Network issues

This is for general networking issues. If you're specifically after assistance with Wi-Fi connections (such as missing drivers), check out its dedicated page instead.

Terminal/console access

If you can't get access to SSH because the network is not available, on x86/x86_64 you can still access the local xterm command line with a mouse and keyboard.

1. Navigate to the system list (where you choose your console) and press `[F1]` to open the file manager.
2. Click “Applications”, then double-click `xterm`.

In case you can't access the file manager for whatever reason, you can skip straight to another TTY session with a command line by pressing `[Ctrl]+[Alt]+[F5]`. You will need to enter your user (`root`) and password (by default, `linux`). You can return to Batocera by pressing `[Ctrl]+[Alt]+[F2]`.

How to change the layout for your keyboard? You can select your favorite keyboard layout by putting `system.kblayout=<keymap_you_want>` in `/userdata/system/batocera.conf`. All available keymaps are available under `/usr/share/keymaps/`, and you need to write only the keymap name, not its path nor its extension. Example: `system.kblayout=fr-latin1`.

In Batocera **v31** and below, the shortcut is `[Ctrl]+[Alt]+[F3]`, however this terminal is very buggy (prone to garbling inputs/characters and illegible output) and should only be used in emergency situations.

I can't access the Batocera network share to add my ROMs!

If it's just not appearing, first of all ensure that your computer and the Batocera machine are connected to the same network (sometimes routers will separate the Wi-Fi and Ethernet networks, but most will combine them internally). Then, you can type `\\BATOCERA` (under Windows or MacOS) or `smb://BATOCERA.local` (under Linux) to directly navigate to the Batocera network share. If your router doesn't support hostnames properly (many old routers do not), type in the IP address of the Batocera machine instead of its hostname (for example, `\\192.168.1.2`). You can find the IP address under **MAIN MENU → NETWORK SETTINGS → IP ADDRESS**.

If you are on Windows, it could be the following:

- Your network area is set to public, which disables local network shares.
    1. Open the **Network and Sharing Center** (type “network and sharing” in the Start menu and it should appear).
    2. Click on **Public/Work network** on your active network (there may be more than one if you have multiple connections, select the one you know is actively being used). If it is

already on “Home network” then this isn't the issue.
3. Select **Home network** in the “Set Network Location” window that appears (of course, don't do this on a public network like McDonalds Wi-Fi).
4. Try accessing \\BATOCERA again.

- The network stack just hasn't updated yet.
  1. Open the Network folder in the file explorer.
  2. Click on an item in the network (any other share) and press [F5] to refresh the list. If there are no items, you can click anywhere in the window and this will still work.
  3. Try to connect to the \\BATOCERA network share again.
- Samba might be disabled on your Windows entirely.
  1. Open the Start menu and search “turn windows features on or off”, click on the identically named entry.
  2. Search for and check SMB file sharing support 1.0, CIFS, SMB1.0, CIFS client, etc.
  3. Reboot Windows and try accessing \\BATOCERA again.

If you are on Windows 10 version 1709 or above specifically on **Enterprise, Education or Server 2019 (Datacenter and Standard) editions**, access to guest shares is disabled by default. Blame Microsoft (they did it for security reasons though, but that isn't applicable for local home networks). You can refer to this DevAnswers guide for a walkthrough, but here are those instructions summarized:

1. First, open the cmd.exe (search Start) and run `c:\net use \\BATOCERA`. If you get “System error 1272 has occurred” then continue with these steps. If something else, it may not be this issue, but you can continue anyway just to be sure.
2. Press [Win]+[R] and type `regedit` then press [Enter].
3. It will ask for administrator privileges, click “OK”.
4. Press [Ctrl]+[F] and search for `AllowInsecureGuestAuth`.
5. When a result is found, double click it and change its value to 1. The first time this is done, it will configure this setting only for the current user.
6. Repeat steps 3 and 4 one more time. This will set the configuration for both the user and the default user. Repeat again if there are more users. If you only want to set it to the current user, set it only once.
7. [Ctrl]+[F], uncheck Keys and Data and search for `RequireSecuritySignature`.
8. When a result is found, double click it and change its value to 1.
9. Repeat steps 6 and 7 one more time. This will set the configuration for both the user and the default user. Repeat again if there are more users. If you only want to set it to the current user, set it only once.

Ethernet connected but no data

This is for if you having trouble connecting to the network via an ethernet cable, which otherwise works fine with Windows. Note if the link LED (the orange one that stays steadily lit, not the yellow one which flashes) turns on when your computer shows you the POST screen (where you press a button to enter BIOS settings) or if until Windows has started booting. If it doesn't turn on until Windows is booting, you may need to disable the 'Shutdown Wake-On-LAN' feature of your Realtek ethernet adapter.

- Boot into Windows, hit start and type in “device manager”.
- Navigate to Network Adapters, right click your Realtek Ethernet adapter and go into its properties.

- Click on the Advanced tab and scroll down to the “Shutdown Wake-On-LAN” property.
- If it's “Enabled”, set it to “Disabled”. Press OK.
- Reboot back into Batocera, noting if the link LED turns on at the POST screen.

If that did not do anything, you may need to also activate such a feature within your BIOS settings. This may be referred to as “Onboard LAN Boot ROM”, “Allow waking via LAN ROM” or something similar.

Manually set up a network connection

This is how to manually configure and initiate a network connection if the auto-configuration has failed. Note that the Ethernet cable must be connected and the status lights on the connector must be lighting up, otherwise it is simply a hardware issue (try a different cable, port, etc.).

1. Open up an xterm window (press `[F1]` on the system list → **Appplications** → **xterm**)
2. Run

   ```
   connmanctl services
   ```

   (Fix Me! what does this return?)

3. Then using the information from that, run the following command replacing the parts in <> symbols:

   ```
   connmanctl config ethernet_<MAC_address>_cable --ipv4 manual
   <IP_address> <netmask> <gateway> --nameservers <DNS_1> <DNS_2>
   ```

   (Fix Me! provide real-world example)

Changes will take effect immediately.

Specific Ethernet device issues

Batocera uses the mainline Linus Kernel for the majority of it's drivers. Sometimes the driver may be less functional or lacking certain features than the vendor drivers. In certain cases it may be required to disable the Linux kernel drive in favour of the vendor driver if provided.

Known Ethernet controller issues:

RealTek 8111 Ethernet adapter may not connect after a warm boot after using Windows.

- Edit the file at `/etc/init.d/816x.conf` blacklisting `r8169` instead of `r8168`. This will enable the r8168 vendor driver.
- Use `batocera-save-overlay` to update until the next upgrade.

RealTek 8169 Ethernet Ethernet controller does not run at 2.5GHz on a supported LAN.

- Edit the file at `/etc/init.d/blacklist-r8169.conf`. Remove the comment from the line

```
blacklist r8169
```

- Use `batocera-save-overlay` to update until the next upgrade.

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