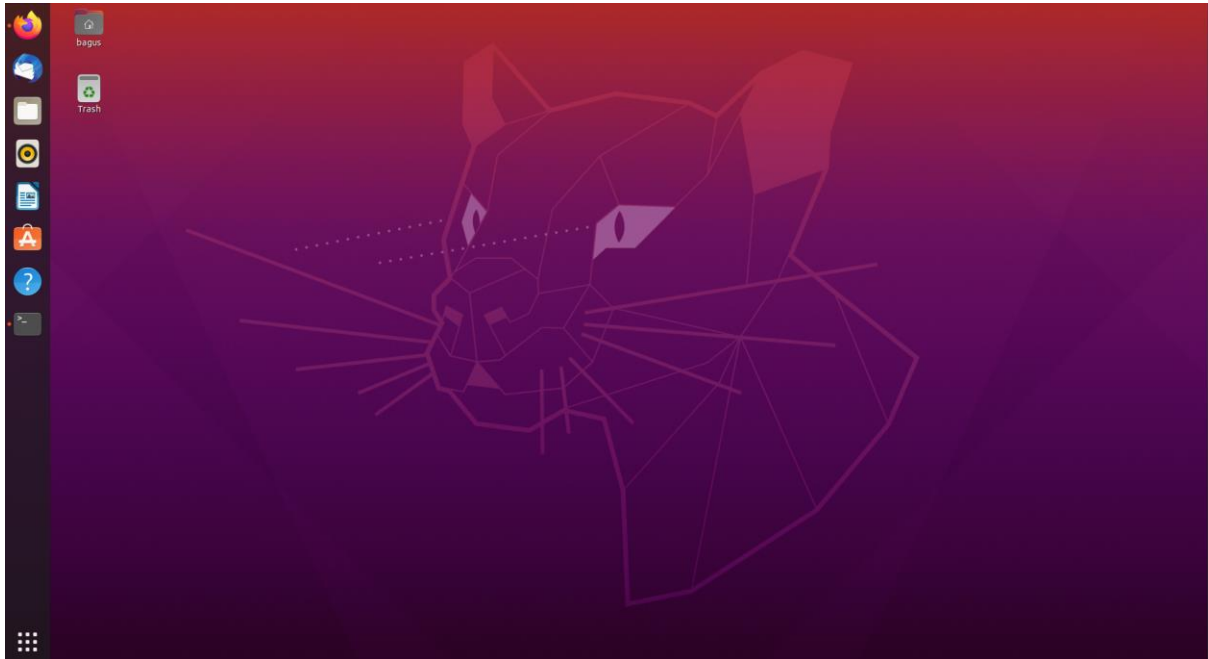
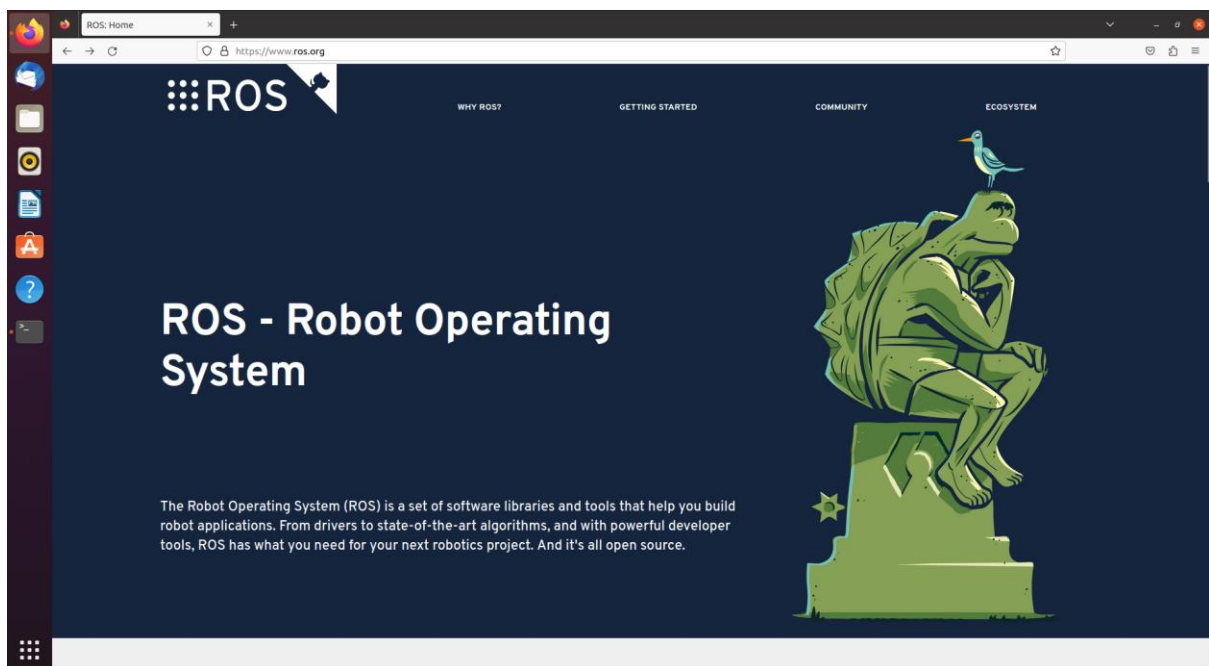


Nama : Bagus Mahardika Santoso

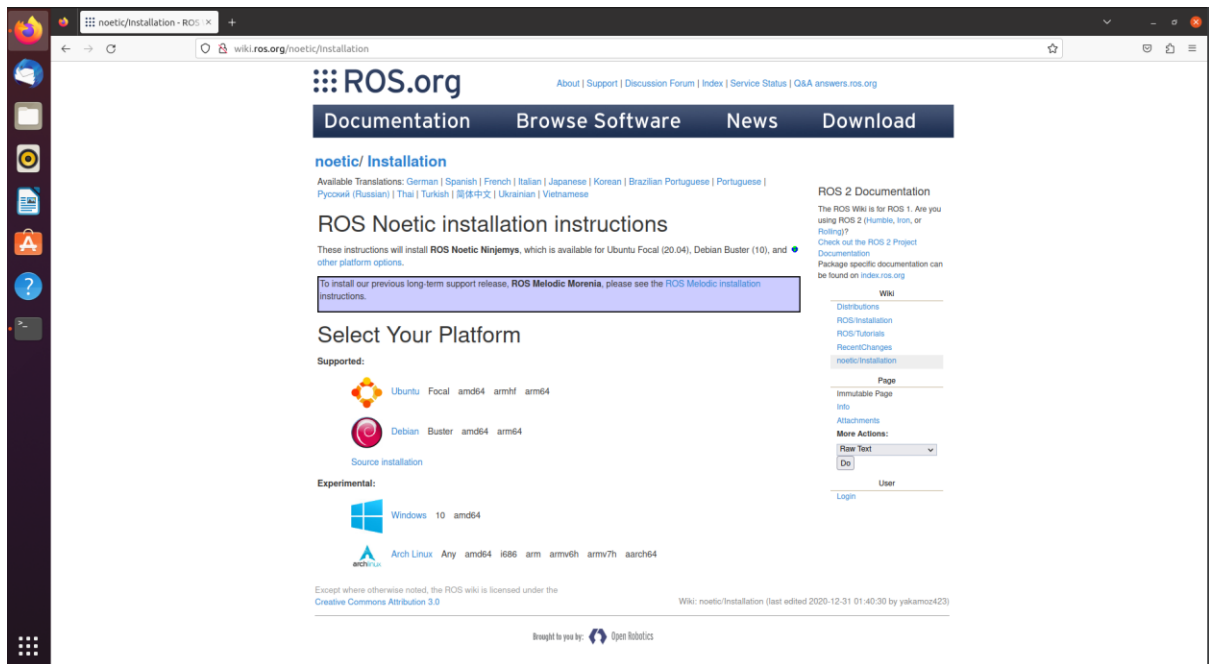
NIM : 1103204028



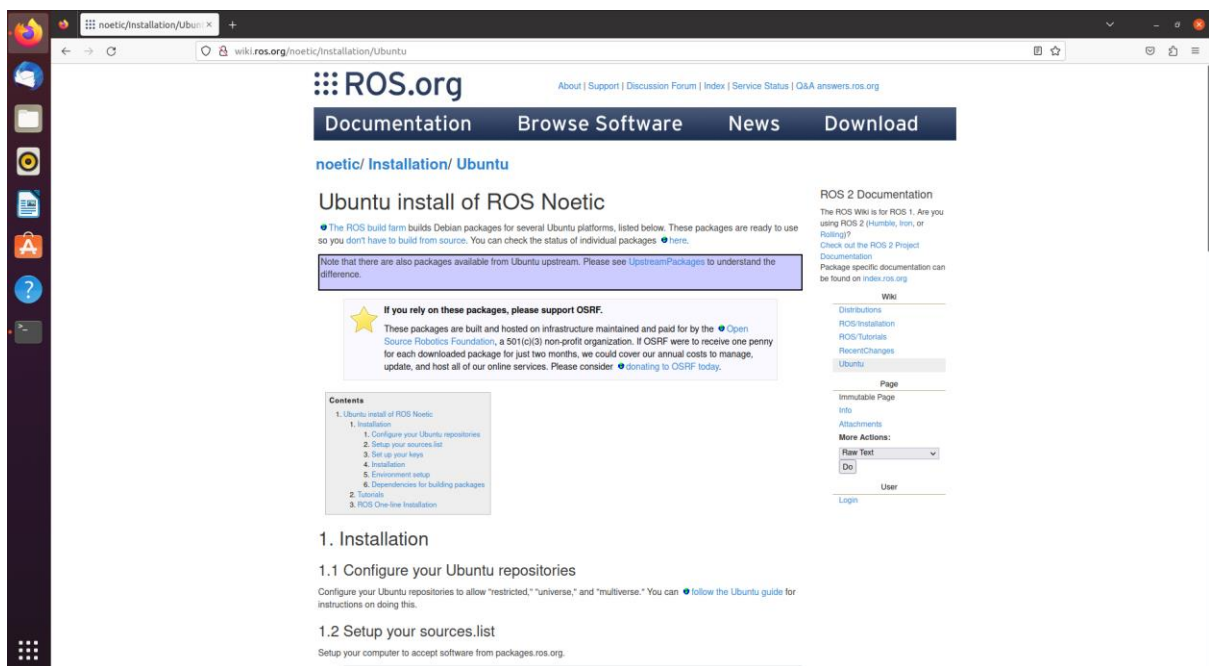
Pertama, kita akan menggunakan Ubuntu 20.04 untuk melakukan installasi ROS yang diinginkan



Setelah itu membuka web browser dan mengetik "ROS" dan membuka web page yang paling atas, Akan keluar seperti atas ini. Setelah itu melakukan scroll kebawah dan mengklik "learn more"



Kemudian di page ini kita akan memilih Ubuntu untuk platform nya



Setelah itu kita tinggal mengikuti perintah yang ada pada web page ini.

```
roscore http://bagus-VirtualBox:11311/
Setting up ros-noetic-laser-assembler (1.7.0-1focal.20231013.193007) ...
Setting up ros-noetic-rviz-plugin-tutorials (0.11.0-1focal.20231013.202644) ...
Setting up ros-noetic-rqt-reconfigure (0.5.5-1focal.20231002.220157) ...
Setting up ros-noetic-rqt-robot-dashboard (0.5.0-1focal.20231013.201734) ...
Setting up ros-noetic-visualization-tutorials (0.11.0-1focal.20231013.203128) ..
.
Setting up ros-noetic-ros-core (1.5.0-1focal.20230620.191002) ...
Setting up ros-noetic-geometry (1.13.2-1focal.20231013.195211) ...
Setting up ros-noetic-rqt-srv (0.4.9-1focal.20231002.220529) ...
Setting up ros-noetic-rqt-action (0.4.9-1focal.20231002.220459) ...
Setting up ros-noetic-urdf-sim-tutorial (0.5.1-1focal.20231030.155841) ...
Setting up ros-noetic-gazebo-plugins (2.9.2-1focal.20231013.201259) ...
Setting up ros-noetic-rqt-launch (0.4.9-1focal.20231002.220159) ...
Setting up ros-noetic-gazebo-ros-pkg (2.9.2-1focal.20231013.204337) ...
Setting up ros-noetic-laser-pipeline (1.6.4-1focal.20231013.195024) ...
Setting up ros-noetic-ros-base (1.5.0-1focal.20230620.194110) ...
Setting up ros-noetic-rqt-robot-plugins (0.5.0-1focal.20231013.203125) ...
Setting up ros-noetic-robot (1.5.0-1focal.20231013.201043) ...
Setting up ros-noetic-rqt-common-plugins (0.4.9-1focal.20231002.220604) ...
Setting up ros-noetic-perception (1.5.0-1focal.20231013.201904) ...
Setting up ros-noetic-viz (1.5.0-1focal.20231013.203202) ...
Setting up ros-noetic-desktop (1.5.0-1focal.20231013.203245) ...
Setting up ros-noetic-simulators (1.5.0-1focal.20231013.204440) ...
Setting up ros-noetic-desktop-full (1.5.0-1focal.20231030.100753) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
bagus@bagus-VirtualBox:~$ source /opt/ros/noetic/setup.bash
bagus@bagus-VirtualBox:~$ roscore
... logging to /home/bagus/.ros/log/bd732b3a-abe-11ee-920d-5b2d19dca867/roslaunch-bagus-VirtualBox-29673.log
Checking log directory for disk usage. This may take a while.
Press Ctrl-C to interrupt
Done checking log file disk usage. Usage is <1GB.

started roslaunch server http://bagus-VirtualBox:33337/
ros_comm version 1.16.0

SUMMARY
=====
PARAMETERS
 * /roslistro: noetic
 * /rosversion: 1.16.0

NODES

auto-starting new master
process[master]: started with pid [29683]
ROS_MASTER_URI=http://bagus-VirtualBox:11311/

setting /run_id to bd732b3a-abe-11ee-920d-5b2d19dca867
process[roscout-1]: started with pid [29693]
started core service [/roscout]
```

Setelah selesai mengikuti perintah yang ada pada web page tadi, hasil terakhirnya akan seperti ini.