

# WLAN Game Server

Wireless Game Server example  
with open-source Xonotic as the game





# Content

- Hardware
- Topography
- Network (bond)
- Game download
- Sever configure
- Other terminal commands
- Game ON

# Hardware

- Intel i7 (6700) 8-cores
- Intel H170 chipset
- 64Gigs DDR4
- 1TB SSD (Debian-12)
- Two 2.5 NIC's (bond0)

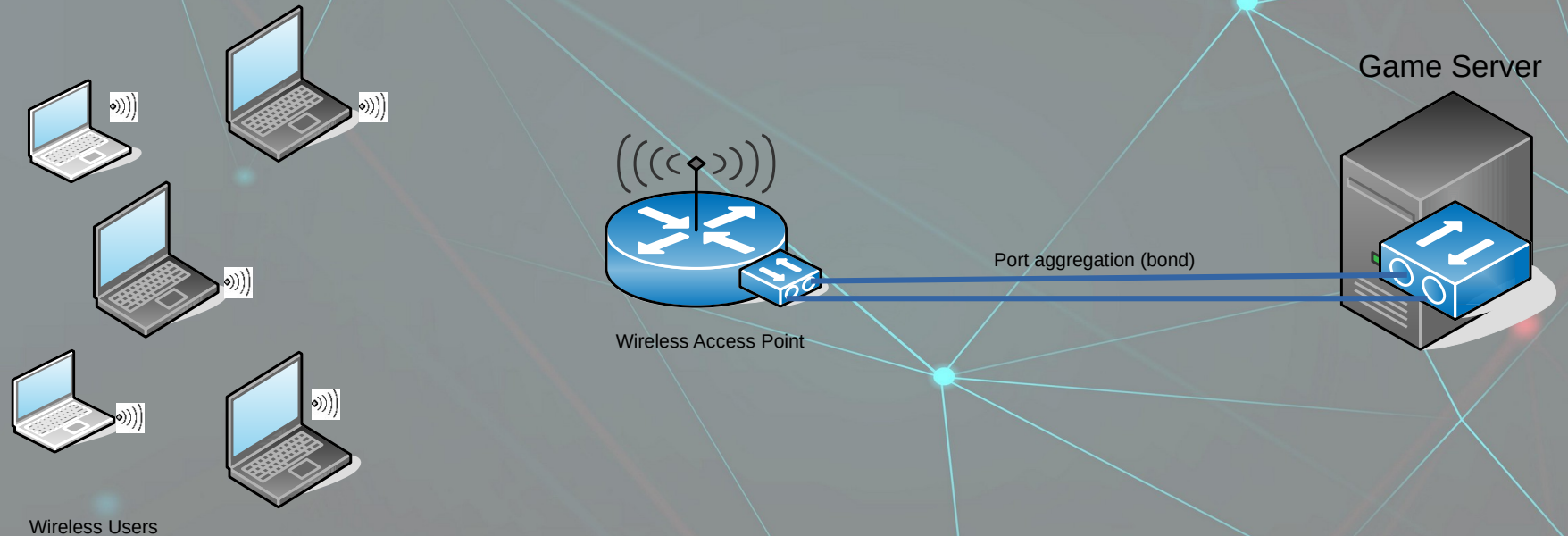


# Hardware

- Router RT-AC88U
- 1.4 dual core, 516RAM
- 802.11a/b/g/n/ac
- 2.4 & 5GHz
- 8-port BaseT 1000
- Supports 64 IP addresses
- FTP USB has the zip file



# Topography



- Basically everyone will access the Game\_Server via a wireless signal a/b/g/n/ac. (11Mbps on **b**), (54Mbps on **a** and **g**) if you have anything higher. 😞

# Network

- Find the alternate name of your NIC cards.
- Use the command `:~# ip address` to see the interfaces in your machine.

1: lo: <LOOPBACK, UP,LOWER UP> inet 127.0.0.1/8

2: ens2: = use the altname provided "enp2s0"

3: ens3: = use the altname provided "enp4s0"

4: ensl0: = your motherboard nic (not used)

# Creating a bond0

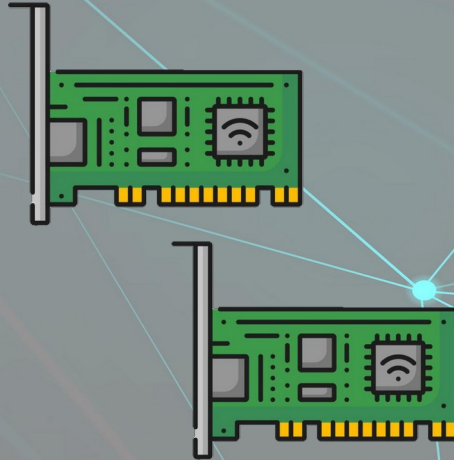
- Use an editor and edit the /network/interfaces file:

```
root@machine:~# nano /etc/network/interfaces
```

```
auto enp2s0
iface enp2s0 inet manual
    bond-master bond0
    bond-mode balance-rr
```

```
auto enp4s0
iface enp4s0 inet manual
    bond-master bond0
    bond-mode balance-rr
```

```
auto bond0
iface bond0 inet static
    Address 192.168.2.16
    netmask 255.255.255.0
    network 8.8.8.8
    Gateway 192.168.2.1
    bond-slaves enp2s0 enp4s0
    bond-mode balance-rr
    bond-miimon 100
    bond-downdelay 200
    bond-updelay 200
```



# Checking the bond0

- Check the bond has loaded by using:

```
:~# sudo lsmod | grep bond
```

- The result should be a something like this:

```
Bonding      221184  0  
tls          135168  1 bonding
```

- IF the bond0 is not active, send this command:

```
:~# sudo ifup bond0
```



# Checking the bond0

- Check the settings in your bond0.
- Use `~# sudo ethtool bond0`

```
Settings for bond0:
  Supported ports: [ ]
  Supported link modes: Not reported
  Supported pause frame use: No
  Supports auto-negotiation: No
  Supported FEC modes: Not reported
  Advertised link modes: Not reported
  Advertised pause frame use: No
  Advertised auto-negotiation: No
  Advertised FEC modes: Not reported
  Speed: 2000Mb/s
  Duplex: Full
  Auto-negotiation: off
  Port: Other
  PHYAD: 0
  Transceiver: internal
  Link detected: yes
```

# Network

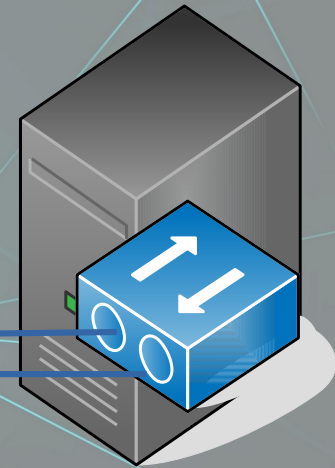
192.168.2.1



Wireless Access Point

Port aggregation (bond)

192.168.2.16



Xonotic  
Game\_Server

SSID = Game\_Server  
Password = JaxLUG2024

# Game Download

- GO to [xonotic.org/download/](http://xonotic.org/download/) and select one of the mirror sites.
- The zip file is 1.2 GB
- The router will have a copy
- The .ORG is Germany.
- Xonotic 0.8.6 is the current version.



## Mirror links

- ↓ [xonotic.org](http://xonotic.org) (DE)
- ↓ [evil-ant-colony.org](http://evil-ant-colony.org) (DE)
- ↓ [illwieckz.net](http://illwieckz.net) (FR)
- ↓ [unvanquished.net](http://unvanquished.net) (US)
- ↓ [antzucaro.com](http://antzucaro.com) (US)
- ↓ [xonotic.au](http://xonotic.au) (AU)

# Game Installation

- There are two ways to install Xonotic into your machine.

#1 Use GIT repository to build from source. (painful)

#2 Download the .zip and unzip it to your Home directory.

- Extract, create, and move to (/Home/Xonotic) folder.
- To **PLAY** select the `./xonotic-linux64-sdl` (single dynamic layer) -gpl(OpenGL)for 64 bit systems.
- `./xonotic-linux32-sdl` for 32 bit.

# Server Configuration

- By downloading the zip file and uncompress to the `/Home/Xonotic/` directory, you have ALL the files required for a server or game.
- For a server setup, you need to move 2 files
  - “`server_linux.sh`”
  - “`server.cfg`”

Both files are already in the `/Home/Xonotic/server/` folder.

# Server Configuration

1. Copy the “server\_linux.sh” file, from /Xonotic/server/ folder into the main game directory /Xonotic/.

This will allow shell script to launch the game executable in the server mode.

2. Copy the “server.cfg” file, from /Xonotic/server/ folder into the /Xonotic/data/ folder.

This will be the server configuration file you need to manually edit.

# Test the server

To **test** a session during Troubleshooting you can cd /Home/Xonotic and execute:

```
./server_linux.sh -sessionid-test
```

To **run** the server side, **cd /Home/Xonotic** and execute:

```
./xonotic-linux64-dedicated
```

# Check other settings

- Other terminal commands that help troubleshoot
  - netstat -inet -ap
  - netstat -rn
  - netstat -anp tcp
  - netstat -anp udp
- You must manually edit the “server.cfg” and activate `sv_public 1`
- Port is 26000 UDP & TCP and it needs to point to your server IP.



# Client side /etc/hosts

- Open the the /etc/hosts file utilizing the editor of your choice (vi, nano, emacs etc...)
- Inside the file, after the the last IPV4 address in the file, add:
- `192.168.2.16 game_server gs`

# OK Let's Play

- Connect to SSID: Game\_Server (192.168.2.1)
- Password = **JaxLUG2024**
- Launch your Xonotic game in your laptop
- Go to Multiplayer
- In address at the bottom, type “gs” or (192.168.2.16)
- Be patient because is wireless!!!!