

## Install Alpine Linux + Tailscale on ESXi

### Step 1: Create Alpine VM in ESXi

1. Download Alpine ISO (Standard x86\_64) from:  
<https://alpinelinux.org/downloads/>
2. In ESXi Web UI:
  - Create New VM → Choose:
    - OS Family: Linux
    - Version: Other 5.x/6.x or later Linux (64-bit)
  - Mount Alpine ISO to CD drive
  - CPU: 1 vCPU, RAM: 256–512MB, Disk: 2–4GB
  - Network: Connect to same LAN as ESXi

### Step 2: Install Alpine Linux

1. Boot the VM
2. Login with:  
login: root
3. Start installer:  
setup-alpine
4. Answer the prompts:
  - Use DHCP for IP
  - Set root password
  - Enable OpenSSH
  - Choose sys mode to install to disk
5. Reboot the VM:  
reboot

### Step 3: Enable SSH Password Login

1. Install nano (optional):  
apk add nano
2. Edit SSH config:  
nano /etc/ssh/sshd\_config

Make sure these lines are present:

PermitRootLogin yes

PasswordAuthentication yes

3. Restart SSH:  
rc-service sshd restart


4. Set or change root password:  
passwd

#### Step 4: Install and Run Tailscale (Talegate)

1. Update and install Tailscale:  
apk update  
apk add tailscale
2. Enable and start the Tailscale service:  
rc-update add tailscaled  
rc-service tailscaled start
3. Connect to your Tailscale account:  
tailscale up  
→ Follow the login URL shown and approve the device.
4. Get Alpine's Tailscale IP:  
tailscale ip -4

#### Step 5: Access Alpine via PuTTY (Windows)

1. Open PuTTY
2. IP: Enter Tailscale IP of Alpine
3. Port: 22
4. Username: root
5. Password: (your Alpine root password)



 Now you can SSH into Alpine from anywhere using Tailscale!



## Infrastructure Setup

Component	Details
Jump Host	Alpine Linux VM inside VMware ESXi
VPN Tool	Tailscale installed on Alpine
SSH Target	Alpine (Tailscale IP: 100.100.112.74)
Final Target	VMware ESXi (LAN IP: 192.168.1.6)
Local PC	Windows PC (192.168.1.10)

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### → Step-by-Step Summary

1.  Installed Alpine Linux as a VM inside ESXi.
  2.  Installed Tailscale using:  

```
apk add --no-cache curl iptables  
curl -fsSL https://tailscale.com/install.sh | sh  
apk add tailscale  
tailscaled &  
tailscale up
```
  3.  Got the Tailscale IP for Alpine (e.g. 100.100.112.74).
  4.  Verified Alpine can reach ESXi:  

```
nc -vz 192.168.1.6 443
```
- 

## SSH Tunnel Setup (from Windows)

Command:

```
ssh -L 8443:192.168.1.6:443 root@100.100.112.74
```

Purpose:

- Forwards Windows PC port 8443 → Alpine → ESXi port 443
  - Access ESXi web GUI by opening:  
`https://localhost:8443`
-

### Errors Encountered & Fixes

Error / Symptom	Cause	Fix
tailscale: not found	tailscale not installed correctly	Installed manually via apk & script
SSH tunnel fails: "channel open failed: administratively prohibited"	SSH config blocking forwarding	Edited /etc/ssh/sshd_config and enabled: AllowTcpForwarding yes
`netstat -an	grep 8443`: "grep not found"	Used Linux command in PowerShell
		Used Windows: `netstat -an`
Tunnel active but can't access via browser	Browser used 192.168.1.10 instead of localhost	Used: https://localhost:8443 or https://127.0.0.1:8443
Tunnel not listening	SSH session not open or forwarding not allowed	Re-ran SSH with config fixed, kept session open

### Verification

- Confirmed from Windows PC:

```
netstat -an | findstr 8443
```

Output:

```
TCP    127.0.0.1:8443    0.0.0.0:0        LISTENING
```

- Successfully accessed ESXi from:

```
https://localhost:8443
```

#### Notes

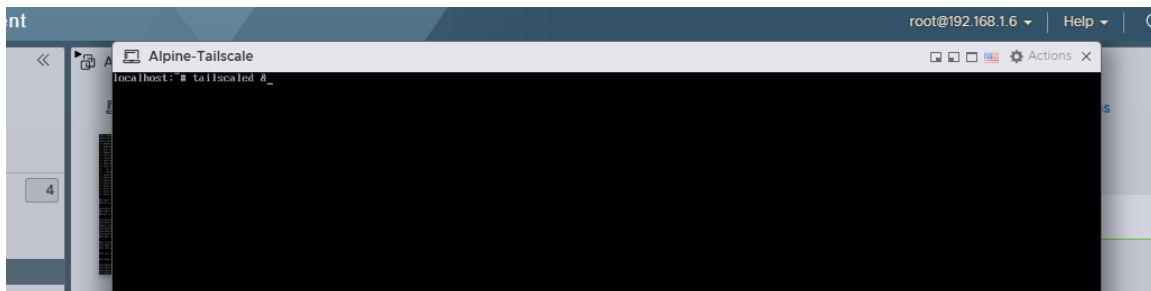
- Tailscale allows access to Alpine VM from any device on Tailscale network.
  - SSH tunnel allows indirect access to ESXi without installing Tailscale on ESXi.
  - Port forwarding is bound to localhost (127.0.0.1) for safety.
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```
Alpine-Tailscale

OpenRC 0.62.2 is starting up Linux 6.12.30-0-virt (x86_64)

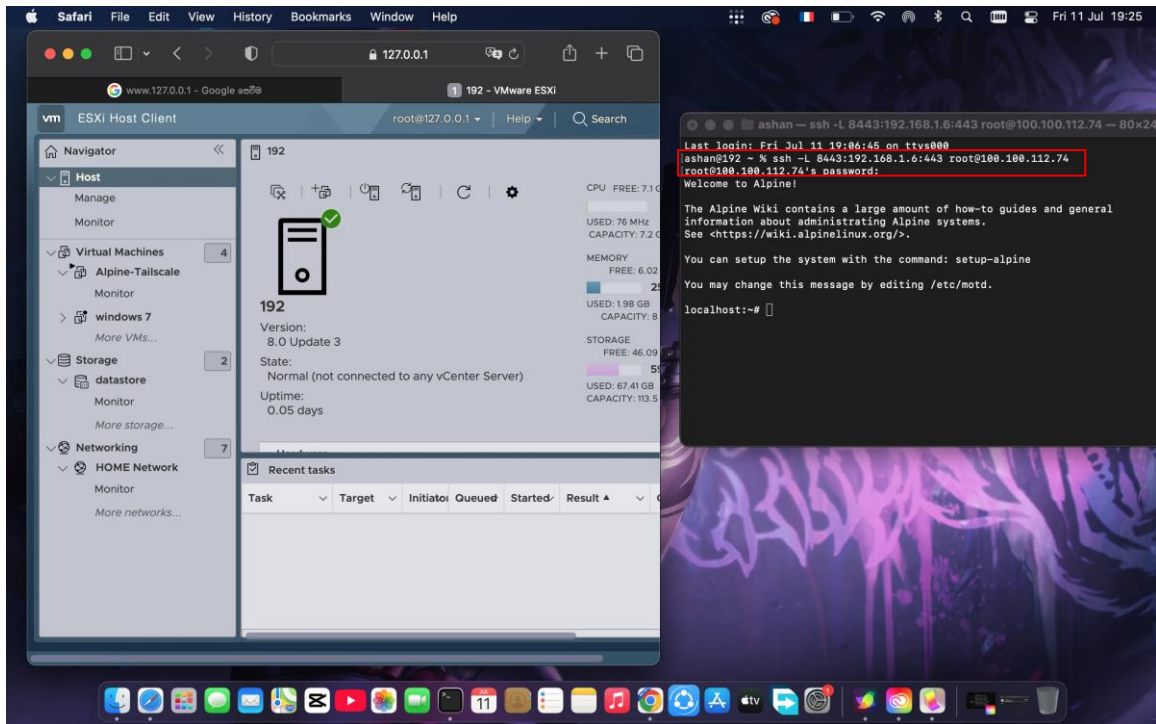
* /proc is already mounted
* Mounting /run ... [ ok ]
* /run/opensrc: creating directory
* /run/lock: creating directory
* /run/lock: correcting owner [ ok ]
* Caching service dependencies ... [ ok ]
* Remounting desktopfs on /dev ... [ ok ]
* Mounting /dev/queue ... [ ok ]
* Mounting security filesystem ... [ ok ]
* Mounting debug filesystem ... [ ok ]
* Mounting persistent storage (pstore) filesystem ... [ ok ]
* Mounting bpf filesystem ... [ ok ]
* Starting busybox mdev ... [ ok ]
* Scanning hardware for mdev ... [ ok ]
* Loading hardware drivers ... [ ok ]
* Loading modules ... [ ok ]
* Setting system clock using the hardware clock (UTC) ... [ ok ]
* Checking local filesystems ... [ ok ]
/dev/sda3: clean, 2594/120256 files, 41994/512768 blocks
/dev/sda1: recovering journal
/dev/sda1: clean, 25/76912 files, 55793/307200 blocks
* Remounting root filesystem read/write ... [ ok ]
* Remounting filesystems ... [ ok ]
* Activating swap devices ... [ ok ]
* Mounting local filesystems ... [ ok ]
* Configuring kernel parameters ... [ ok ]
* Creating user login records ... [ ok ]
* Setting hostname ... [ ok ]
* Setting keymap ... [ ok ]
* Starting networking ... [ ok ]
  lo ... [ ok ]
  eth0 ... [ ok ]
* Seeding random number generator ...
* Seeding 256 bits and crediting
* Saving 256 bits of creditable seed for next boot [ ok ]
* Starting busybox syslog ... [ ok ]
* Starting busybox acpid ... [ ok ]
* Starting busybox crond ... [ ok ]
* Starting busybox ntpd ... [ ok ]
* Starting sshd ... [ ok ]

Welcome to Alpine Linux 3.22
Kernel 6.12.30-0-virt on x86_64 (/dev/tty1)
localhost login:
```



MACHINE	ADDRESSES	VERSION	LAST SEEN
desktop-7sg1rt wotchdog2@gmail.com <a href="#">Exit Node</a>		1.84.2 Windows 10 22H2	Connected <a href="#">Share...</a> <a href="#">...</a>
desktop-tdmg62j wotchdog2@gmail.com		1.84.2 Windows 10 22H2	Jul 9, 9:34 AM GMT+5:30 <a href="#">...</a>
desktop-tdmg62j-1 wotchdog2@gmail.com		1.84.2 Windows 10 22H2	7:03 PM GMT+5:30 <a href="#">...</a>
iphone-14-pro wotchdog2@gmail.com		1.84.0 iOS 18.0.0	Jun 4 <a href="#">...</a>
localhost-0 wotchdog2@gmail.com		1.82.5-AlpineLinux Linux 6.12.30-0-virt	Connected <a href="#">...</a>
macbook-pro wotchdog2@gmail.com		1.84.1 macOS 11.6.8	Jun 15 <a href="#">...</a>
msi wotchdog2@gmail.com		1.84.0 Windows 11 24H2	May 24 <a href="#">...</a>

## Remote Exsi access



## Access the any local machine

