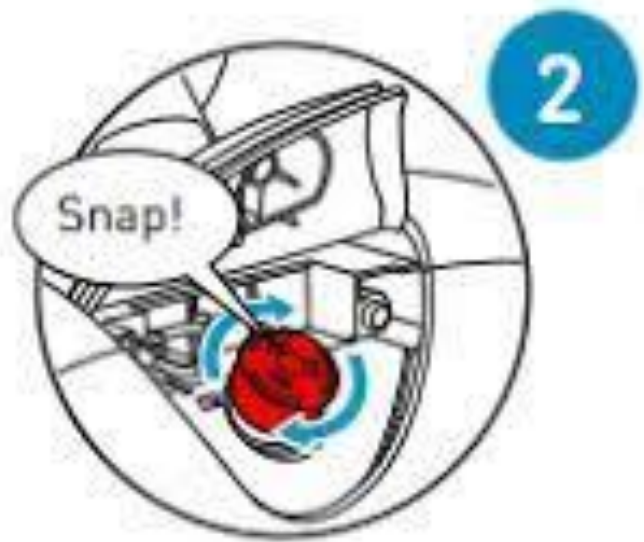


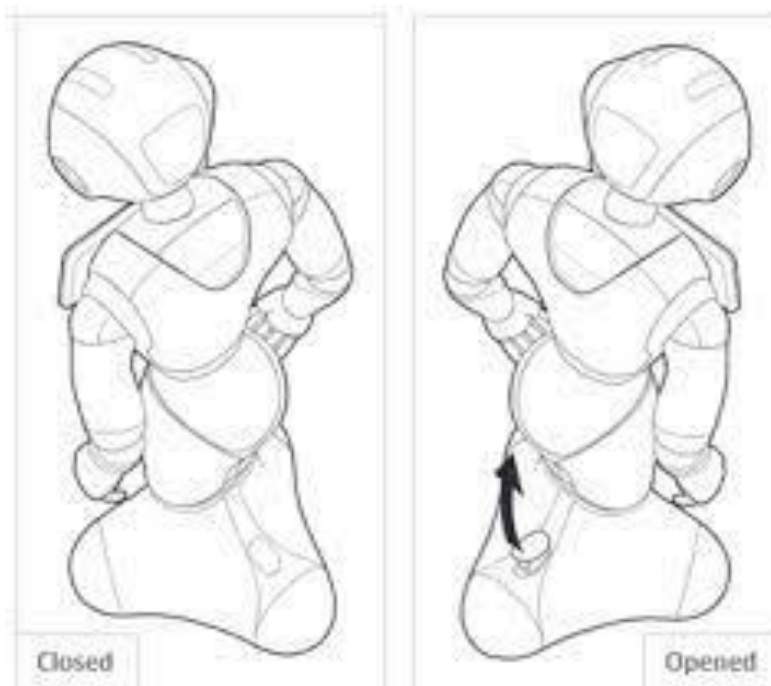
**Manual de uso del Control Remoto Web de SinfonIA para Pepper**

**SinfonIA Interface – 2023**

1. Revisar que el botón de parada de emergencia del robot, en caso de que este oprimido, girarlo como muestra la imagen:



2. Si no se quiere que el robot se mueva o alguien lo va a transportar, levantar el puerto de carga/freno:

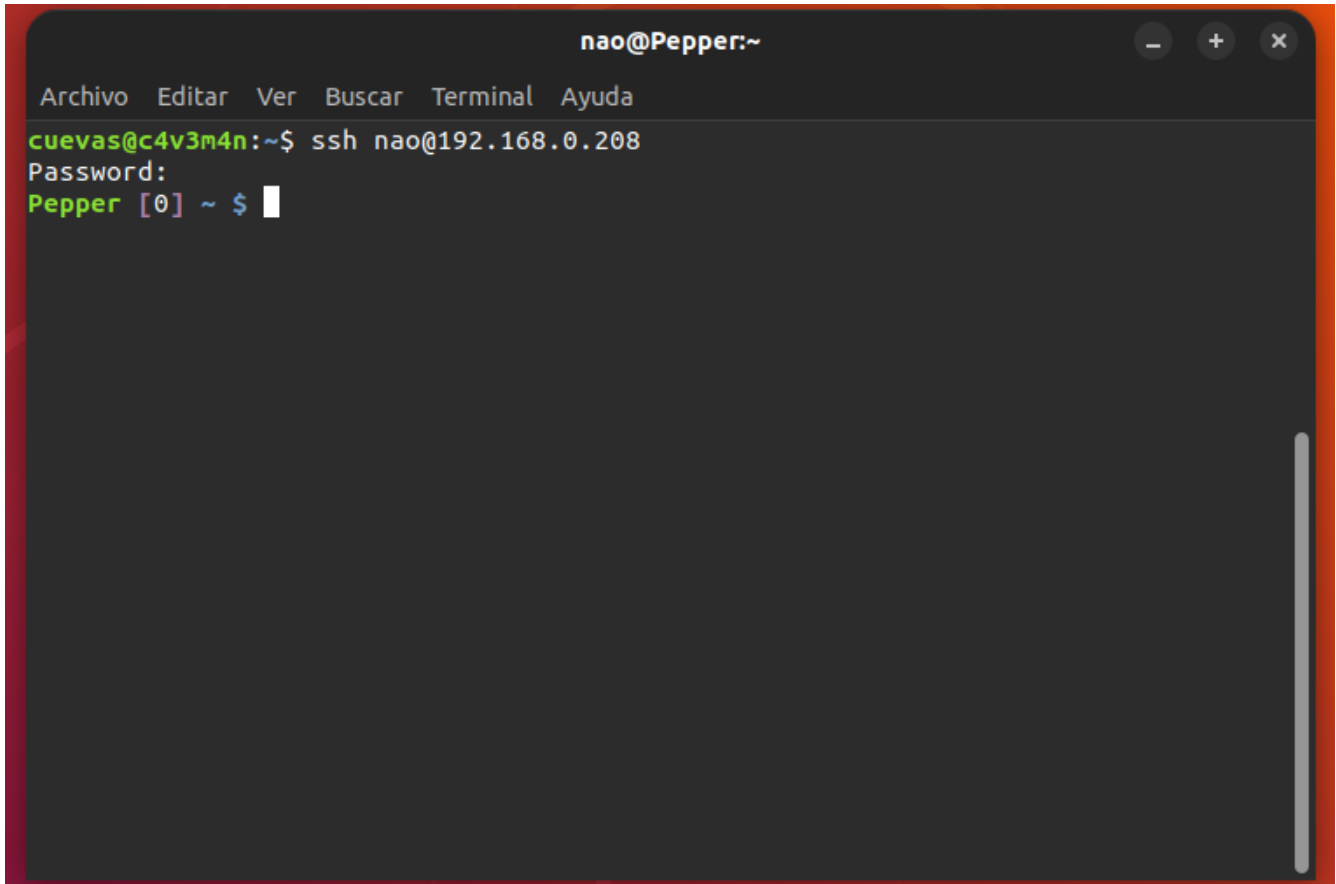


3. Encender el robot con un toque y esperar que se encienda completamente:



4. Una vez este se encienda revisar la ip del robot oprimiendo nuevamente el botón de encendido.

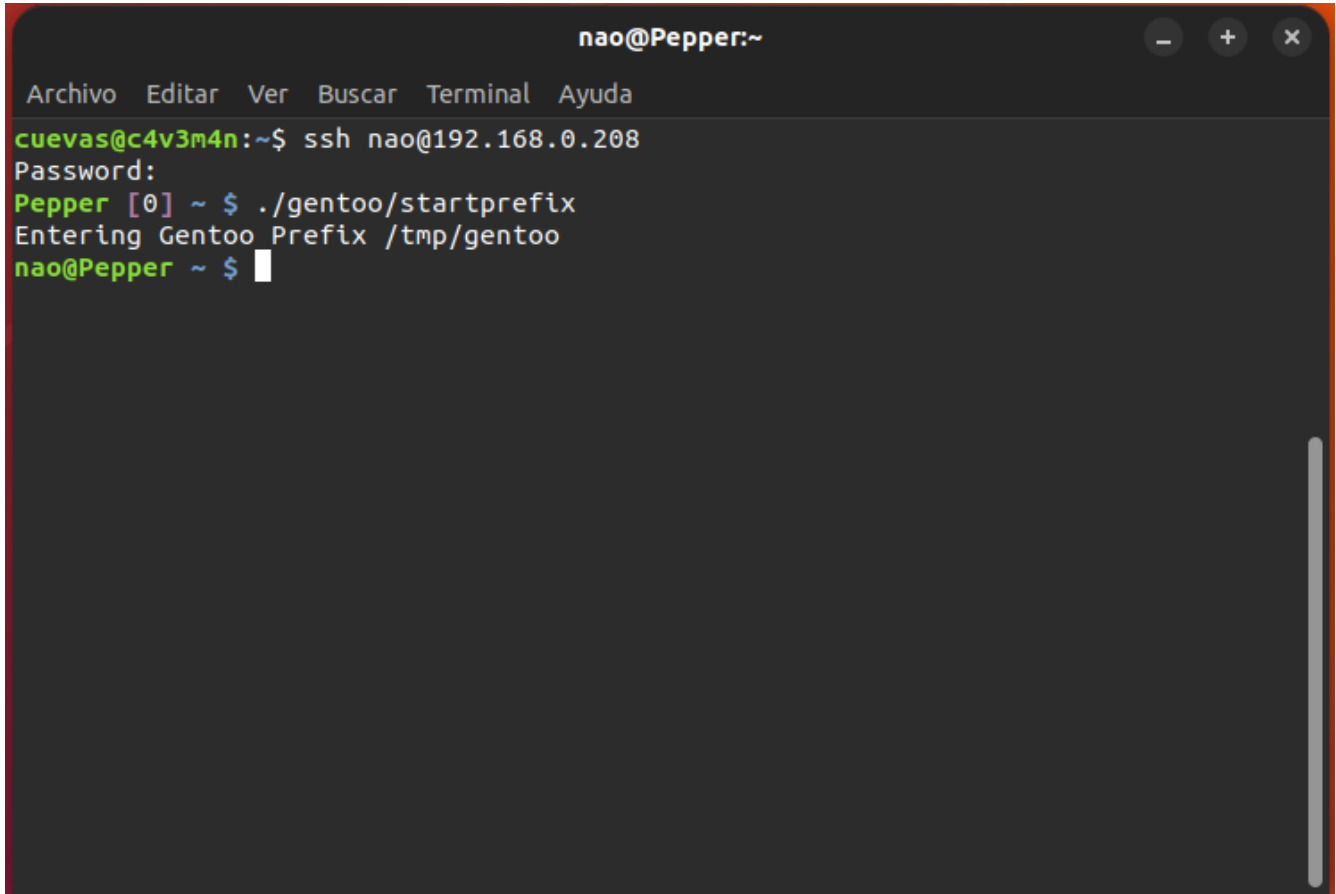
5. Desde la consola en un computador conectarse al robot utilizando ssh y la ip del robot como se ve abajo (192.168.0.208 se reemplazaría con la ip del robot):



```
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
cuevas@c4v3m4n:~$ ssh nao@192.168.0.208  
Password:  
Pepper [0] ~ $
```

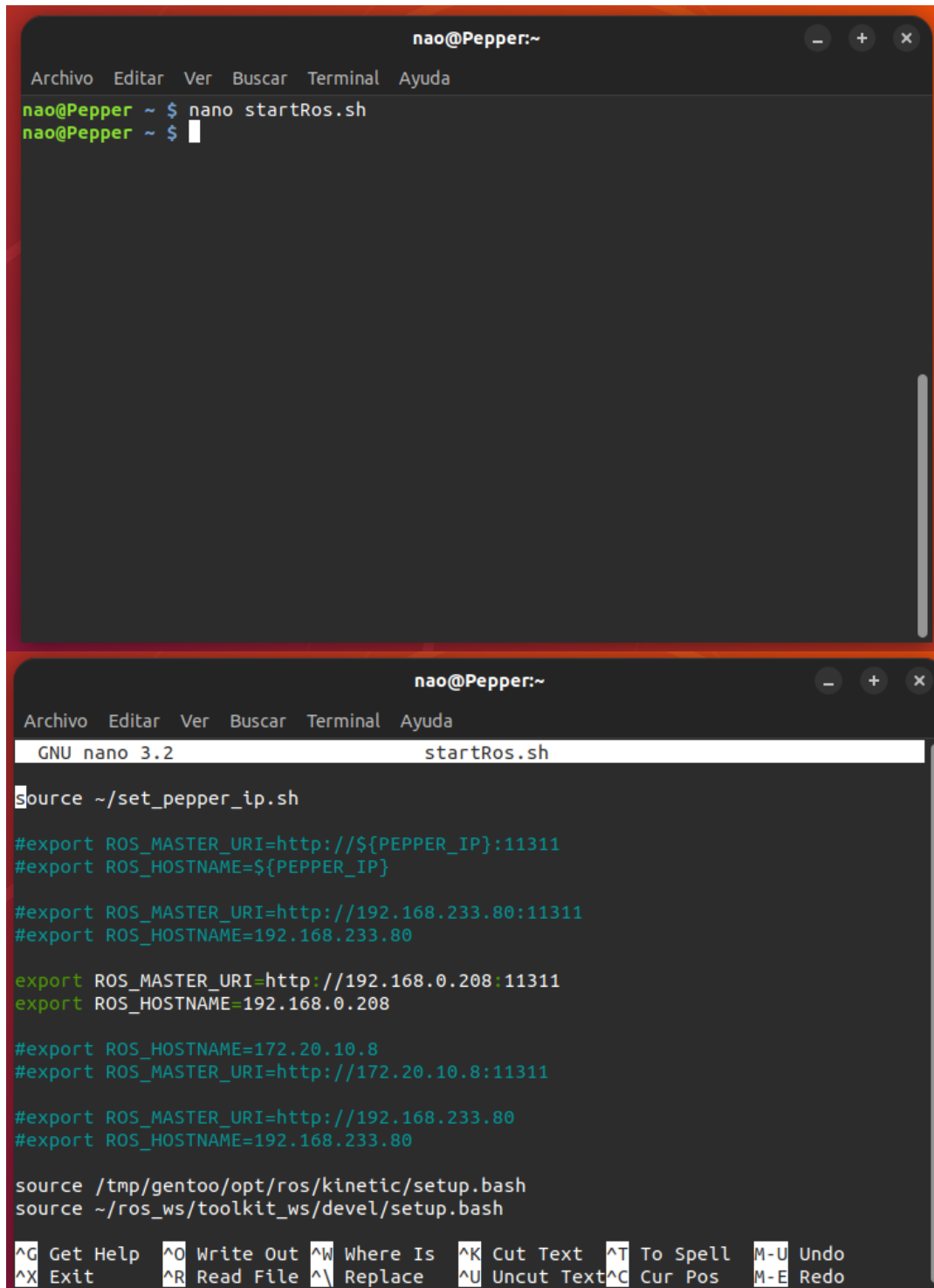
The image shows a terminal window titled "nao@Pepper:~". The window has a menu bar with "Archivo", "Editar", "Ver", "Buscar", "Terminal", and "Ayuda". The terminal content shows a user "cuevas@c4v3m4n" at a prompt "~\$ " typing the command "ssh nao@192.168.0.208". The prompt changes to "Password:" and then to "Pepper [0] ~ \$" after the connection is established. A vertical scrollbar is visible on the right side of the terminal window.

6. Iniciar el prefijo para gentoo (a veces al iniciar el prefijo se queda en la carpeta de archivos temporales, si esto sucede usar cd para volver al inicio):

A terminal window titled 'nao@Pepper:~' with standard window controls (minimize, maximize, close) in the top right corner. The menu bar includes 'Archivo', 'Editar', 'Ver', 'Buscar', 'Terminal', and 'Ayuda'. The terminal content shows a user 'cuevas@c4v3m4n' connecting via SSH to 'nao@192.168.0.208'. After entering the password, the user runs './gentoo/startprefix'. The terminal output shows 'Entering Gentoo Prefix /tmp/gentoo' and the prompt changes to 'nao@Pepper ~ \$' with a cursor. A vertical scrollbar is visible on the right side of the terminal window.

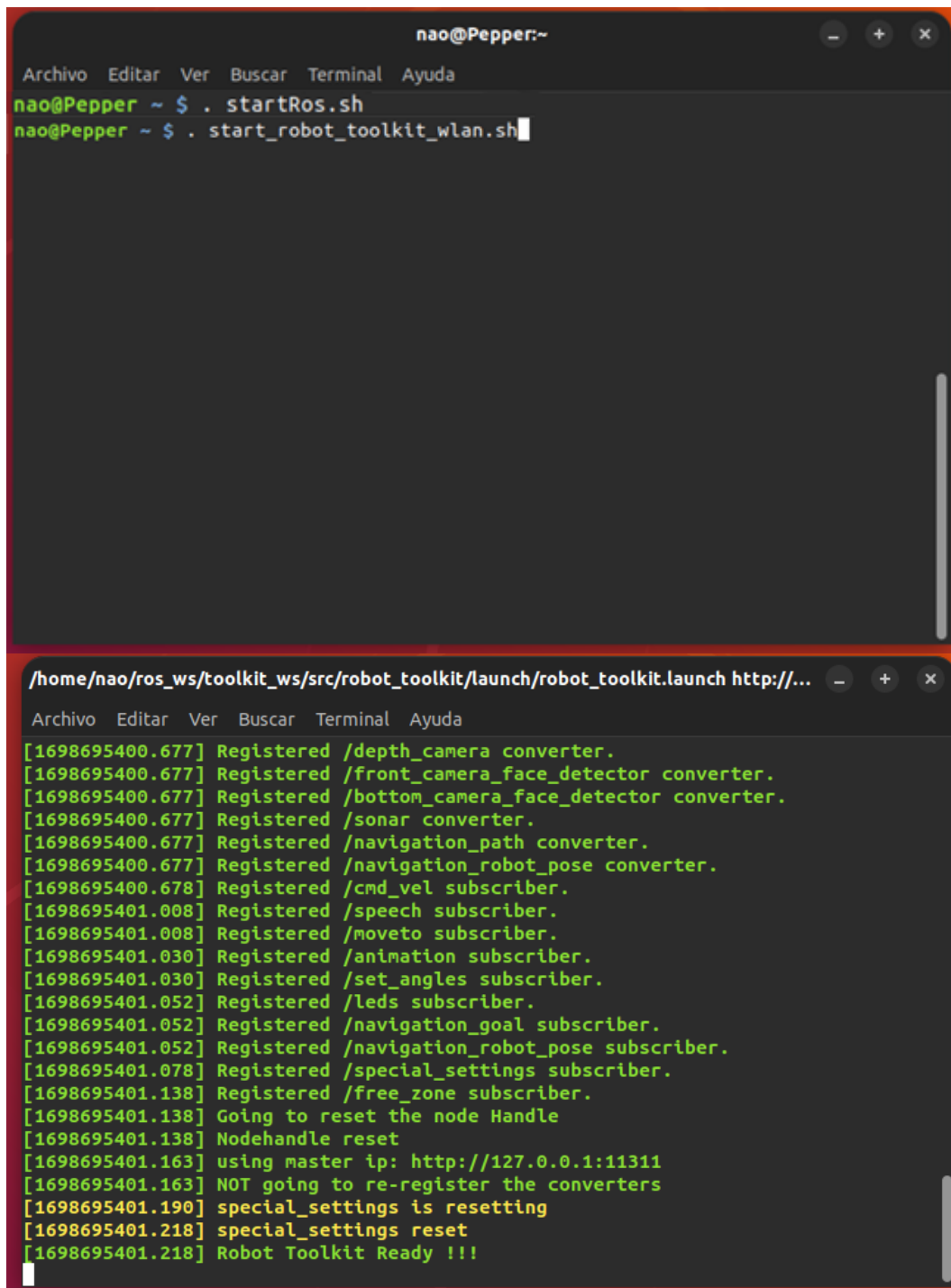
```
nao@Pepper:~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
cuevas@c4v3m4n:~$ ssh nao@192.168.0.208  
Password:  
Pepper [0] ~ $ ./gentoo/startprefix  
Entering Gentoo Prefix /tmp/gentoo  
nao@Pepper ~ $
```

7. Revisar IP del toolkit (las líneas en las que se realizan exports deben tener la ip del ROBOT) y salir con CTRL+X:



```
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
nao@Pepper ~ $ nano startRos.sh  
nao@Pepper ~ $  
  
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
GNU nano 3.2 startRos.sh  
source ~/set_pepper_ip.sh  
  
#export ROS_MASTER_URI=http://{PEPPER_IP}:11311  
#export ROS_HOSTNAME={PEPPER_IP}  
  
#export ROS_MASTER_URI=http://192.168.233.80:11311  
#export ROS_HOSTNAME=192.168.233.80  
  
export ROS_MASTER_URI=http://192.168.0.208:11311  
export ROS_HOSTNAME=192.168.0.208  
  
#export ROS_HOSTNAME=172.20.10.8  
#export ROS_MASTER_URI=http://172.20.10.8:11311  
  
#export ROS_MASTER_URI=http://192.168.233.80  
#export ROS_HOSTNAME=192.168.233.80  
  
source /tmp/gentoo/opt/ros/kinetic/setup.bash  
source ~/ros_ws/toolkit_ws/devel/setup.bash  
  
^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^T To Spell M-U Undo  
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^C Cur Pos M-E Redo
```

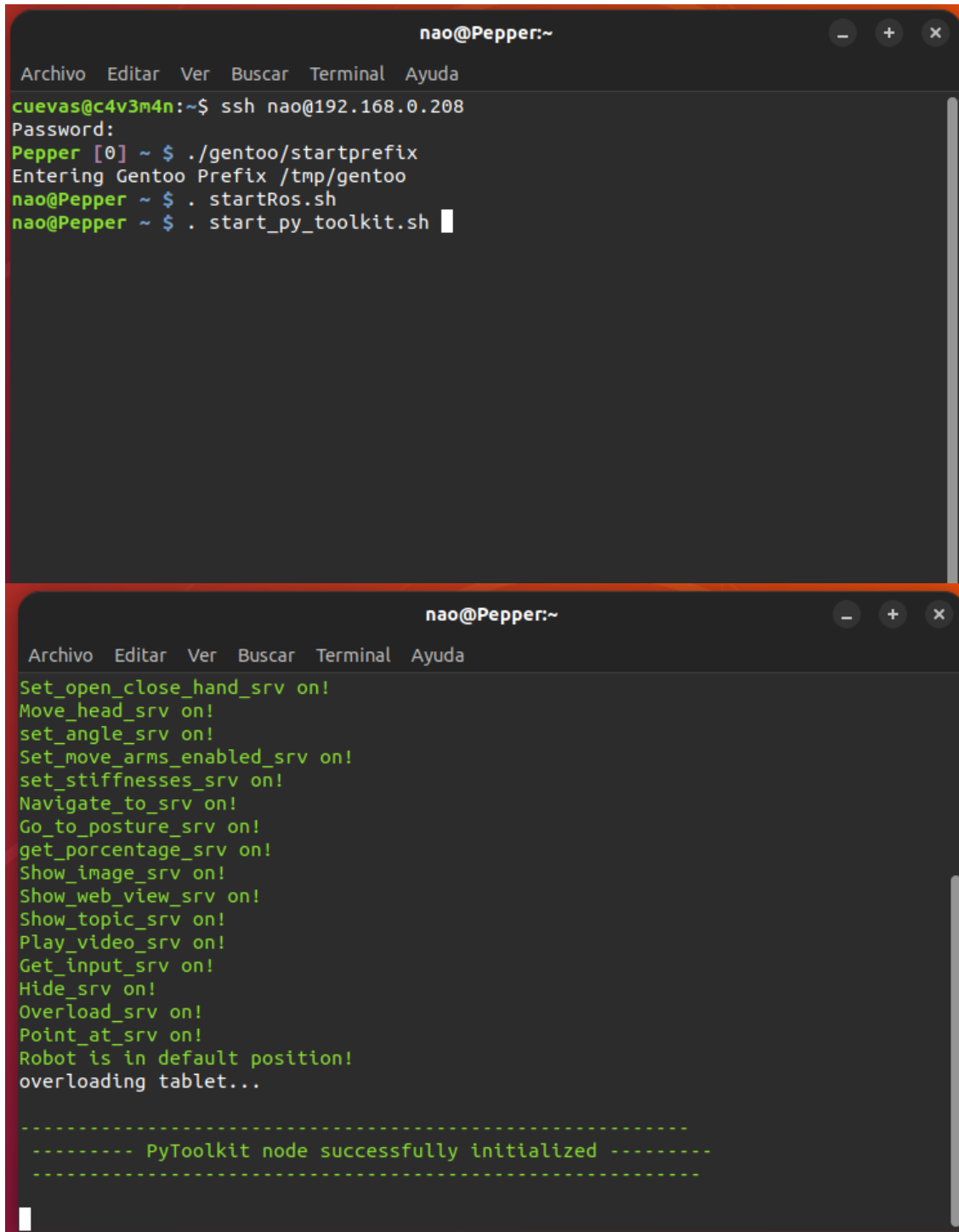
8. . Ejecutar startRos e iniciar el toolkit:



The image shows two terminal windows. The top window, titled 'nao@Pepper:~', shows the execution of two commands: `. startRos.sh` and `. start_robot_toolkit_wlan.sh`. The bottom window, titled `/home/nao/ros_ws/toolkit_ws/src/robot_toolkit/launch/robot_toolkit.launch http://...`, displays a series of log messages indicating the successful registration of various ROS nodes and subscribers, followed by a reset of the node handle and the robot toolkit.

```
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
nao@Pepper ~ $ . startRos.sh  
nao@Pepper ~ $ . start_robot_toolkit_wlan.sh  
  
/home/nao/ros_ws/toolkit_ws/src/robot_toolkit/launch/robot_toolkit.launch http://...  
Archivo Editar Ver Buscar Terminal Ayuda  
[1698695400.677] Registered /depth_camera converter.  
[1698695400.677] Registered /front_camera_face_detector converter.  
[1698695400.677] Registered /bottom_camera_face_detector converter.  
[1698695400.677] Registered /sonar converter.  
[1698695400.677] Registered /navigation_path converter.  
[1698695400.677] Registered /navigation_robot_pose converter.  
[1698695400.678] Registered /cmd_vel subscriber.  
[1698695401.008] Registered /speech subscriber.  
[1698695401.008] Registered /moveto subscriber.  
[1698695401.030] Registered /animation subscriber.  
[1698695401.030] Registered /set_angles subscriber.  
[1698695401.052] Registered /leds subscriber.  
[1698695401.052] Registered /navigation_goal subscriber.  
[1698695401.052] Registered /navigation_robot_pose subscriber.  
[1698695401.078] Registered /special_settings subscriber.  
[1698695401.138] Registered /free_zone subscriber.  
[1698695401.138] Going to reset the node Handle  
[1698695401.138] Nodehandle reset  
[1698695401.163] using master ip: http://127.0.0.1:11311  
[1698695401.163] NOT going to re-register the converters  
[1698695401.190] special_settings is resetting  
[1698695401.218] special_settings reset  
[1698695401.218] Robot Toolkit Ready !!!
```

9. En otra terminal conectarse usando ssh (pasos 5 y 6)
10. Ejecutar startRos e iniciar el pyToolkit (El robot se agacha y se vuelve a levantar, en la tableta flashea un texto y luego se pone el logo de la universidad):

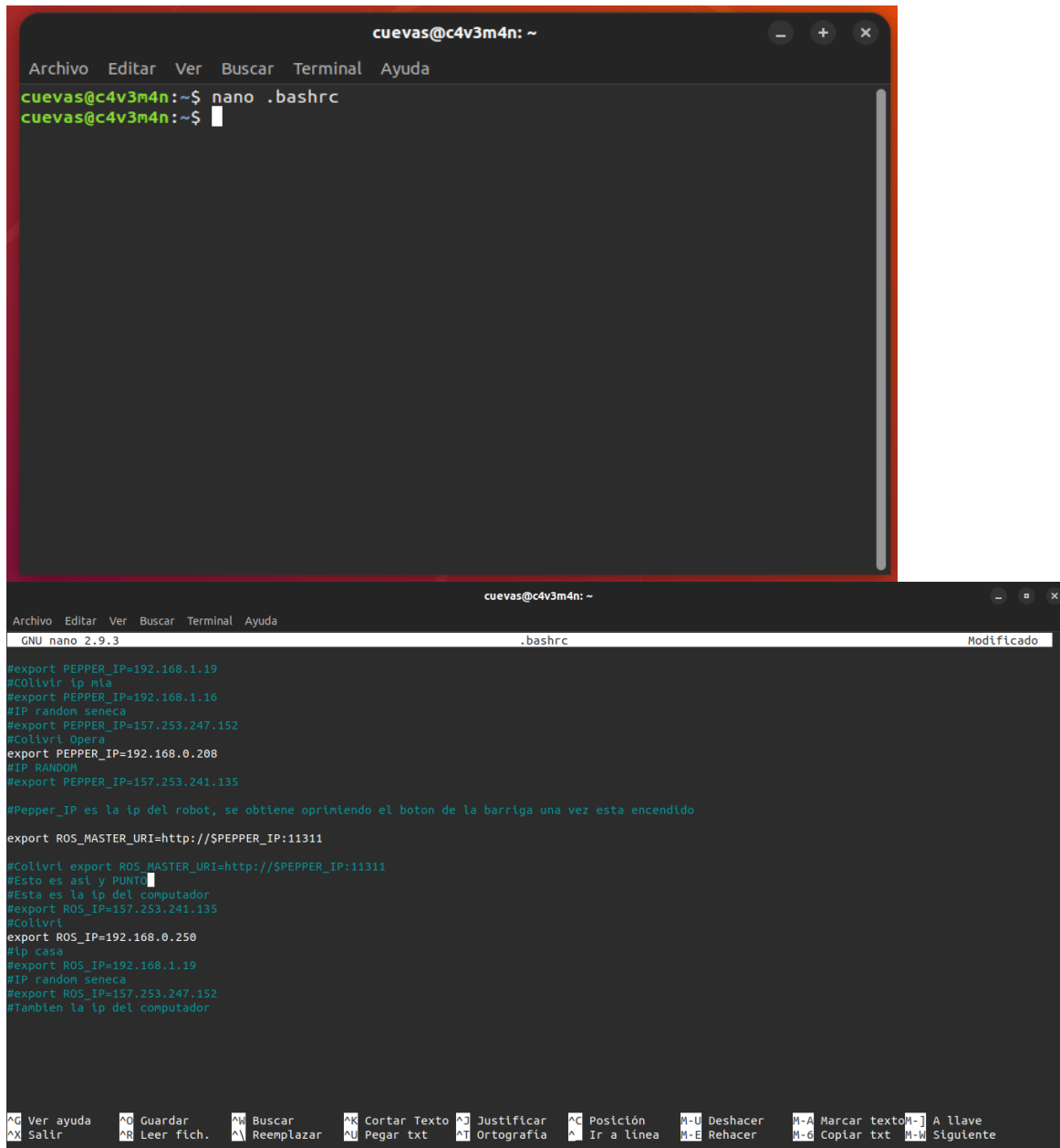


The image displays two terminal windows. The top window shows a user connecting to a robot named 'nao@Pepper' via SSH. The user 'cuevas@c4v3m4n' enters the password and runs several commands: './gentoo/startprefix', './startRos.sh', and './start\_py\_toolkit.sh'. The bottom window shows the output of these commands on the robot's terminal. It lists various services being started, such as 'Set\_open\_close\_hand\_srv on!', 'Move\_head\_srv on!', and 'PyToolkit node successfully initialized'. The terminal also shows 'Robot is in default position!' and 'overloading tablet...'.

```
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
cuevas@c4v3m4n:~$ ssh nao@192.168.0.208  
Password:  
Pepper [0] ~ $ ./gentoo/startprefix  
Entering Gentoo Prefix /tmp/gentoo  
nao@Pepper ~ $ . startRos.sh  
nao@Pepper ~ $ . start_py_toolkit.sh  
  
nao@Pepper:~  
Archivo Editar Ver Buscar Terminal Ayuda  
Set_open_close_hand_srv on!  
Move_head_srv on!  
set_angle_srv on!  
Set_move_arms_enabled_srv on!  
set_stiffnesses_srv on!  
Navigate_to_srv on!  
Go_to_posture_srv on!  
get_porcentage_srv on!  
Show_image_srv on!  
Show_web_view_srv on!  
Show_topic_srv on!  
Play_video_srv on!  
Get_input_srv on!  
Hide_srv on!  
Overload_srv on!  
Point_at_srv on!  
Robot is in default position!  
overloading tablet...  
  
-----  
----- PyToolkit node successfully initialized -----  
-----  
  
█
```



11. Abrir una tercera terminal
12. Configurar .bashrc



The image consists of two terminal window screenshots. The top screenshot shows a terminal window titled 'cuevas@c4v3m4n: ~' with a menu bar (Archivo, Editar, Ver, Buscar, Terminal, Ayuda). The prompt is 'cuevas@c4v3m4n:~\$' and the command 'nano .bashrc' has been entered. The bottom screenshot shows the same terminal window with the nano editor open, editing the file '.bashrc'. The editor title bar says 'GNU nano 2.9.3' and 'Modificado'. The content of the file is as follows:

```
#export PEPPER_IP=192.168.1.19
#Colivri ip mia
#export PEPPER_IP=192.168.1.16
#IP random seneca
#export PEPPER_IP=157.253.247.152
#Colivri Opera
export PEPPER_IP=192.168.0.208
#IP_RANDOM
#export PEPPER_IP=157.253.241.135

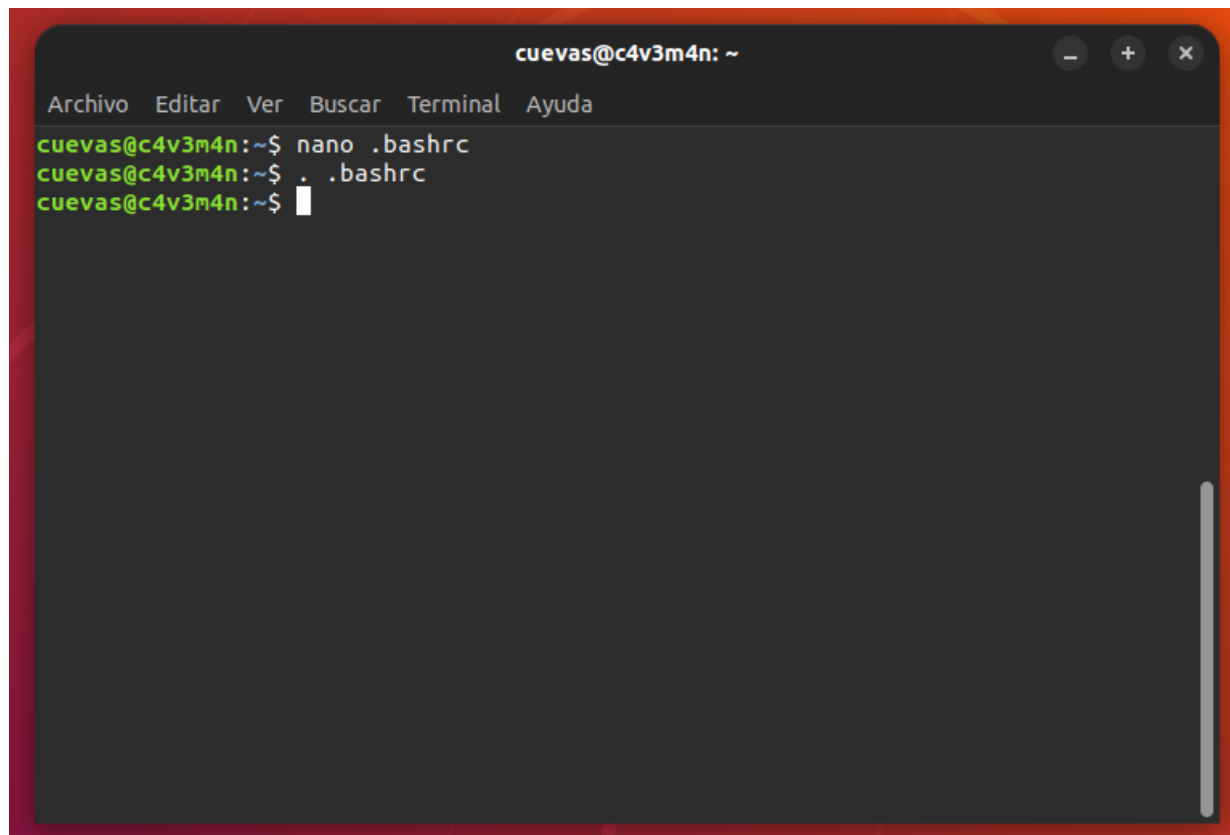
#Pepper_IP es la ip del robot, se obtiene opriniendo el boton de la barriga una vez esta encendido
export ROS_MASTER_URI=http://$PEPPER_IP:11311

#Colivri export ROS_MASTER_URI=http://$PEPPER_IP:11311
#Esto es así y PUNTO
#Esta es la ip del computador
#export ROS_IP=157.253.241.135
#Colivri
export ROS_IP=192.168.0.250
#ip casa
#export ROS_IP=192.168.1.19
#IP random seneca
#export ROS_IP=157.253.247.152
#Tambien la ip del computador
```

The bottom of the nano editor shows a status bar with various keyboard shortcuts: ^G Ver ayuda, ^O Guardar, ^W Buscar, ^K Cortar Texto, ^J Justificar, ^C Posición, ^U Deshacer, ^M-A Marcar texto, ^M-] A llave, ^X Salir, ^R Leer fich., ^\ Reemplazar, ^U Pegar txt, ^I Ortografia, ^\_ Ir a línea, ^-E Rehacer, ^M-6 Copiar txt, ^M-W Siguiete.

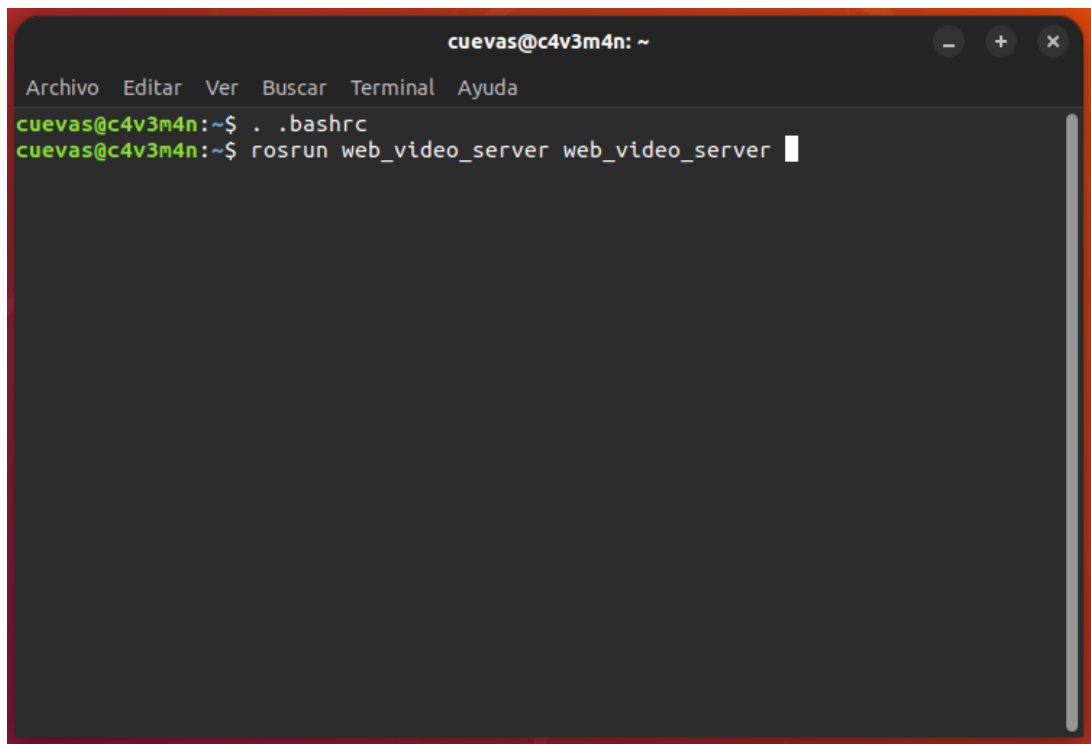
Solo es necesario que en él .bashrc este el texto sin comentar (sin # al inicio).  
En PEPPER\_IP va la ip del ROBOT.  
ROS\_MASTER\_URI se copia idéntico  
En ROS\_IP va la ip del computador desde el que se va a usar el control remoto.

### 13. Ejecutar el .bashrc

A terminal window titled 'cuevas@c4v3m4n: ~' with standard window controls (minimize, maximize, close). The menu bar includes 'Archivo', 'Editar', 'Ver', 'Buscar', 'Terminal', and 'Ayuda'. The terminal shows three lines of command history: 'cuevas@c4v3m4n:~\$ nano .bashrc', 'cuevas@c4v3m4n:~\$ . .bashrc', and 'cuevas@c4v3m4n:~\$' followed by a cursor. A vertical scrollbar is visible on the right side of the terminal area.

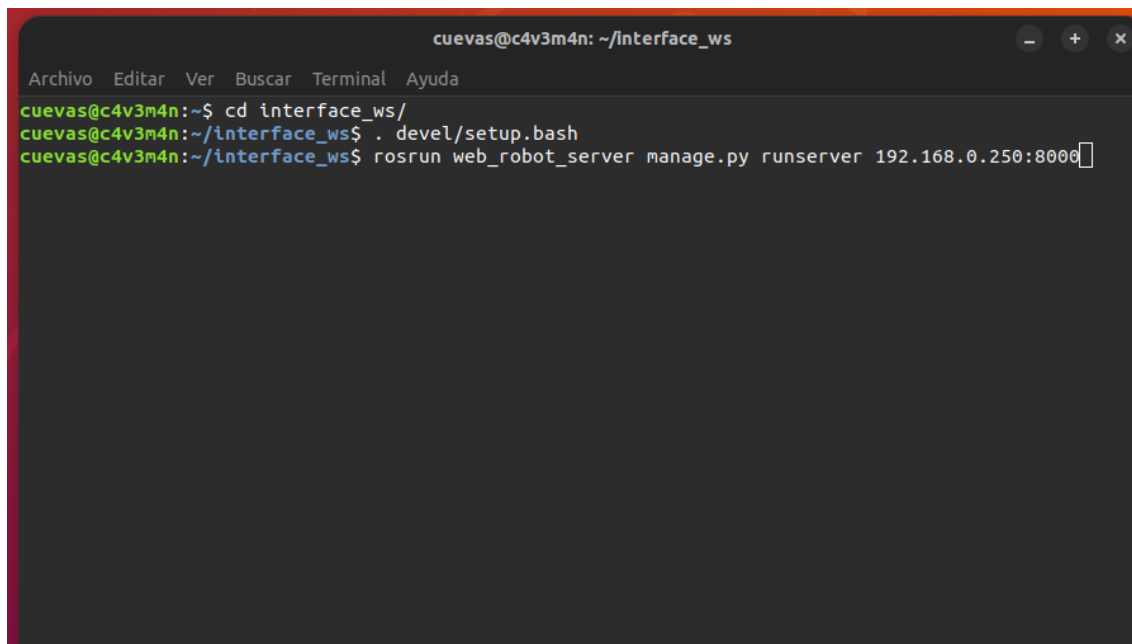
```
cuevas@c4v3m4n: ~
Archivo  Editar  Ver    Buscar  Terminal  Ayuda
cuevas@c4v3m4n:~$ nano .bashrc
cuevas@c4v3m4n:~$ . .bashrc
cuevas@c4v3m4n:~$
```

14. Correr el web\_video\_server:



```
cuevas@c4v3m4n: ~  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
cuevas@c4v3m4n:~$ . .bashrc  
cuevas@c4v3m4n:~$ rosrn web_video_server web_video_server
```

15. En una cuarta terminal ir al workspace en el que este configurado el Servidor web y correrlo con la ip del computador en que se corre el servidor y en el puerto **8000**.



```
cuevas@c4v3m4n: ~/Interface_ws  
Archivo  Editar  Ver  Buscar  Terminal  Ayuda  
cuevas@c4v3m4n:~$ cd interface_ws/  
cuevas@c4v3m4n:~/interface_ws$ . devel/setup.bash  
cuevas@c4v3m4n:~/interface_ws$ rosrn web_robot_server manage.py runserver 192.168.0.250:8000
```

```
cuevas@c4v3m4n: ~/interface_ws
Archivo  Editar  Ver  Buscar  Terminal  Ayuda
cuevas@c4v3m4n:~/interface_ws$ rosrun web_robot_server manage.py runserver 192.168.0.250:8000
shutdown request: new node registered with same name
Performing system checks...

Waiting for speech tools service
Speech tools service connected!
Waiting for audio tools service
Audio tools service connected!
Waiting for misc tools service
Misc tools service connected!
Waiting for motion tools service
Motion tools service connected!
Waiting for vision tools service
Vision tools service connected!
Waiting for vision tools service
Vision tools service connected!
Waiting for navigation tools service
Navigation tools service connected!
System check identified no issues (0 silenced).
October 30, 2023 - 20:25:53
Django version 1.11, using settings 'webRobotServer.settings'
Starting development server at http://192.168.0.250:8000/
Quit the server with CONTROL-C.
```

16. Ahora se puede acceder al control remoto poniendo la ip con el puerto **8000** en cualquier explorador.

**PENDIENTE EL RESTO DEL MANUAL PORQUE AUN NO ESTA EL DISEÑO LISTO**