Malang, August 25-26, 2020

The 2nd International Seminar on Smart Molecule of Natural Resources (ISSMART) 2020

"Smart Molecule from Natural Resources for Global Pandemic Diseases"

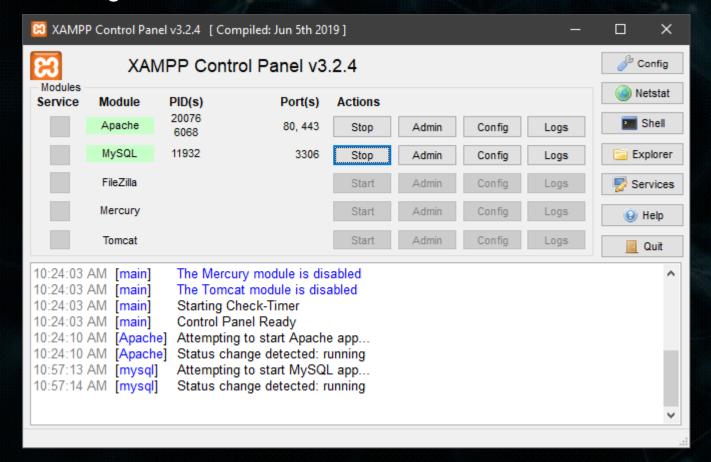## Konfigurasi Local to Public like ngrok dengan AWS Virtual Host Server

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Ir. Sutrisno, M.T.
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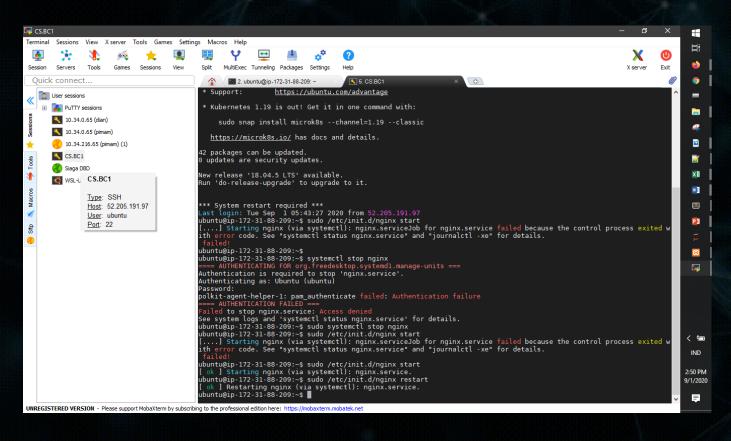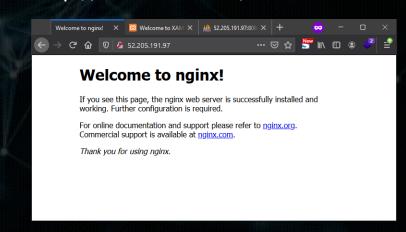# Create like Ngrok

❑ Running XAMPP Anda

Create like Ngrok

☐ Buka MobaXterm, remote AWS Anda sehingga seperti berikut, lalu Install nginx dan start nginx.

- **Cara install nginx:**
  - **sudo apt-get update**
  - **sudo apt-get install nginx**
- **Run nginx:**
  - **sudo /etc/init.d/nginx start**
  - **sudo /etc/init.d/nginx restart**
- **Cek di web server nginx telah jalan:**
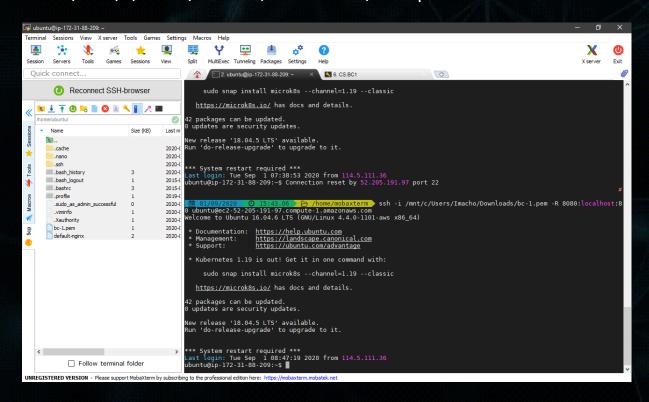
  http://52.205.191.97/

Create like Ngrok

❑ /home/mobaxterm, ketikkan

ssh -i /mnt/c/Users/Imacho/Downloads/bc-1.pem -R 8080:localhost:80 ubuntu@ec2-52-205-191-97.compute-1.amazonaws.com

▪ **Cek di web local telah berjalan di server nginx public:**

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Reverse Tunnel untuk WebApp di Colab dan Running di
VPS EC2-nya AWS

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Konfigurasi SSH Colab using Reverse (1.1)

❑ Instalasi di Google Colab:

```
# configurasi colab utk create reverse ssh ke AWS
os.chdir("/")

#Generate root password
import random, string
password = ''.join(random.choice(string.ascii_letters + string.digits) for i in range(20))
print(password)
password = 'root'

! apt-get install -qq -o=Dpkg::Use-Pty=0 openssh-server > /dev/null
! echo root:$password | chpasswd
! rm -r /var/run/sshd
! mkdir -p /var/run/sshd
! rm -r /root/.ssh
! mkdir -p /root/.ssh

! echo "PermitRootLogin yes" >> /etc/ssh/sshd_config
! echo "LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/lib64-nvidia" >> /root/.bashrc
! echo "export LD_LIBRARY_PATH" >> /root/.bashrc
!/usr/sbin/sshd # will daemonize
!ssh-keygen -f ~/.ssh/id_rsa -t rsa -N ""

# !chmod 0600 /root/.ssh/*
!cp  "/content/drive/My_Drive/Big_Data_App_For_Covid_19/bc-1.pem" ~/.ssh
!chmod 400 ~/.ssh/bc-1.pem
# !chown root:root  ~/.ssh/bc-1.pem

! echo "ssh-
rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQC6x3Po55G1ShdwoDoQ0rtwqcrcX/qsKBCNJTuKAsOidphrFh/oQDCgycd50JLGTQfKgVCebh+BdvqzHdgUSvFRo1Gx6YnSiKQpfW2LMU0a8XeojKVCP+vzoUT5RF
Eg3EZb+GYBFkT5g+fU1Qpw+etFCM0Iwqbiiomn7z3IRiLPBQwbmM5ClmgLnZH4NspqpdOMno/NPqp3cP2SftN4+fMUrIgZR2VOdloxNJfNP76ddYC0kMGt62OJmZ2zAdWXtZmj76jY7wxK9hnNiKN2WPxQ7SZe
+4g9+fcAkI5pdE4SwtUqLa+zgYneI5XBH06acgJSVmQyaFQ/u1S8N3/wnDQV bc-1" >> /root/.ssh/authorized_keys
```

Cara melihat **Public Key** di Computer Local (dlm hal ini adalah AWS dipakai sebagai komputer localnya) → Ada di 1.2

Konfigurasi SSH Colab using Reverse (1.2)

❑ Cara melihat **Public Key** di Computer Local (dlm hal ini adalah AWS dipakai sebagai komputer localnya)

ubuntu@ip-172-31-88-209:~/.ssh$ cat authorized_keys

ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQC6x3Po55G1ShdwoDoQ0rtwqcrcX/qsKBCNJTuKAsOidphrFh/oQDCgycd50JLGTQfKgVCebh+BdvqzHdgUSvFRo1Gx6YnSiKQpfW2LMU0
a8XeojKVCP+vzoUT5RFEg3EZb+GYBFkT5g+fU1Qpw+etFCM0Iwqbiiomn7z3IRiLPBQwbmM5ClmgLnZH4NspqpdOMno/NPqp3cP2SftN4+fMUrIgZR2VOdloxNJfNP76ddYC0kMGt
62OJmZ2zAdWXtZmj76jY7wxK9hnNiKN2WPxQ7SZe+4g9+fcAkI5pdE4SwtUqLa+zgYneI5XBH06acgJSVmQyaFQ/u1S8N3/wnDQV bc-1

Copy paste ke Google **Colab**

```
import os
os.chdir("/")
! echo "                                                          " >> /root/.ssh/authorized_keys
```

Atau dengan, berikut: (dimana pada cell sebelumnya pastikan Anda sudah jalankan `import os` lalu `os.chdir("/")`)

```
%%file ~/.ssh/authorized_keys
```

Ref: https://gist.github.com/shadiakiki1986/4aa8f128d816f31203e05fb8fbc2fabf

Konfigurasi SSH Colab using Reverse (2)

❑ Sebelum menjalankan streamit pada google colab, jalankan dulu perintah remote berikut dari Google Colab

```python
import os
os.chdir("/")

# ini untuk remote, misal dengan software mobaXterm atau lainnya yg sudah di-install di PC/ netbook Anda
# get local machine public IP (di AWS Anda), misal 'ec2-52-205-191-97.compute-1.amazonaws.com' and username, misal 'ubuntu'
!echo "Public URL for local machine:"
# local_puburl = input()
local_puburl = "ec2-52-205-191-97.compute-1.amazonaws.com"
!echo "Username for local machine:"
# local_username = input()
local_username = "ubuntu"
sshcmd = "ssh -i ~/.ssh/bc-1.pem -fN -R 43022:localhost:22 -T -o StrictHostKeyChecking=no $local_username@$local_puburl"
get_ipython().system_raw(sshcmd)

# !echo "Public URL for local machine:"
# local_puburl = input()
# !echo "Username for local machine:"
# local_username = input()
# sshcmd = "ssh -fN -R 8888:localhost:22 -T -o StrictHostKeyChecking=no $local_username@$local_puburl"
# get_ipython().system_raw(sshcmd)

print("""You can ssh into colab VM from the local machine with:
ssh -p 43022 root@localhost

Note that 'root' is the username on the colab VM, not on the local machine
""")
```
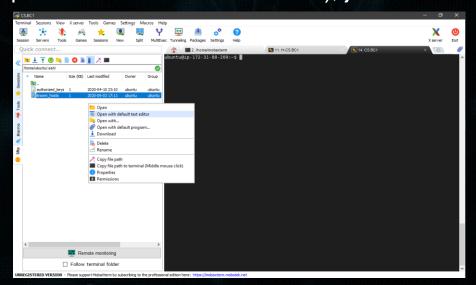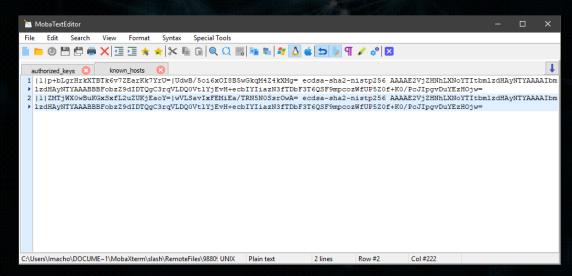
Konfigurasi SSH Colab using Reverse (3)

❑ Lalu, dari Google Colab, jalankan perintah berikut

```
!cat ~/.ssh/known_hosts
```

Out:
```
|1|p+bLgrHrkXTBTk6v7ZEarKk7YrU=|UdwB/5oi6xOI8B5wGkqM4Z4kXMg= ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBFobzZ9dIDTQgC3rqVLDQ0VtlYjEvH+ecbIYIiazN3fTDbF3T6QSF9mpcozWfUP5Z0f+KO/PcJIpgvDuYEzHOjw=
|1|ZMTjWX0wBuKGxSxfL2uZUKjEaoY=|wVLSavIxFEMiEa/TRN5N0SsrOwA= ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBBFobzZ9dIDTQgC3rqVLDQ0VtlYjEvH+ecbIYIiazN3fTDbF3T6QSF9mpcozWfUP5Z0f+KO/PcJIpgvDuYEzHOjw=
```

❑ Lalu copykan hasil keluaran "Out" ke AWS Anda pada "`/home/ubuntu/.ssh/known_hosts`", Klik kanan pada file known_hosts lalu pilih open with default .., lalu paste, lalu save (jika tdk bisa di save, jalankan dulu perintah " chmod 777 ~/.ssh "), jika file belum ada, ketik "touch /home/ubuntu/.ssh/known_hosts"
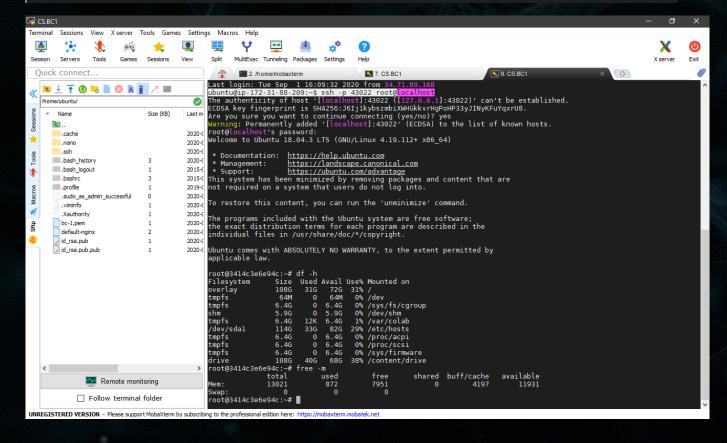
Konfigurasi SSH Colab using Reverse (4)

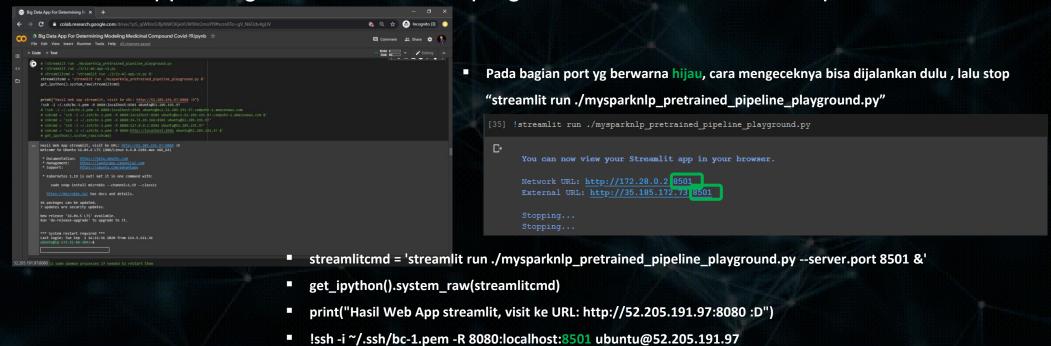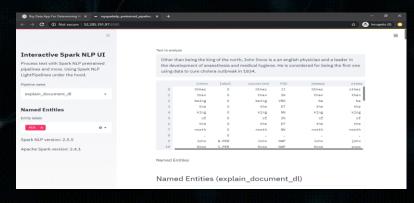❑ Lalu ketikkan "ssh -p 43022 root@localhost", untuk remote Google Colab, berikut hasilnya:

Konfigurasi SSH Colab using Reverse (5)

❑ Buat Web App, dengan ketikkan disamping, lalu buka browser Anda pada url visit :D

- Pada bagian port yg berwarna hijau, cara mengeceknya bisa dijalankan dulu , lalu stop "streamlit run ./mysparknlp_pretrained_pipeline_playground.py"

```
[35] !streamlit run ./mysparknlp_pretrained_pipeline_playground.py

        You can now view your Streamlit app in your browser.

        Network URL: http://172.28.0.2:8501
        External URL: http://35.185.172.73:8501

        Stopping...
        Stopping...
```

- streamlitcmd = 'streamlit run ./mysparknlp_pretrained_pipeline_playground.py --server.port 8501 &'
- get_ipython().system_raw(streamlitcmd)
- print("Hasil Web App streamlit, visit ke URL: http://52.205.191.97:8080 :D")
- !ssh -i ~/.ssh/bc-1.pem -R 8080:localhost:8501 ubuntu@52.205.191.97

Thank You

#Lab. Computational Intelligence (a.k.a KC) Filkom UB
#Fight to Covid-19

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