

Connect Dolphin online with MacOS BigSur/Monterey on Apple M1

Updated : 11/14/2021

Step 1. Tunnelblick Setup

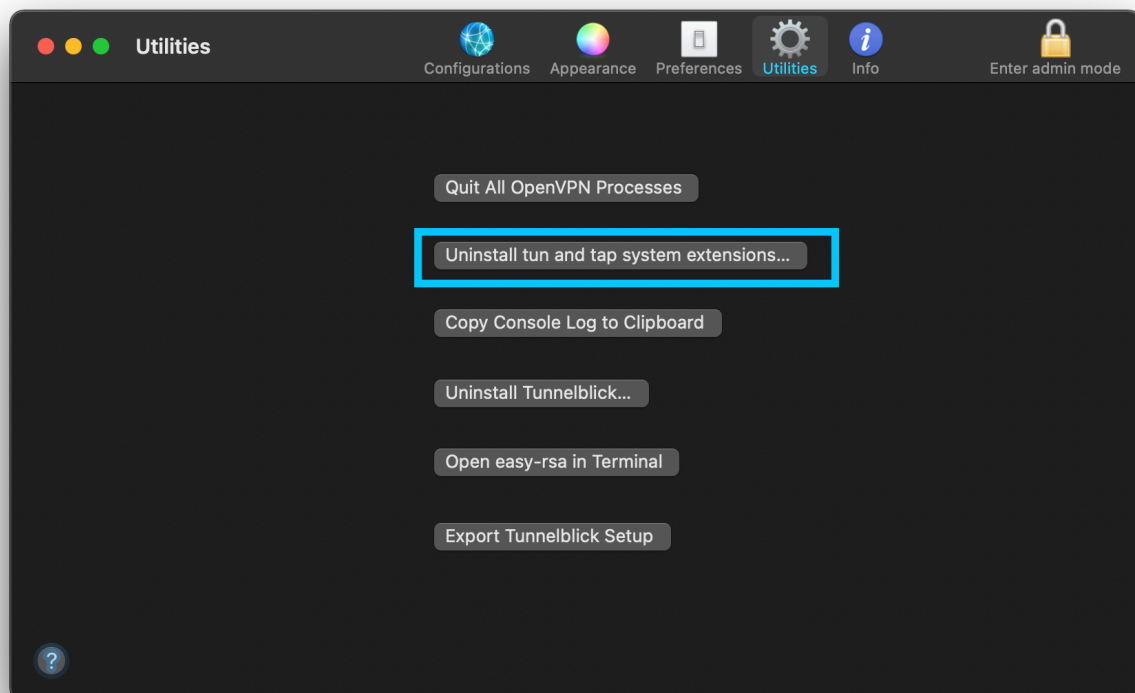
Download and install the latest stable version of Tunnelblick

<https://tunnelblick.net/downloads.html>

Tunnelblick is an Open Source implementation of OpenVPN with tap/tun kernel extensions (kexts) **notarized** by Apple and able to run on the latest M1/Intel Macs running **BigSur** and **Monterey**.

After installing open Tunnelblick and navigate to the Utilities tab, you will see a button to ***Install tun and tap system extensions***

You will have to start your Mac in recovery mode to adjust the System Extensions Policies to allow the installation of the tap kernel extensions.



Step 2. Setting up the Connection

Preload the Tap Kernel Extensions to enable all the taps in your system by typing the following command in your Terminal:

```
/Applications/Tunnelblick.app/Contents/Resources/openvpnstart loadKexts 2
```

Verify you successfully initialized all the taps by doing a **cd** to **/dev/** and do a **ls** to list them all.

If you see taps 0~15 means you successfully initialized them on your Mac



Take ownership of the one that Dolphin uses **tap0**:

```
sudo chown -R $(whoami) /dev/tap0
```

Create a network bridge:

```
sudo ifconfig bridge1 create
```

Assign the bridge an IP address range of your network. In my case, my network uses the format 192.168.68.1 so the command is like this:

```
sudo ifconfig bridge1 192.168.68.1/24
```

Enable IP forwarding:

```
sudo sysctl -w net.inet.ip.forwarding=1
```

Add your default internet interface (Example: Mac's Wifi is en0):

```
sudo ifconfig bridge1 addm en0
```

Step 3. Dolphin Setup

Launch Dolphin and set it up to use the Broadband Adapter:

Config -> Gamecube Tab -> SP1 select "Broadband Adapter (TAP)"

Set up the Log Viewer to display Broadband Adapter debug messages:

View -> Show Log

View -> Show Log Configuration

Set the logging Verbosity to display Info messages and under Log Types check the **Serial Port 1 (SP1)** Box

With the bridge operational run PSO EP1&2 or PSO EP3 and attempt to connect it online by selecting **ONLINE GAME**.



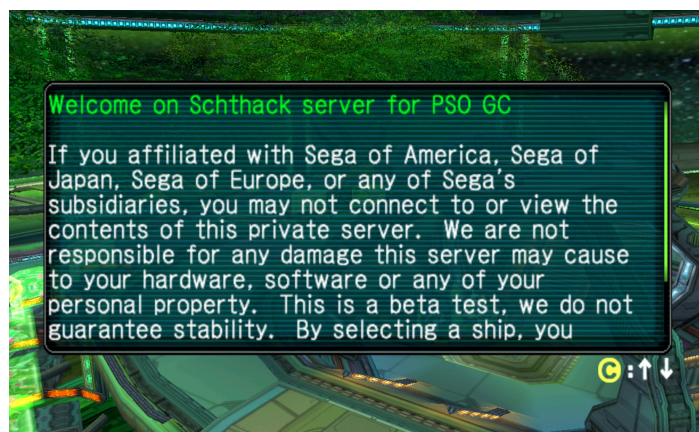
Once you see the **bursting loading screen** Dolphin will attempt to enable the **tap0** so you have to check in the emulator log for the entry "**BBA Initialized**". Once you see this entry, it's time to add the tap to the bridge.

```
36:48:445 Core/HW/EXI/EXI_DeviceEthernet.cpp:348 I[SP1]: Software reset
36:48:445 Core/HW/EXI/BBA/TAP_Apple.cpp:28 I[SP1]: BBA initialized.
36:53:593 Core/HW/EXI/BBA/TAP_Apple.cpp:50 I[SP1]: SendFrame 60
```

Add the **tap0** to the bridge:

```
sudo ifconfig bridge1 addm tap0
```

If the connection is unsuccessful just go back to the Title Screen and select **ONLINE GAME** again and try to connect, this time it should connect straight away to the online servers.



Enjoy PSO Online on your M1 Mac!

Extra Information / Troubleshooting

- Dolphin will **destroy** and **unlink** from the bridge the tap0 **every** time you stop the emulation so you will have to repeat the last step every time you start a new game like for example switching from PSO Episode 1&2 to Episode 3.
- You can verify both interfaces are correctly bridged and active by typing **ifconfig** and see a similar output to this

```
bridge1: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
options=3<RXCSUM,TXCSUM>
ether 1a:3e:ef:0d:e4:01
inet 192.168.68.1 netmask 0xfffff00 broadcast 192.168.68.255
Configuration:
    id 0:0:0:0:0:0 priority 0 hellotime 0 fwddelay 0
    maxage 0 holdcnt 0 proto stp maxaddr 100 timeout 1200
    root id 0:0:0:0:0:0 priority 0 ifcost 0 port 0
    ipfilter disabled flags 0x0
member: en0 flags=8003<LEARNING,DISCOVER,MACNAT>
        lmaxaddr 0 port 11 priority 0 path cost 0
member: tap0 flags=3<LEARNING,DISCOVER>
        lmaxaddr 0 port 19 priority 0 path cost 0
media: autoselect
status: active
```

- If your Mac has been idling or being unused for a long period of time, MacOS destroys the bridge1 automatically if not being used, just repeat the steps above and create a brand new bridge, you can also create your own bash/zsh script file to automate this process if you prefer.
- For Phantasy Star Online Episode 1&2 and Episode 3 you have to manually setup an IP address and a private server DNS to connect online via the in-game network setup to avoid any issues with DHCP use these pictures to guide you on how to set up the game network settings to connect.

IPアドレス手動設定

← 前へ戻る → 次へ進む

IPアドレス	192.168.68.175
サブネットマスク	255.255.255.0
デフォルトルータ	192.168.68.1
プライマリDNS	149.56.167.128
セカンダリDNS	

接続プロバイダ指定のアドレスを手動で設定します