

1. TFTP + NFS server setup:

1.1. TFTP server:

1.1.a. Mandatory packages (total=2): tftpd, xinetd

- Installation: please connect host PC to internet then run following command

```
$ sudo apt-get install tftpd xinetd
```

- Package explanation (please run command `$ man tftp` or `$ man xinetd` for more detail):
 - o TFTP: Trivial File Transfer Protocol server. It's normally started by xinetd.
 - o XINETD: Start programs (E.g: tftpd) that provide Internet services.
- Configuration: (only *xinetd* needs to be configured). Please newly create or edit */etc/xinetd.d/tftp* as below:

```
service tftp
{
    protocol          = udp
    port              = 69
    socket_type       = dgram
    wait              = yes
    user              = nobody
    server            = /usr/sbin/in.tftpd
    server_args       = -s /tftpboot
    disable           = no
}
```

Note) Parameter explanation: (please run command `$ man 5 xinetd.conf` for more detail)

- + protocol: supported network protocol which must be defined in */etc/services*.
- + port: network port defined in */etc/services* for particular network services and is attached with some protocols.
- + socket_type: *dgram* = datagram-based service
- + wait: If its value is *yes*, the service is single-threaded; this means that *xinetd* will start the server and then it will stop handling requests for the service until the server dies and that the server software will accept the connection. *udp/dgram* services normally expect the value to be *yes* since *udp* is not connection oriented.
- + user: determine UID for server proceed. User name must exist in */etc/passwd*
- + server: determines the program to execute for this service.
- + server_args: determines the arguments passed to the server.
- + disable: set status of this service, *no* = service is enabled.

1.1.b. Optional package (total=1): tftp

- Installation: please connect host PC to internet then run following command

```
$ sudo apt-get install tftp
```

This package is used to run *tftp* command on host PC to put/ get data to/ from tftp clients/ servers.

1.2. NFS server:

1.2.a. Mandatory packages (total=2): **nfs-kernel-server; nfs-common**

- Installation: please connect host PC to internet then run following command

```
$ sudo apt-get install nfs-common nfs-kernel-server
```

Note) Please check for nfs-kernel-server status:

```
$ /etc/init.d/nfs-kernel-server status
```

If status is NOT “*nfsd running*”, please run command:

```
$ sudo /etc/init.d/nfs-kernel-server start
```

- Configuration: Please add below line at the bottom of */etc/exports*:

```
/nfs/silk *(rw,no_subtree_check,sync,no_root_squash)
```

Note) Parameter explanation: (please run command *\$ man exports* for more detail)

- + rw: permission to read/ write from/ to nfs root.
- + no_subtree_check: This option disables subtree checking, which has mild security implications, but can improve reliability in some circumstances.
- + sync: reply to requests only after the changes have been committed to stable storage.
- + no_root_squash: Turn off root squashing. This option is mainly useful for diskless clients.