

## Computer Network Practicum Job Sheet 1



**From:**

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**Class:**

2 I

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01

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Because I use Linux, so the installation will be different from the job sheet.

## 1. OpenVPN Installation

Install openvpn with pacman. Pacman is arch linux package manager. Type `sudo pacman -S openvpn`.

```
➔ zharsuke@box ~/Documents/college-stuff/Semester_4/computer-network-pracicum/meet-1 sudo pacman -S openvpn
[sudo] password for zharsuke:
resolving dependencies...
looking for conflicting packages...

Packages (2) pkcs11-helper-1.30.0-1  openvpn-2.6.9-1

Total Download Size:   0.68 MiB
Total Installed Size:  1.98 MiB

:: Proceed with installation? [Y/n] y
:: Retrieving packages...
openvpn-2.6.9-1-x86_64           625.8 KiB   379 KiB/s  00:02 [#####] 100%
pkcs11-helper-1.30.0-1-x86_64   75.5 KiB   1180 KiB/s  00:00 [#####] 100%
Total (2/2)                     701.3 KiB   384 KiB/s  00:02 [#####] 100%
(2/2) checking keys in keyring
(2/2) checking package integrity
(2/2) loading package files
(2/2) checking for file conflicts
(2/2) checking available disk space
:: Processing package changes...
(1/2) installing pkcs11-helper
(2/2) installing openvpn
Optional dependencies for openvpn
  easy-rsa: easy CA and certificate handling
  pam: authenticate via PAM [installed]
:: Running post-transaction hooks...
(1/4) Creating system user accounts...
Creating group 'openvpn' with GID 965.
Creating user 'openvpn' (OpenVPN) with UID 965 and GID 965.
(2/4) Reloading system manager configuration...
(3/4) Creating temporary files...
(4/4) Arming ConditionNeedsUpdate...
➔ zharsuke@box ~/Documents/college-stuff/Semester_4/computer-network-pracicum/meet-1
[mundane] 0:work* "box" 00:15 17-Feb-24
```

Connect openvpn.

```
➔ zharsuke@box ~/Documents/college-stuff/Semester_4/computer-network-pracicum/meet-1 sudo openvpn --config TI2I01.ovpn --auth-user-pass
2024-02-21 10:09:13 Unrecognized option or missing or extra parameter(s) in TI2I01.ovpn:19: block-outside-dns (2.6.9)
2024-02-21 10:09:13 Note: Kernel support for ovpn-dco missing, disabling data channel offload.
2024-02-21 10:09:13 OpenVPN 2.6.9 [git:makepkg/6640a10bf6d84eee+] x86_64-pc-linux-gnu [SSL (OpenSSL)] [LZO] [LZ4] [EPOLL] [PKCS11] [MH/P
KTINFO] [AEAD] [DCO] built on Feb 13 2024
2024-02-21 10:09:13 library versions: OpenSSL 3.2.1 30 Jan 2024, LZO 2.10
2024-02-21 10:09:13 DCO version: N/A
Enter Auth Username: mhs
Enter Auth Password: ...
2024-02-21 10:09:17 TCP/UDP: Preserving recently used remote address: [AF_INET]36.93.5.36:1194
2024-02-21 10:09:17 Socket Buffers: R=[212992->212992] S=[212992->212992]
2024-02-21 10:09:17 UDPv4 link local: (not bound)
2024-02-21 10:09:17 UDPv4 link remote: [AF_INET]36.93.5.36:1194
2024-02-21 10:10:17 TLS Error: TLS key negotiation failed to occur within 60 seconds (check your network connectivity)
2024-02-21 10:10:17 TLS Error: TLS handshake failed
2024-02-21 10:10:17 SIGUSR1[soft,tls-error] received, process restarting
2024-02-21 10:10:17 Restart pause, 1 second(s)
2024-02-21 10:10:18 TCP/UDP: Preserving recently used remote address: [AF_INET]36.93.5.36:1194
2024-02-21 10:10:18 Socket Buffers: R=[212992->212992] S=[212992->212992]
2024-02-21 10:10:18 UDPv4 link local: (not bound)
2024-02-21 10:10:18 UDPv4 link remote: [AF_INET]36.93.5.36:1194
2024-02-21 10:11:19 TLS Error: TLS key negotiation failed to occur within 60 seconds (check your network connectivity)
2024-02-21 10:11:19 TLS Error: TLS handshake failed
2024-02-21 10:11:19 SIGUSR1[soft,tls-error] received, process restarting
2024-02-21 10:11:19 Restart pause, 1 second(s)
2024-02-21 10:11:20 TCP/UDP: Preserving recently used remote address: [AF_INET]36.93.5.36:1194
2024-02-21 10:11:20 Socket Buffers: R=[212992->212992] S=[212992->212992]
2024-02-21 10:11:20 UDPv4 link local: (not bound)
2024-02-21 10:11:20 UDPv4 link remote: [AF_INET]36.93.5.36:1194
2024-02-21 10:12:20 TLS Error: TLS key negotiation failed to occur within 60 seconds (check your network connectivity)
2024-02-21 10:12:20 TLS Error: TLS handshake failed
2024-02-21 10:12:20 SIGUSR1[soft,tls-error] received, process restarting
2024-02-21 10:12:20 Restart pause, 1 second(s)
2024-02-21 10:12:21 TCP/UDP: Preserving recently used remote address: [AF_INET]36.93.5.36:1194
2024-02-21 10:12:21 Socket Buffers: R=[212992->212992] S=[212992->212992]
2024-02-21 10:12:21 UDPv4 link local: (not bound)
2024-02-21 10:12:21 UDPv4 link remote: [AF_INET]36.93.5.36:1194
```

## 2. Install GNS3 2.2.17

I used pip to install gns3 version 2.2.17. Pip is a package manager for Python.

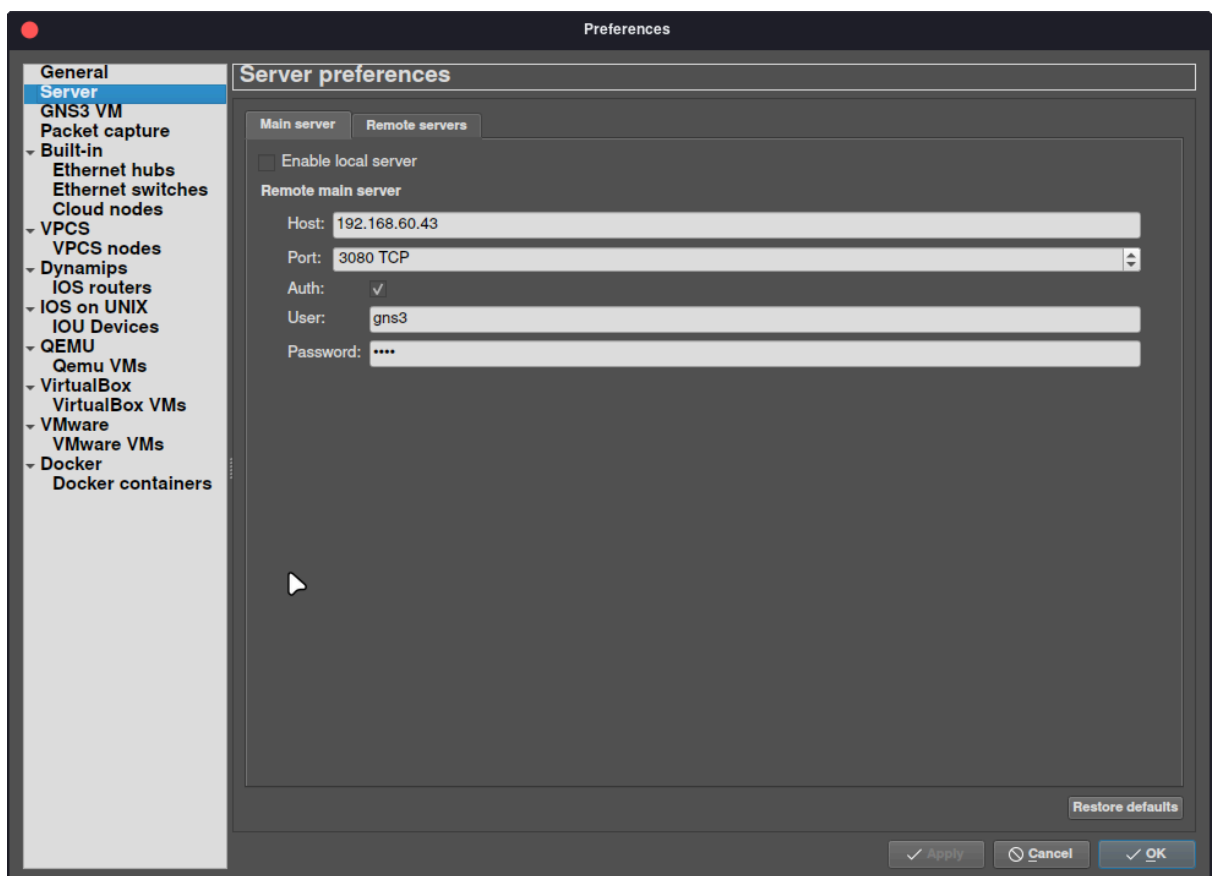
```
(venv) ➔ zharsuke@box ~ pip3 install gns3-gui==2.2.17
DEPRECATION: Loading egg at /home/zharsuke/venv/lib/python3.11/site-packages/ghauri-1.3-py3.11.egg is deprecated. pip 23.3 will enforce
this behaviour change. A possible replacement is to use pip for package installation..
Collecting gns3-gui==2.2.17
  Using cached gns3_gui-2.2.17-py3-none-any.whl
Requirement already satisfied: sentry-sdk>=0.14.4 in ./venv/lib/python3.11/site-packages (from gns3-gui==2.2.17) (1.40.4)
Requirement already satisfied: psutil==5.6.7 in ./venv/lib/python3.11/site-packages (from gns3-gui==2.2.17) (5.6.7)
Requirement already satisfied: distro>=1.3.0 in ./venv/lib/python3.11/site-packages (from gns3-gui==2.2.17) (1.9.0)
Requirement already satisfied: attrs>=17.4.0 in ./venv/lib/python3.11/site-packages (from jsonschema==3.2.0->gns3-gui==2.2.17) (23.2.0)
Requirement already satisfied: pyrsistent>=0.14.0 in ./venv/lib/python3.11/site-packages (from jsonschema==3.2.0->gns3-gui==2.2.17) (0.20.0)
Requirement already satisfied: setuptools in ./venv/lib/python3.11/site-packages (from jsonschema==3.2.0->gns3-gui==2.2.17) (65.5.0)
Requirement already satisfied: six>=1.11.0 in ./venv/lib/python3.11/site-packages (from jsonschema==3.2.0->gns3-gui==2.2.17) (1.16.0)
Requirement already satisfied: certifi in ./venv/lib/python3.11/site-packages (from sentry-sdk>=0.14.4->gns3-gui==2.2.17) (2023.11.17)
Requirement already satisfied: urllib3>=1.26.11 in ./venv/lib/python3.11/site-packages (from sentry-sdk>=0.14.4->gns3-gui==2.2.17) (2.1.0)
Installing collected packages: gns3-gui
Successfully installed gns3-gui-2.2.17

[notice] A new release of pip is available: 23.2.1 -> 24.0
[notice] To update, run: pip install --upgrade pip
(venv) ➔ zharsuke@box ~
```

Run gns3 in terminal.

```
(venv) ➔ zharsuke@box ~ gns3
2024-02-21 15:49:51 INFO root:126 Log level: INFO
2024-02-21 15:49:51 INFO main:259 GNS3 GUI version 2.2.17
2024-02-21 15:49:51 INFO main:260 Copyright (c) 2007-2024 GNS3 Technologies Inc.
2024-02-21 15:49:51 INFO main:261 Application started with /home/zharsuke/venv/bin/gns3
```

Open Setting preferences, set main server according to lms.



gns3 successfully connected to jti server.

