpts": null  
  }  
}  
}  
}  
}  
lemp@u20-05:~$ █
```

```
lemp@u20-05: ~  
lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x  
lemp@u20-05:~$ sudo docker ps -a  
[sudo] password for lemp:  
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS  
PORTS  
NAMES  
6ad6f05bdcdb  rabbitmq:3.6.14-management         "docker-entrypoint.s..." 17 minutes ago Up 17 minutes  
4369/tcp, 5671/tcp, 0.0.0.0:5672->5672/tcp, :::5672->5672/tcp, 0.0.0.0:15672->15672/tcp, :::15672->15672/tcp, 0.0.0.0:15674->15674/tcp, :::15674->15674/tcp, 0.0.0.0:25672->25672/tcp, :::25672->25672/tcp, 15671/tcp, 0.0.0.0:61613->61613/tcp, :::61613->61613/tcp  
rabbitmq  
ddfc13b68b99  marcelmittelstaedt/hive_base:latest "/startup.sh"           2 months ago   Exited (255) 3  
weeks ago    0.0.0.0:8088->8088/tcp, :::8088->8088/tcp, 0.0.0.0:9864->9864/tcp, :::9864->9864/tcp, 0.0.0.0:9870->9870/tcp, :::9870->9870/tcp  
hive_base_container  
8f60053a4e04  frolov2022_postgres               "docker-entrypoint.s..." 3 months ago   Exited (0) 2 months ago  
nths ago  
pg_sales  
12e27464aef3  marcelmittelstaedt/spark_base:latest "/startup.sh"           3 months ago   Exited (255) 3  
months ago   4040/tcp, 0.0.0.0:8030-8032->8030-8032/tcp, :::8030-8032->8030-8032/tcp, 0.0.0.0:8088->8088/tcp, :::8088->8088/tcp, 0.0.0.0:8888->8888/tcp, :::8888->8888/tcp, 0.0.0.0:9000->9000/tcp, :::9000->9000/tcp, 0.0.0.0:9864->9864/tcp, :::9864->9864/tcp, 0.0.0.0:9870->9870/tcp, :::9870->9870/tcp, 8042/tcp, 30000-50000/tcp, 0.0.0.0:10000->10000/tcp, :::10000->10000/tcp  
hadoop  
45e25982269e  marcelmittelstaedt/hiveserver_base:latest "/startup.sh"           3 months ago   Exited (137) 3  
months ago  
hiveserver_base_container
```

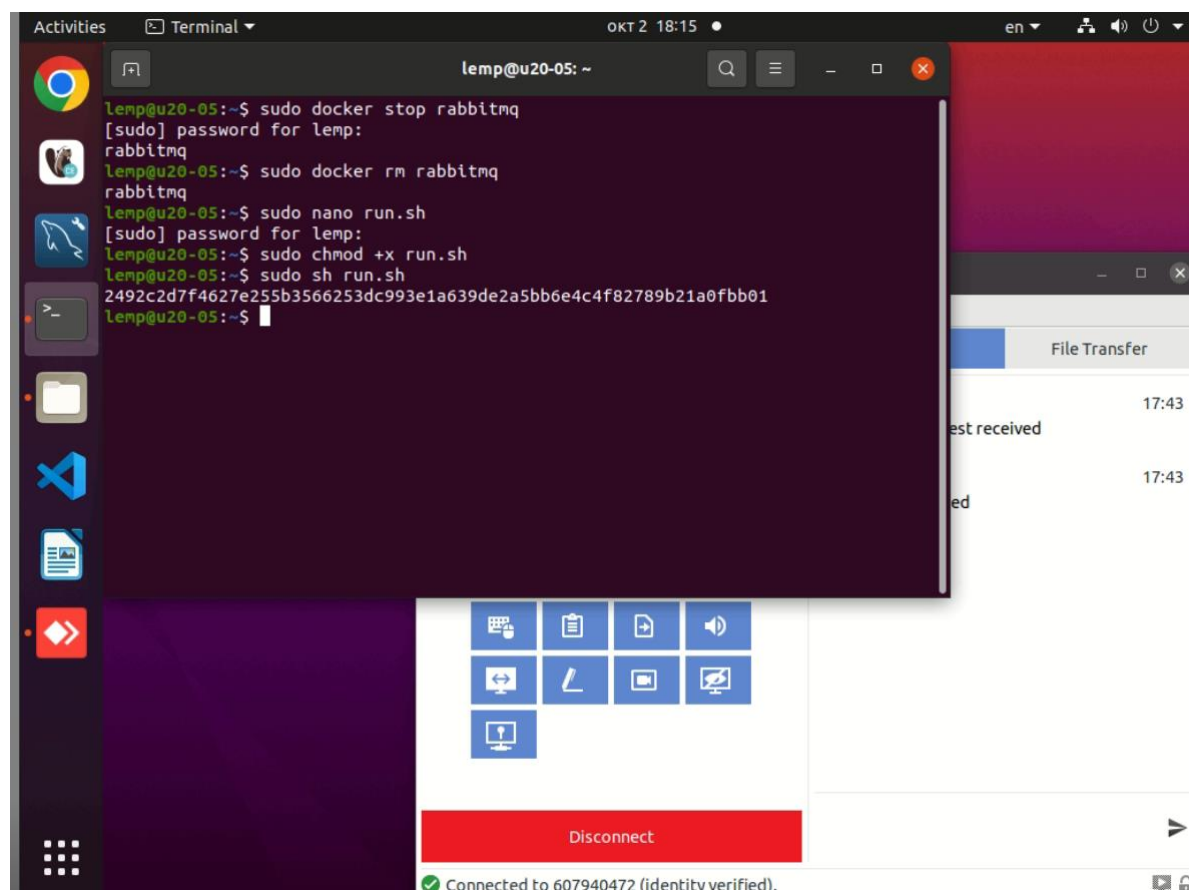
Удаление ненужных контейнеров

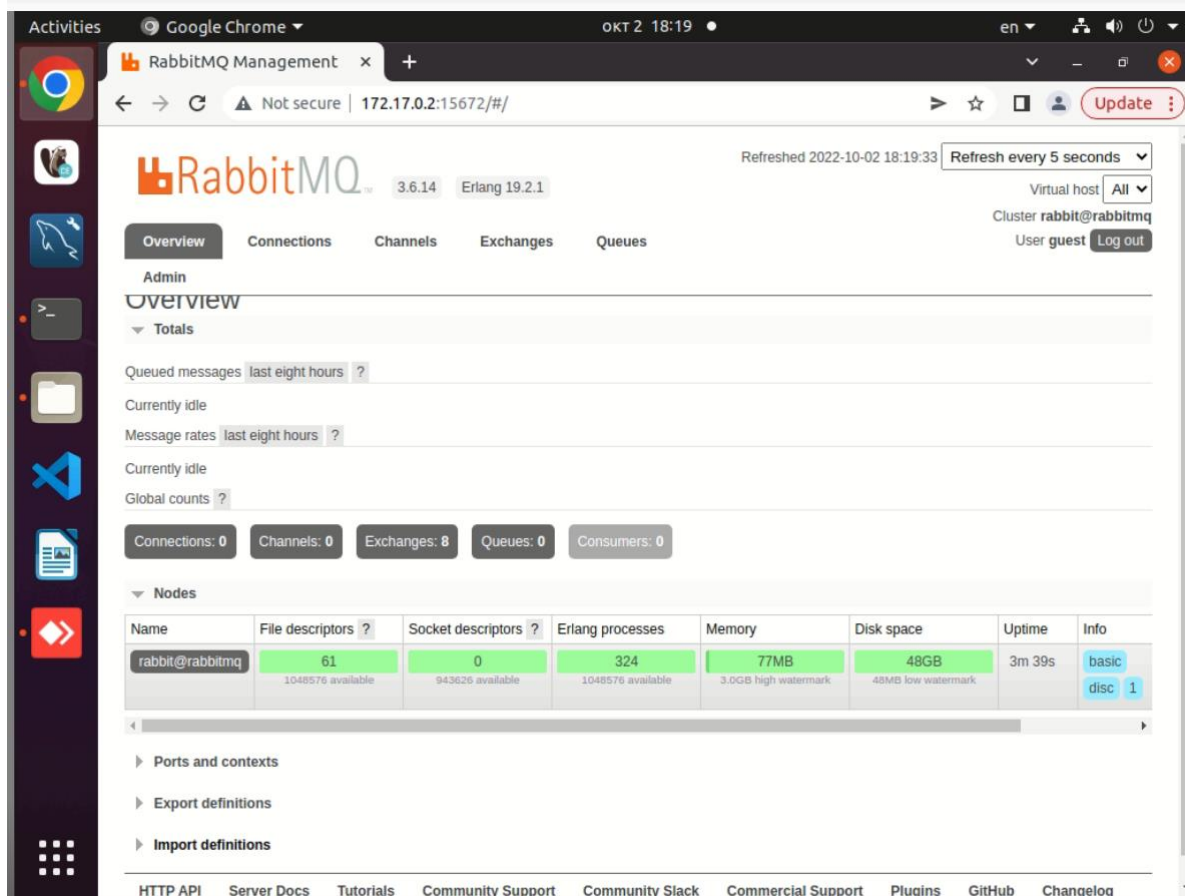
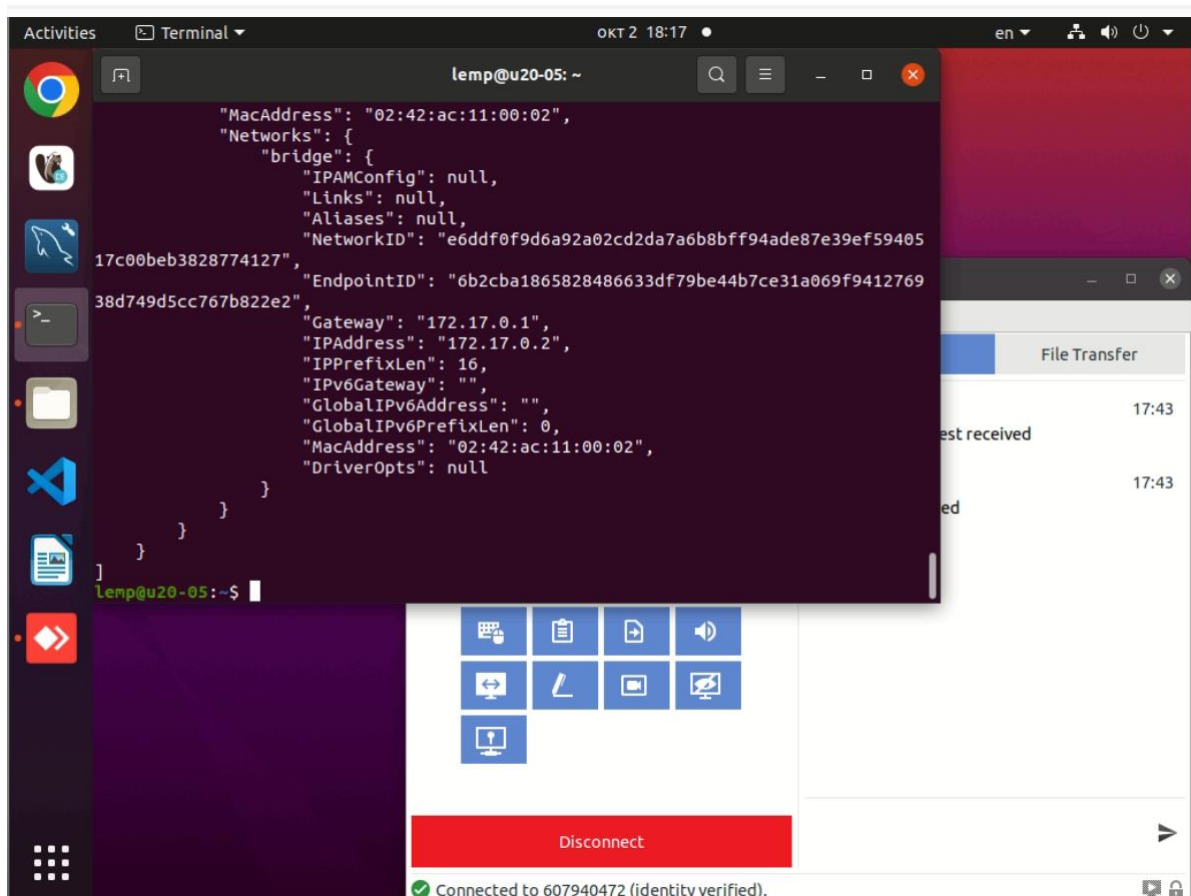
```
lemp@u20-05: ~  
lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x lemp@u20-05: ~ x  
2/tcp, 0.0.0.0:15674->15674/tcp, :::15674->15674/tcp, 0.0.0.0:25672->25672/tcp, :::25672->25672/tcp, 15671/tcp, 0.0.0.0:61613->61613/tcp, :::61613->61613/tcp  
rabbitmq  
ddfc13b68b99  marcelmittelstaedt/hive_base:latest "/startup.sh"           2 months ago   Exited (255) 3  
weeks ago    0.0.0.0:8088->8088/tcp, :::8088->8088/tcp, 0.0.0.0:9864->9864/tcp, :::9864->9864/tcp, 0.0.0.0:9870->9870/tcp, :::9870->9870/tcp  
hive_base_container  
8f60053a4e04  frolov2022_postgres               "docker-entrypoint.s..." 3 months ago   Exited (0) 2 months ago  
nths ago  
pg_sales  
12e27464aef3  marcelmittelstaedt/spark_base:latest "/startup.sh"           3 months ago   Exited (255) 3  
months ago   4040/tcp, 0.0.0.0:8030-8032->8030-8032/tcp, :::8030-8032->8030-8032/tcp, 0.0.0.0:8088->8088/tcp, :::8088->8088/tcp, 0.0.0.0:8888->8888/tcp, :::8888->8888/tcp, 0.0.0.0:9000->9000/tcp, :::9000->9000/tcp, 0.0.0.0:9864->9864/tcp, :::9864->9864/tcp, 0.0.0.0:9870->9870/tcp, :::9870->9870/tcp, 8042/tcp, 30000-50000/tcp, 0.0.0.0:10000->10000/tcp, :::10000->10000/tcp  
hadoop  
45e25982269e  marcelmittelstaedt/hiveserver_base:latest "/startup.sh"           3 months ago   Exited (137) 3  
months ago  
hiveserver_base_container  
lemp@u20-05:~$ sudo docker rm ddfc13b68b99  
ddfc13b68b99  
lemp@u20-05:~$ sudo docker rm 8f60053a4e04  
8f60053a4e04  
lemp@u20-05:~$ sudo docker rm 12e27464aef3  
12e27464aef3  
lemp@u20-05:~$ sudo docker rm 45e25982269e  
45e25982269e  
lemp@u20-05:~$
```

Проверка RabbitMQ.



Другой вариант запуска RabbitMQ.






```
lemp@u20-05:~$ sudo docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED
STATUS	PORTS		
NAMES			
2492c2d7f462	rabbitmq:3.6.14-management	"docker-entrypoint.s..."	5 minutes ago
Up 5 minutes	4369/tcp, 5671/tcp, 0.0.0.0:5672->5672/tcp, :::5672->5672/tcp, 0.0.0.0:15672->15672/tcp, :::15672->15672/tcp, 0.0.0.0:15674->15674/tcp, :::15674->15674/tcp, 0.0.0.0:25672->25672/tcp, :::25672->25672/tcp, 15671/tcp, 0.0.0.0:61613->61613/tcp, :::61613->61613/tcp	rabbitmq	

```
lemp@u20-05:~$
```