

# Headless Raspberry Pi Setup

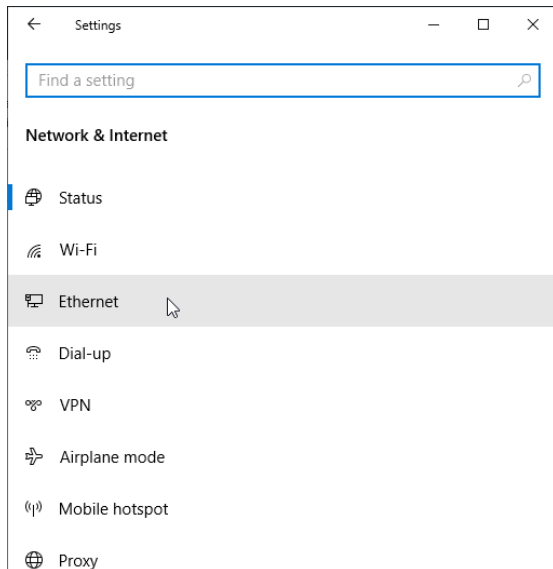
Configure Raspberry Pi for Access via Ethernet with ssh

## Configuration

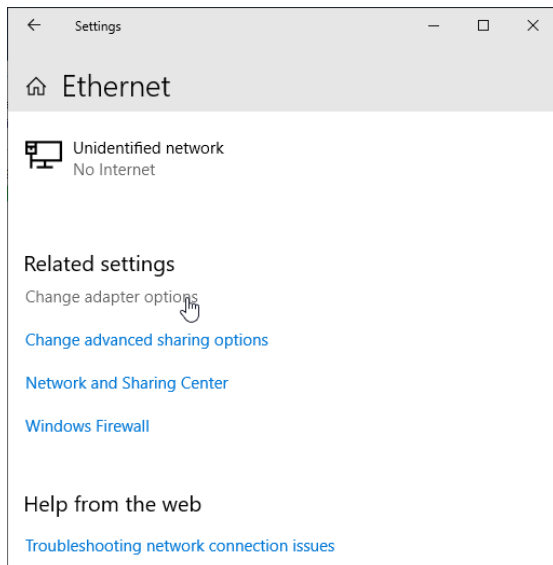
- User Name: pi
- Password: raspberry
- Host Address: 192.168.1.1
- Device Address: 192.168.1.23

## Configure the Host IP address

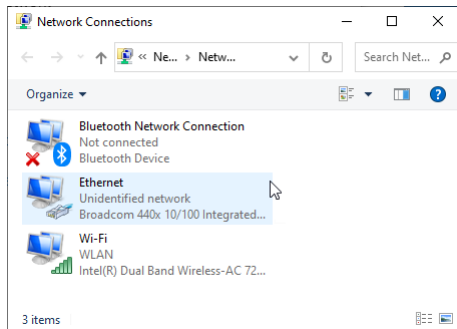
Open *Settings* via start menu and open *Ethernet*.



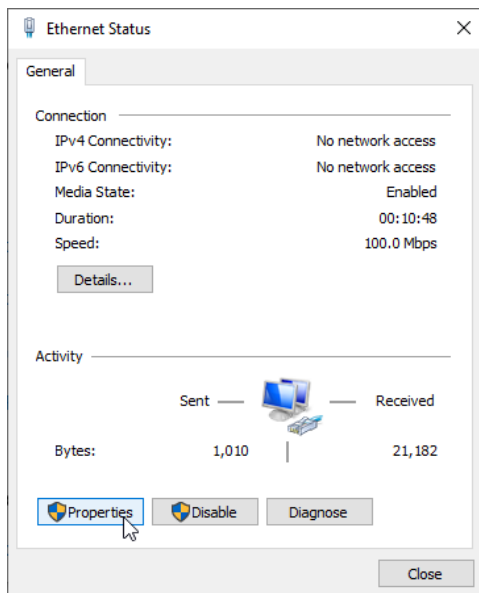
Open *Change adapter options*.



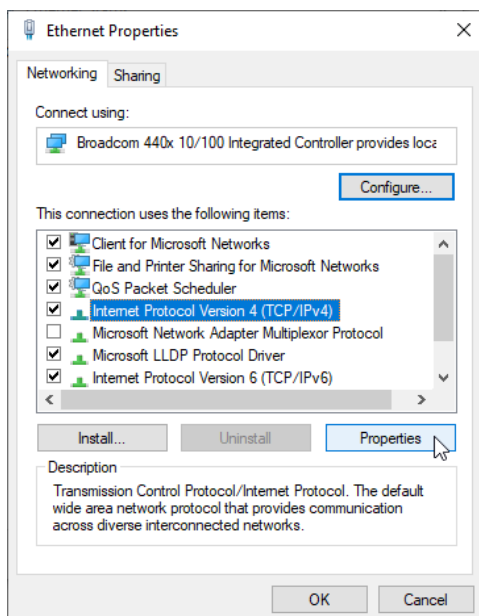
Open *Ethernet*.



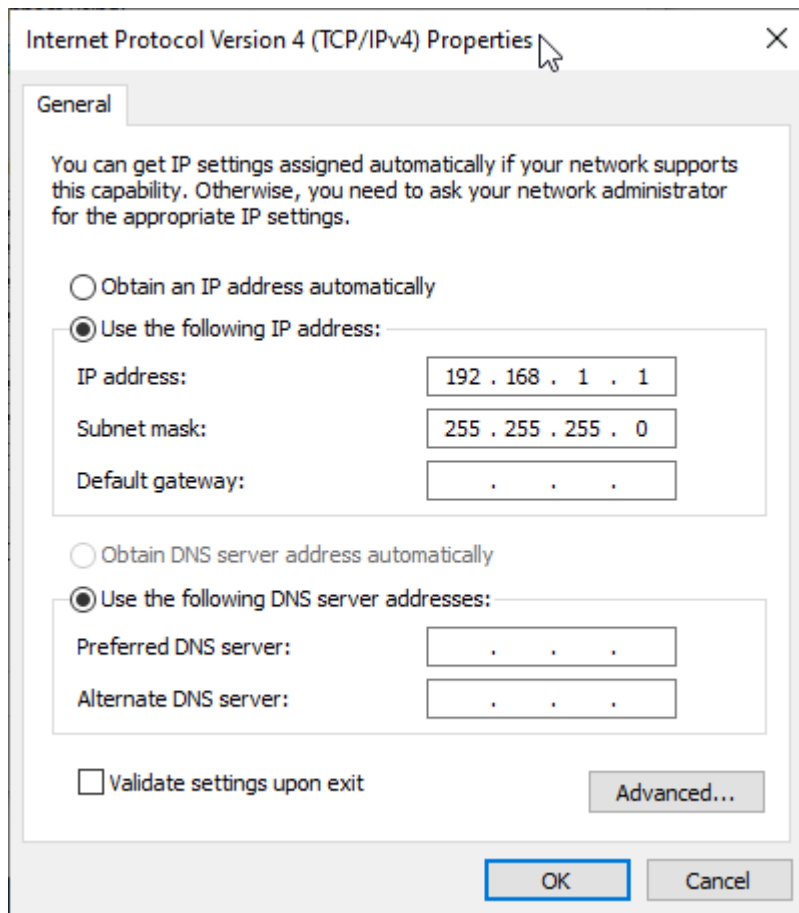
Open *Properties*.



Select *Internet Protocol Version 4 (TCP/IPv4)* and open *Properties*.



Configure IP address and subnet mask as shown below



## Test the Connectivity

Open *Command Prompt* and enter `ping 192.168.1.23`. You should get a replay.

```
C:\> Command Prompt
Microsoft Windows [Version 10.0.19041.450]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users>ping 192.168.1.23

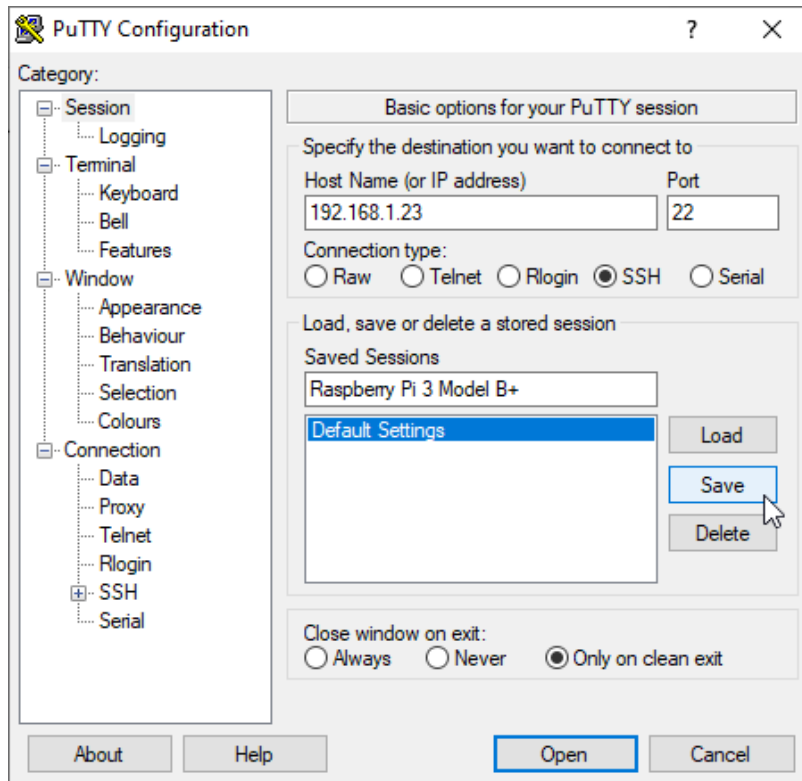
Pinging 192.168.1.23 with 32 bytes of data:
Reply from 192.168.1.23: bytes=32 time<1ms TTL=64
Reply from 192.168.1.23: bytes=32 time<1ms TTL=64
Reply from 192.168.1.23: bytes=32 time<1ms TTL=64
Reply from 192.168.1.23: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.23:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

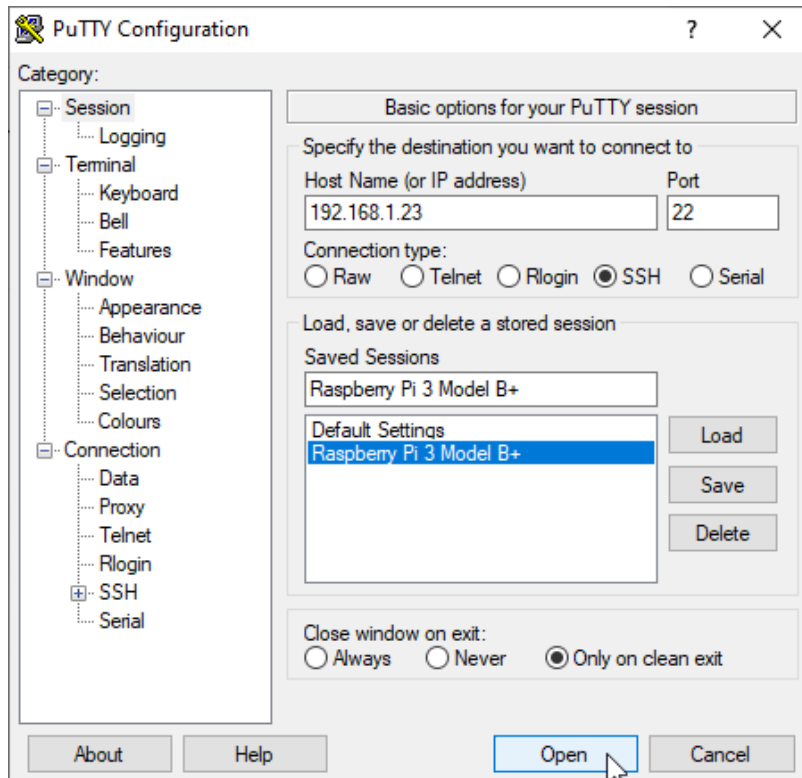
C:\Users>
```

## Connect with the Device

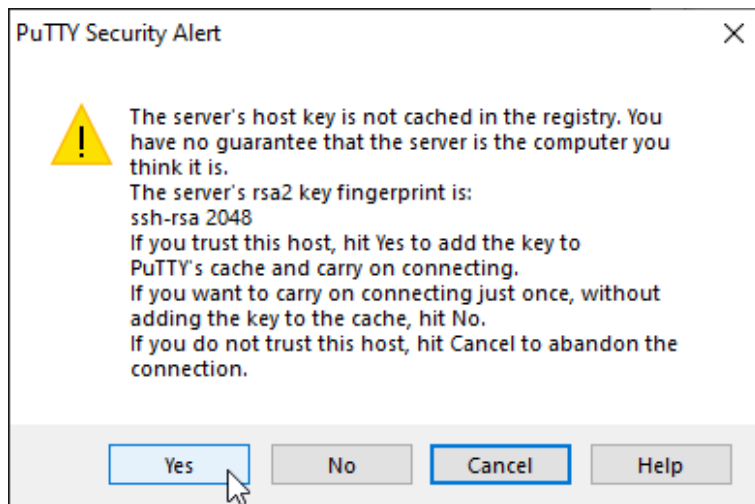
Start PuTTY and configure as shown below. Save the configuration.



Open your Raspberry Pi configuration.



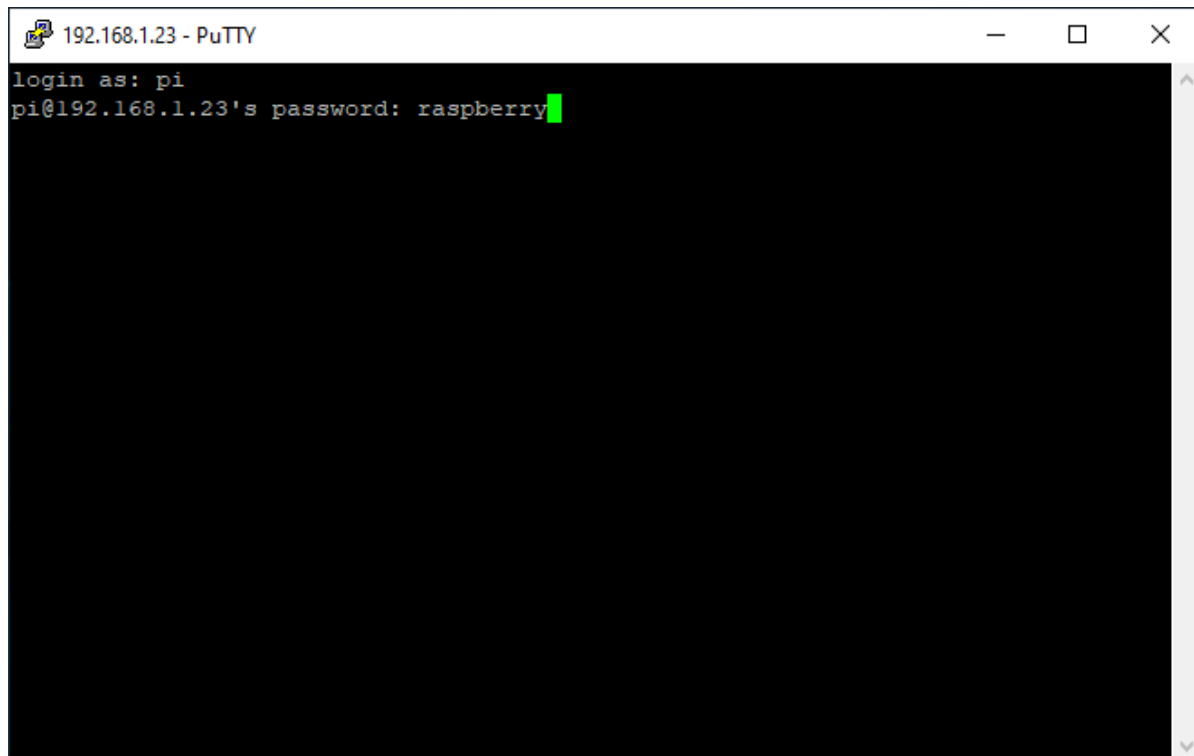
Accept the server's host key if not yet done.



## Test your Raspberry Pi

Login to your device. Use the following username and password to authenticate:

- login as: pi
- Password: raspberry



Test, if GNU gcc is working. The following commands are used:

- ls: list directory
- cd: change directory
- gcc: compile with GNU C compiler

- ./...: run program ...
- cat: type text file

```

pi@raspberrypi: ~/Projects
pi@raspberrypi:~ $ ls
Bookshelf Documents Music Projects Templates
Desktop Downloads Pictures Public Videos
pi@raspberrypi:~ $ cd Projects/
pi@raspberrypi:~/Projects $ ls
blink hello
pi@raspberrypi:~/Projects $ cd hello/
pi@raspberrypi:~/Projects/hello $ ls
main.c
pi@raspberrypi:~/Projects/hello $ gcc -o main main.c
pi@raspberrypi:~/Projects/hello $ ls
main main.c
pi@raspberrypi:~/Projects/hello $ ./main
Hello world!
pi@raspberrypi:~/Projects/hello $ cat main.c
#include <stdio.h>
int main(void)
{
    printf("Hello world!\n");
}
pi@raspberrypi:~/Projects/hello $ cd ..
pi@raspberrypi:~/Projects $ █

```

Now put Color Click on mikroBUS socket2 and make a new test. New command:

- make: make a program as specified in Makefile

```

pi@raspberrypi: ~/Projects/blink
pi@raspberrypi:~/Projects $ ls
blink hello
pi@raspberrypi:~/Projects $ cd blink/
pi@raspberrypi:~/Projects/blink $ ls
main.c Makefile mikrobus.h
pi@raspberrypi:~/Projects/blink $ make
gcc main.c -o main -lwiringPi
pi@raspberrypi:~/Projects/blink $ ls
main main.c Makefile mikrobus.h
pi@raspberrypi:~/Projects/blink $ ./main
^C
pi@raspberrypi:~/Projects/blink $ █

```