

SSL VPN

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DEPI_1_ONL1_ISS8_S1E FORTINET CYBERSECURITY ENGINEER

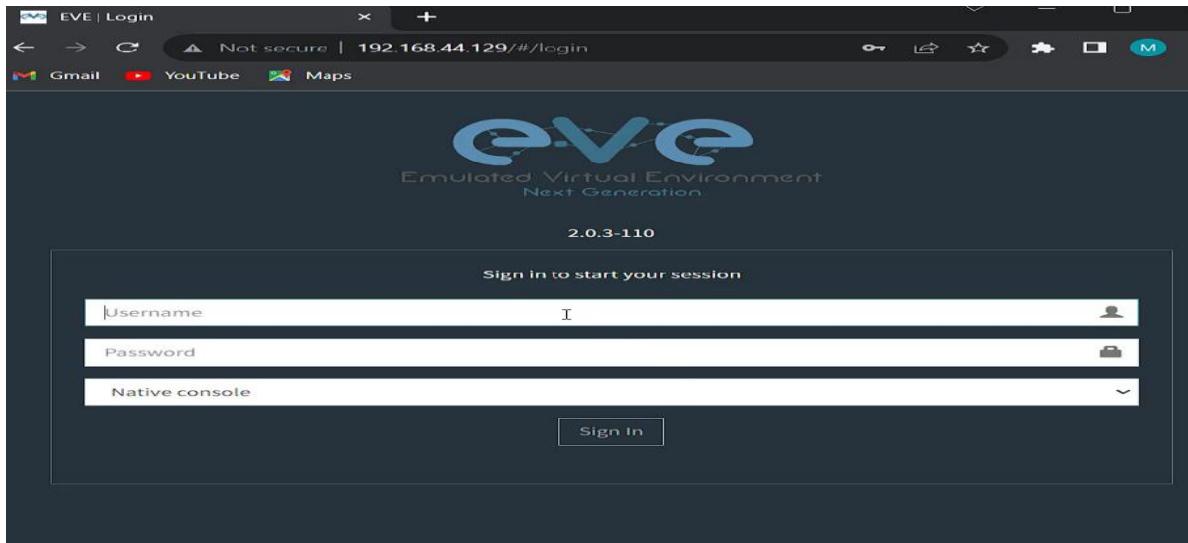
SSL VPN lab

Objective of the Lab

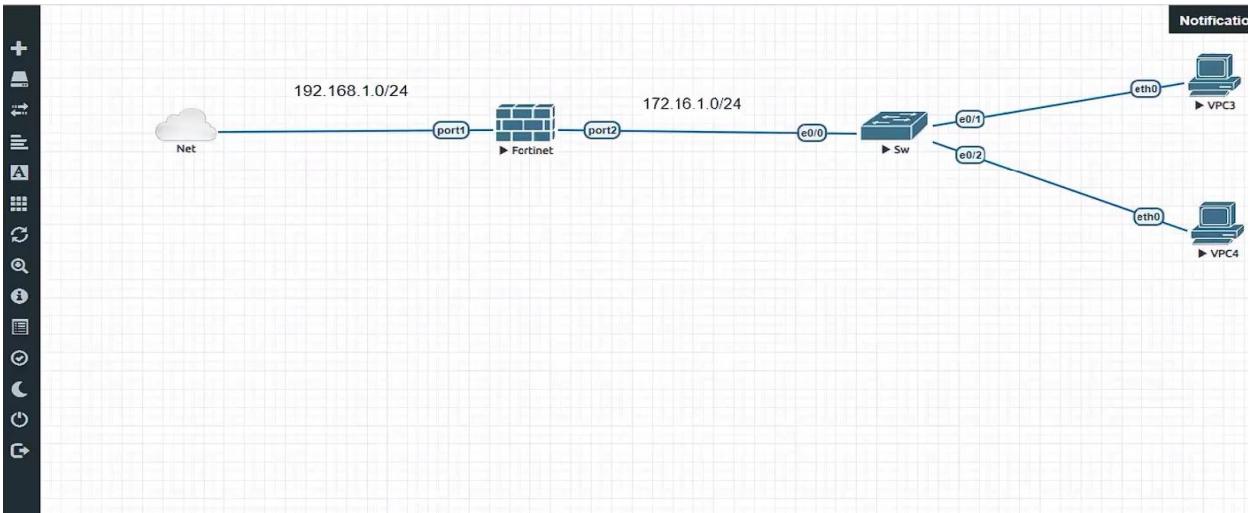
The objective of this lab is to configure and test **SSL VPN (Secure Socket Layer Virtual Private Network)**, allowing remote users to securely connect to a private network using encrypted communication. The lab focuses on setting up an SSL VPN connection, configuring devices, and verifying the secure access to internal resources.

Credentials:

- Username: admin
- Password: EVE



Topology



Components used

- Fortinet firewall
- Switch
- Internet
- 2 pcs

configuration done on the devices

The screenshot shows a terminal window titled "Fortinet". The window displays the following configuration commands:

```
FortiFirewall-VM64-KVM login:  
FortiFirewall-VM64-KVM login: admin  
Password:  
You are forced to change your password. Please input a new password.  
New Password:  
Confirm Password:  
Welcome!  
  
FortiFirewall-VM64-KVM #  
FortiFirewall-VM64-KVM #  
FortiFirewall-VM64-KVM #  
FortiFirewall-VM64-KVM #  
FortiFirewall-VM64-KVM # config system global  
  
[root@FW ~]#  
  
FGFW # show system dns  
config system dns  
    set primary 8.8.8.8  
    set secondary 8.8.4.4  
end  
  
FGFW #
```

Fortinet

```
FGFW #
FGFW # config system interface

FGFW (interface) # edit port1

FGFW (port1) # set mode static

FGFW (port1) # set ip 192.168.1.253/24

FGFW (port1) # set allowaccess ping ssh https fgfm http telnet

FGFW (port1) # next

FGFW (interface) # edit port2

FGFW (port2) # set mode static

FGFW (port2) # set ip 172.16.1.1/24

FGFW (port2) # set allowaccess https ping ssh telnet snmp http

FGFW (port2) # end

FGFW #

FGFW # ping 8.8.8.8
Unknown action 0

FGFW # execute ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8): 56 data bytes
sendto failed
sendto failed
sendto failed
sendto failed
sendto failed

--- 8.8.8.8 ping statistics ---
5 packets transmitted, 0 packets received, 100% packet loss

FGFW (static) # edit 1
new entry '1' added

FGFW (1) # set gateway 192.168.1.1

FGFW (1) # set device port1

FGFW (1) # next

FGFW (static) # end

FGFW # execute ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8): 56 data bytes
64 bytes from 8.8.8.8: icmp_seq=0 ttl=60 time=25.9 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=60 time=17.5 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=60 time=17.9 ms

--- 8.8.8.8 ping statistics ---
5 packets transmitted, 3 packets received, 40% packet loss
round-trip min/avg/max = 17.5/20.4/25.9 ms
```

```
C:\Windows\System32\cmd.exe - nslookup  
Microsoft Windows [Version 10.0.19045.3570]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\WINDOWS\system32>nslookup  
Default Server: UnKnown  
Address: 192.168.1.1  
  
> www.facebook.com  
Server: UnKnown  
Address: 192.168.1.1  
  
Non-authoritative answer:  
Name: star-mini.c10r.facebook.com  
Addresses: 2a03:2880:f108:83:face:b00c:0:25de  
          157.240.203.35  
Aliases: www.facebook.com  
  
> -
```

```
FGFW # execute ping 157.240.203.35  
PING 157.240.203.35 (157.240.203.35): 56 data bytes  
64 bytes from 157.240.203.35: icmp_seq=0 ttl=52 time=64.5 ms  
64 bytes from 157.240.203.35: icmp_seq=1 ttl=52 time=62.0 ms  
64 bytes from 157.240.203.35: icmp_seq=2 ttl=52 time=79.2 ms  
64 bytes from 157.240.203.35: icmp_seq=3 ttl=52 time=61.8 ms  
64 bytes from 157.240.203.35: icmp_seq=4 ttl=52 time=60.9 ms  
  
--- 157.240.203.35 ping statistics ---  
5 packets transmitted, 5 packets received, 0% packet loss  
round-trip min/avg/max = 60.9/65.6/79.2 ms
```

```
FGFW (port1) # set ip 192.168.1.253/24
```

Steps of the lab

CLI Configuration



A screenshot of the FortiFirewall VM64-KVM interface. The left sidebar shows navigation options like Dashboard, Security Fabric, Network, Interfaces, Static Routes, Policy Routes, RIP, OSPF, BGP, Multicast, System, Policy & Objects, VPN, User & Authentication, and Log & Report. The 'Interfaces' option is selected. The main panel shows the 'Edit Interface' dialog for 'port1'. The 'Name' field is set to 'port1'. The 'Type' dropdown is set to 'Physical Interface'. The 'Role' dropdown is set to 'WAN'. The 'Estimated bandwidth' fields show '0 kbps Upstream' and '0 kbps Downstream'. Under the 'Address' section, 'Addressing mode' is set to 'Manual' with IP/Netmask '192.168.1.253/255.255.255.0'. The 'Administrative Access' section lists various protocols: HTTPS, FMG-Access, TELNET, Security Fabric Connection (unchecked), HTTP, SSH, PING, SNMP, and RADIUS Accounting. The right side of the screen displays system status: FortiGate FGFW, Active Administrator Sessions (1 HTTP), Status (Up), MAC address (50:00:00:01:00:00), Speed Test (button to execute), Documentation (links to Online Help and Video Tutorials), and an 'Activate Windows' message.

FortiFirewall VM64-KVM FGFW

Dashboard

Network

Interfaces

DNS

Packet Capture

SD-WAN Zones

SD-WAN Rules

Performance SLA

Static Routes

Policy Routes

RIP

OSPF

BGP

Multicast

System

Policy & Objects

VPN

User & Authentication

Log & Report

Edit Interface

Name: port2

Alias:

Type: Physical Interface

VRF ID: 0

Role: LAN

Address

Addressing mode: Manual

IP/Netmask: 172.16.1.1/255.255.255.0

Create address object matching subnet:

Secondary IP address:

Administrative Access

IPv4:

- HTTPS
- FMG-Access
- TELNET
- Security Fabric Connection
- HTTP
- SSH
- FTM
- PING
- SNMP
- RADIUS Accounting

Receive LLDP: Use VDOM Setting Enable Disable

OK Cancel

FortiGate

Status: Up

MAC address: 50:00:00:01:00:01

Documentation

Online Help

Video Tutorials

Activate Windows
Go to Settings to activate Windows.

FortiFirewall VM64-KVM

1 3 5 7 9 11 13 15 17 19 21 23

2

Name	Type
802.3ad Aggregate 1	Physical Interface
fortilink	802.3ad A

Create New Edit

Physical Interface 4

Interface: WAN (port1)

Alias: WAN

Link: 10 Gbps Full Duplex

Port Speed: Auto-Negotiation

Type: Physical Interface

Role: WAN

IPv4 Addresses: 192.168.1.253/24

FortiSwitch

FortiFirewall VM64-KVM

1	3	5	7	9	11	13	15	17	19	21	23

Create New Edit Delete

Name	Type
802.3ad Aggregate 1	802.3ad Agg

Physical Interface 4

LAN (port2)	Physical Interface	172.16.1.1/255.255.255.0
	Physical Interface	172.16.1.1/255.255.255.0

DHCP Server

Address range: 172.16.1.10-172.16.1.15

Netmask: 255.255.255.0

Default gateway: Same as Interface IP | Specify

DNS server: Same as System DNS | Same as Interface IP | Specify

Lease time: 604800 second(s)

Advanced

VPC3

Welcome to Virtual PC Simulator, version 1.3 (0.8.1)
Dedicated to Daling.
Build time: May 7 2022 15:27:29
Copyright (c) 2007-2015, Paul Meng (mirnshi@gmail.com)
Copyright (c) 2021, Alain Degreffé (alain.degreffe@eve-ng.net)
All rights reserved.

VPCS is free software, distributed under the terms of the "BSD" licence.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.
Modified version for EVE-NG.

Press '?' to get help.

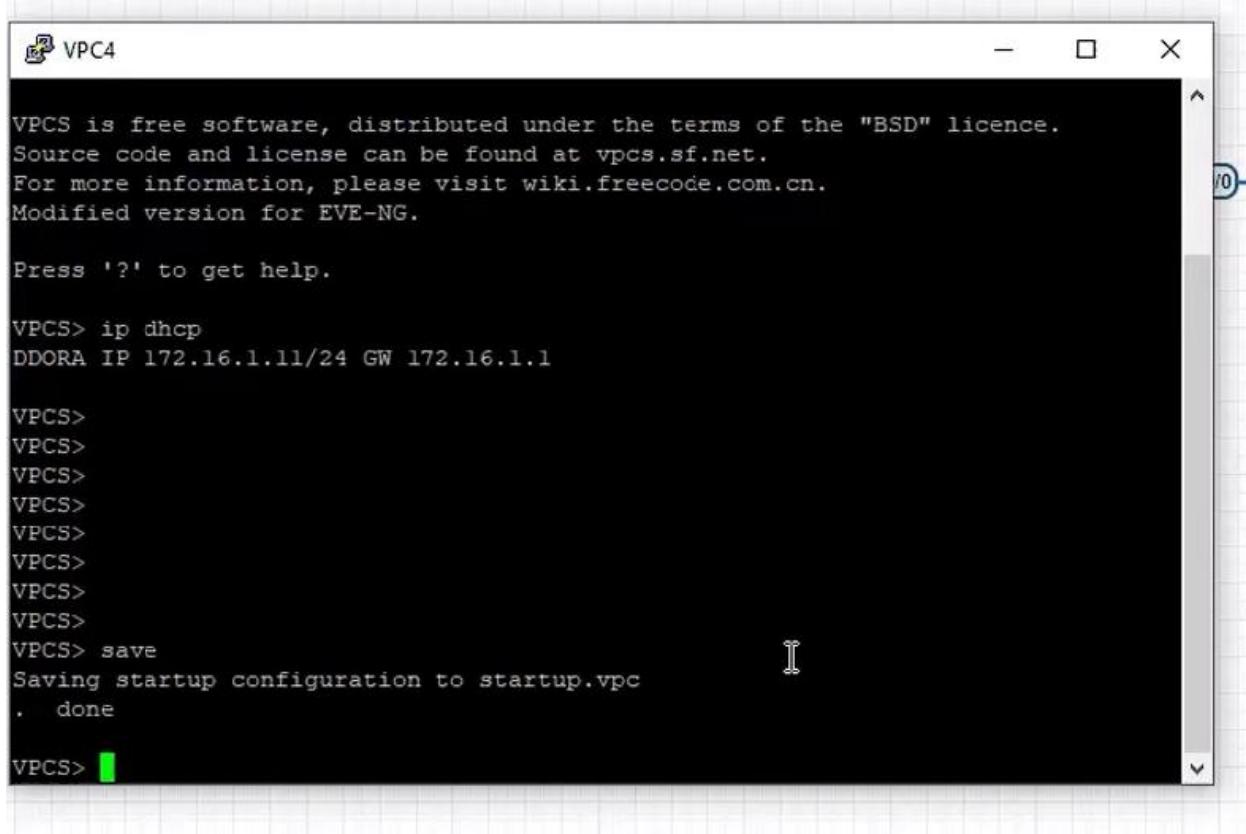
VPCS> ip dhcp
DDORA IP 172.16.1.10/24 GW 172.16.1.1

VPCS> █

VPCS> show ip

NAME	:	VPCS[1]
IP/MASK	:	172.16.1.10/24
GATEWAY	:	172.16.1.1
DNS	:	8.8.8.8 8.8.4.4
DHCP SERVER	:	172.16.1.1
DHCP LEASE	:	604789, 604800/302400/529200
MAC	:	00:50:79:66:68:03
LPORT	:	20000
RHOST:PORT	:	127.0.0.1:30000
MTU	:	1500

```
VPCS> save
Saving startup configuration to startup.vpc
. done
```



The screenshot shows a terminal window titled "VPC4". The window contains the following text:

```
VPCS is free software, distributed under the terms of the "BSD" licence.
Source code and license can be found at vpcs.sf.net.
For more information, please visit wiki.freecode.com.cn.
Modified version for EVE-NG.

Press '?' to get help.

VPCS> ip dhcp
DDORA IP 172.16.1.11/24 GW 172.16.1.1

VPCS>
VPCS>
VPCS>
VPCS>
VPCS>
VPCS>
VPCS>
VPCS>
VPCS> save
Saving startup configuration to startup.vpc
. done

VPCS>
```

Configuration SSL VPN

To configure SSL VPN using the GUI:

1. Configure the interface and firewall address. The port1 interface connects to the internal network.
 - a. Go to Network > Interfaces and edit the wan1 interface.
 - b. Set IP/Network Mask to 172.20.120.123/255.255.255.0.

- c. Edit port 1 interface and set IP/Network Mask to 192.168.1.99/255.255.255.0.
 - d. Click OK.
-
- e. Go to Policy & Objects > Address and create an address for internal subnet 192.168.1.0.

2. Configure user and user group.

- a. Go to User & Device > User Definition to create a local user sslvpnuser1.

- b. Go to User & Device > User Groups to create a group ss/vpngroup with the member sslvpnuser1.

3. Configure SSL VPN web portal.

- a. Go to VPN > SSL-VPN Portals to create a tunnel mode only portal my-split-tunnel-portal.

- b. Enable Split Tunneling.

- c. Select Routing Address to define the destination network that will be routed through the tunnel. Leave undefined to use the destination in the respective firewall policies.

4. Configure SSL VPN settings.

- a. Go to VPN > SSL-VPN Settings.

- b. For Listen on Interface(s), select wan1.

- c. Set Listen on Port to 10443.
 - d. Optionally, set Restrict Access to Limit access to specific hosts, and specify the addresses of the host are allowed to connect to this VPN.
 - e. Choose a certificate for Server Certificate. The default is Fortinet_Factory.
 - f. In Authentication/Portal Mapping All Other Users/Groups, set the Portal to tunnel-access.
 - g. Create new Authentication/Portal Mapping for group sslvpngroup mapping portal my-split-tu
5. Configure SSL VPN firewall policy.
- a. Go to Policy & Objects > IPv4 Policy.
 - b. Fill in the firewall policy name. In this example, sslvpn split tunnel access.
 - c. Incoming interface must be SSL-VPN tunnel interface(ssl.root).
 - d. Choose an Outgoing Interface. In this example, port1.
 - e. Set the Source to SSLVPN_TUNNEL_ADDR1 and group to ss/vpngroup. The source address the tunnel IP addresses that the remote clients are using.
 - f. In this example, the Destination is 192.168.1.0.
 - g. Set Schedule to always, Service to ALL, and Action to Accept.

h. Click OK.

The screenshots illustrate the process of creating an SSLVPN tunnel address in the FortiFirewall VM64-KVM interface.

Screenshot 1: Edit Address

This screenshot shows the "Edit Address" configuration page. The "Name" field is set to "SSLVPN_TUNNEL_ADDR1". The "Type" dropdown is set to "IP Range", and the "IP Range" field contains "172.16.1.100-172.16.1.150". The "Interface" dropdown is set to "SSL-VPN tunnel interface (ssl.root)". A note indicates "Static route configuration" is disabled. The "Comments" field is empty.

Screenshot 2: Addresses List

This screenshot shows the "Addresses" list page. It displays two entries under the "IP Range/Subnet" section: "FABRIC_DEVICE" and "SSLVPN_TUNNEL_ADDR1", which is highlighted. The "SSLVPN_TUNNEL_ADDR1" entry has the IP range "172.16.1.100 - 172.16.1.150" and the interface "SSL-VPN tunnel interface (ssl.root)".

Screenshot 3: User & Authentication Wizard

This screenshot shows the "User & Authentication" wizard. The "User Type" step is selected, showing options: Local User (highlighted), Remote RADIUS User, Remote TACACS+ User, Remote LDAP User, FSSO, and FortiNAC User.

FortiFirewall VM64-KVM FFW

Dashboard > Users/Groups Creation Wizard
Security Fabric >
Network >
System >
Policy & Objects >
VPN >
User & Authentication >
User Definition 
User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report >

User Type > **2 Login Credentials** > **3 Contact Info** > **4 Extra Info**

Username: SSLVPNUSER1
Password: 

FortiFirewall VM64-KVM FFW

Dashboard > Users/Groups Creation Wizard
Security Fabric >
Network >
System >
Policy & Objects >
VPN >
User & Authentication >
User Definition 
User Groups
Guest Management

User Type > **✓ Login Credentials** > **✓ Contact Info** > **4 Extra Info**

User Account Status:  
User Group: 

FortiFirewall VM64-KVM FFW

Dashboard >     Search     adm

Name Type Two-factor Authentication Groups Status Ref.

Name	Type	Two-factor Authentication	Groups	Status	Ref.
SSLVPNUSER1	LOCAL			 Enabled	0
guest	LOCAL		Guest-group	 Enabled	1

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report >

FortiFirewall VM64-KVM FFW

Dashboard > Users/Groups Creation Wizard
Security Fabric >
Network >
System >
Policy & Objects >
VPN >
User & Authentication >
User Definition

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report >

Users/Groups Creation Wizard
1 User Type > 2 Login Credentials > 3 Contact Info > 4 Extra Info
Username: SSLVPNUSER2
Password: *****

FortiFirewall VM64-KVM FFW

Dashboard > Users/Groups Creation Wizard
Security Fabric >
Network >
System >
Policy & Objects >
VPN >
User & Authentication >
User Definition

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report >

Users/Groups Creation Wizard
1 User Type > 2 Login Credentials > 3 Contact Info > 4 Extra Info
User Account Status: Enabled Disabled
User Group:

FortiFirewall VM64-KVM FFW

Dashboard > Users/Groups Creation Wizard
Security Fabric >
Network >
System >
Policy & Objects >
VPN >
User & Authentication >
User Definition

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report >

Users/Groups Creation Wizard
1 User Type > 2 Login Credentials > 3 Contact Info > 4 Extra Info
Local User
Remote RADIUS User
Remote TACACS+ User
Remote LDAP User
FSSO
FortiNAC User

FortiFirewall VM64-KVM FFW

Dashboard > User & Authentication > User Definition

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report

Users/Groups Creation Wizard
1 User Type > 2 Login Credentials > 3 Contact Info > 4 Extra Info

Username: SSLVPNUSER3
Password:

FortiFirewall VM64-KVM FFW

Dashboard > User & Authentication > User Definition

User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report

Name	Type	Two-factor Authentication	Groups	Status	Ref.
SSLVPNUSER1	LOCAL	✗		Enabled	0
SSLVPNUSER2	LOCAL	✗		Enabled	0
SSLVPNUSER3	LOCAL	✗		Enabled	0
guest	LOCAL	✗	Guest-group	Enabled	1

FortiFirewall VM64-KVM FFW

Dashboard > User & Authentication > User Groups

User Definition
User Groups
Guest Management
LDAP Servers
RADIUS Servers
Authentication Settings
FortiTokens
Log & Report

New User Group
Name: SSLVPNUSERSGROUP
Type: Firewall
Members: SSLVPNUSER1, SSLVPNUSER2, SSLVPNUSER3

Select Entries
Search:
USER (4)
Local (4)
guest
SSLVPNUSER1
SSLVPNUSER2
SSLVPNUSER3

OK Cancel

FortiFirewall VM64-KVM FFW

Dashboard > Create New | Edit | Clone | Delete | Search | Q

Group Name	Group Type	Members	Ref.
Guest-group	Firewall	guest	0
SSLVPNUSERSGROUP	Firewall	SSLVPNUSER1 SSLVPNUSER2 SSLVPNUSER3	0
SSO_Guest_Users	Fortinet Single Sign-On (FSSO)		1

User & Authentication > User Groups > Guest Management, LDAP Servers, RADIUS Servers, Authentication Settings, FortiTokens, Log & Report

FortiFirewall VM64-KVM FFW

Dashboard > SSL-VPN Settings

No SSL-VPN policies exist. Click here to create a new SSL-VPN policy using these settings

Connection Settings

Enable SSL-VPN

Listen on Interface(s) WAN (port1)

Listen on Port

Web mode access will be listening at <https://192.168.1.253:8443>

Redirect HTTP to SSL-VPN

Restrict Access Allow access from any host | Limit access to specific hosts

Idle Logout 300 Seconds | self-sign

Server Certificate You are using a default built-in certificate, which will not be able to verify your server's domain name (your users will see a warning). It is recommended to purchase a certificate for your domain and upload it for use.

Web Mode for Remote User

Full Tunnel for Remote User

Split Tunnel for Remote User

Tunnel Mode Host Check

Multi-realm

Multi-Realm

Authentication

Certificate Authentication

LDAP-Integrated Certificate Authentication

FortiToken Mobile Push Authentication

RADIUS on FortiAuthenticator

RADIUS and FortiToken Mobile Push on FortiAuthenticator

Local User Password Policy

RADIUS Password Renew on FortiAuthenticator

LDAP User Password Renew

VPN Setup on FortClient

Configuring an SSL VPN Connection

Troubleshooting

Troubleshooting

Documentation

FortiFirewall VM64-KVM FFW

Dashboard > SSL-VPN Settings

Redirect HTTP to SSL-VPN

Restrict Access Allow access from any host | Limit access to specific hosts

Idle Logout 600 Seconds | Fortinet_Factory

Server Certificate You are using a default built-in certificate, which will not be able to verify your server's domain name (your users will see a warning). It is recommended to purchase a certificate for your domain and upload it for use.

Click here to learn more

Require Client Certificate

Tunnel Mode Client Settings

Address Range Automatically assign addresses | Specify custom IP ranges

Tunnel users will receive IPs in the range of 172.16.1.100 - 172.16.1.150

Web Mode for Remote User

Full Tunnel for Remote User

Split Tunnel for Remote User

Tunnel Mode Host Check

Multi-realm

Multi-Realm

Authentication

Certificate Authentication

LDAP-Integrated Certificate Authentication

FortiToken Mobile Push Authentication

RADIUS on FortiAuthenticator

RADIUS and FortiToken Mobile Push on FortiAuthenticator

Local User Password Policy

RADIUS Password Renew on FortiAuthenticator

LDAP User Password Renew

VPN Setup on FortClient

Configuring an SSL VPN Connection

Troubleshooting

Troubleshooting

Documentation

Online Help

Video Tutorials

Activate Windows Go to Settings to activate Windows

DNS Server Same as client system DNS Specify

Specify WINS Servers

Authentication/Portal Mapping i

+ Create New	Edit	Delete	Send SSL-VPN Configuration
Users/Groups	Portal		
All Other Users/Groups	Not Set		
1			

FortiFirewall VM64-KVM FFW

- Dashboard
- Security Fabric
- Network
- System
- Policy & Objects
- VPN**
 - Overlay Controller VPN
 - IPsec Tunnels
 - IPsec Wizard
 - IPsec Tunnel Template
- SSL-VPN Portals
- SSL-VPN Settings** ★
 - VPN Location Map
 - User & Authentication
 - Log & Report

New Authentication/Portal Mapping

Users/Groups	+	User Group SSLVPNUSERSGROUP Members SSLVPNUSER1 SSLVPNUSER2 SSLVPNUSER3 Group Type Firewall References 0
Edit		Select Entries SSLVPNUSERSGROUP
Create		Search SSLVPNUSERSGROUP + Create
Local (4)		
SSLVPNUSER1		
SSLVPNUSER2		
SSLVPNUSER3		
SSLVPNUSERGROUP (2)		
Guest-group		
SSLVPNUSERSGROUP		

FortiFirewall VM64-KVM FFW

- Dashboard
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- SSL-VPN Portals
- SSL-VPN Settings
- VPN Location Map
- User & Authentication**
- Log & Report

Edit SSL-VPN Portal

Name full-access	FortiGate FGFW
Limit Users to One SSL-VPN Connection at a Time <input checked="" type="checkbox"/>	
Tunnel Mode <input checked="" type="radio"/>	
Enable Split Tunneling SSLVPN_TUNNEL_ADDR1 +	
Tunnel Mode Client Options	
Allow client to save password <input checked="" type="checkbox"/>	
Allow client to connect automatically <input checked="" type="checkbox"/>	
Allow client to keep connections alive <input checked="" type="checkbox"/>	
DNS Split Tunneling <input checked="" type="checkbox"/>	
Host Check <input checked="" type="checkbox"/>	
Restrict to Specific OS Versions <input checked="" type="checkbox"/>	
Enable Web Mode	

Activate Windows
Go to Settings to activate Windows.



FortiFirewall VM64-KVM FFW

Dashboard Security Fabric Network System Policy & Objects **VPN** Overlay Controller VPN IPsec Tunnels IPsec Wizard IPsec Tunnel Template **SSL-VPN Portals** SSL-VPN Settings VPN Location Map User & Authentication Log & Report

Edit SSL-VPN Portal

Name: full-access

Limit Users to One SSL-VPN Connection at a Time:

Tunnel Mode:

Enable Split Tunneling:

Source IP Pools: **SSLVPN_TUNNEL_ADDR1**

Tunnel Mode Client Options:

- Allow client to save password:
- Allow client to connect automatically:
- Allow client to keep connections alive:
- DNS Split Tunneling:

FortiGate FFW Documentation Online Help Video Tutorials

FortiFirewall VM64-KVM FFW

Dashboard Security Fabric Network System Policy & Objects **VPN** Overlay Controller VPN IPsec Tunnels IPsec Wizard IPsec Tunnel Template **SSL-VPN Portals** SSL-VPN Settings VPN Location Map User & Authentication Log & Report

Edit SSL-VPN Portal

Name: full-access

Limit Users to One SSL-VPN Connection at a Time:

Tunnel Mode:

Enable Split Tunneling:

Source IP Pools: **SSLVPN_TUNNEL_ADDR1**

Tunnel Mode Client Options:

- Allow client to save password:
- Allow client to connect automatically:
- Allow client to keep connections alive:
- DNS Split Tunneling:

Host Check:

Address: **SSLVPN_TUNNEL_ADDR1**

Type: IP Range

IP Range: 172.16.1.100 - 172.16.1.150

Interface: **SSL-VPN tunnel interface (ssl.root)**

References: 2

Edit

FortiGate FFW Documentation Online Help Video Tutorials

FortiFirewall VM64-KVM FFW

Dashboard Security Fabric Network System Policy & Objects **VPN** Overlay Controller VPN IPsec Tunnels IPsec Wizard IPsec Tunnel Template **SSL-VPN Portals** SSL-VPN Settings VPN Location Map User & Authentication Log & Report

Edit SSL-VPN Portal

Tunnel Mode:

Enable Split Tunneling:

Source IP Pools: **SSLVPN_TUNNEL_ADDR1**

Tunnel Mode Client Options:

- Allow client to save password:
- Allow client to connect automatically:
- Allow client to keep connections alive:
- DNS Split Tunneling:

Host Check:

Restrict to Specific OS Versions:

Enable Web Mode:

Portal Message: **SSL-VPN Portal**

FortiGate FFW Documentation Online Help Video Tutorials

FortiFirewall VM64-KVM FGFW

- Dashboard
- Security Fabric
- Network
- System
- Policy & Objects
- VPN**
 - Overlay Controller VPN
 - IPsec Tunnels
 - IPsec Wizard
 - IPsec Tunnel Template
 - SSL-VPN Portals**
 - SSL-VPN Settings
 - VPN Location Map
- User & Authentication
- Log & Report

Edit SSL-VPN Portal

Type: Realtime AntiVirus Firewall **Enable both**

Host Check

Restrict to Specific OS Versions

Name	Action
7	Deny
8	Deny
8.1	Allow
10	Allow
11	Allow
Apple 10.13	Allow
Apple 10.14	Allow
Apple 10.15	Allow
Apple 11	Allow

Enable Web Mode

Portal Message: **SSL-VPN Portal**

Theme: **Blue**

Show Session Information:

Show Connection Launcher:

Show Login History:

User Bookmarks:

Predefined Bookmarks

FortiFirewall VM64-KVM FGFW

- Dashboard
- Security Fabric
- Network
- System
- Policy & Objects
- VPN**
 - Overlay Controller VPN
 - IPsec Tunnels
 - IPsec Wizard
 - IPsec Tunnel Template
 - SSL-VPN Portals**
 - SSL-VPN Settings
 - VPN Location Map
- User & Authentication
- Log & Report

Edit SSL-VPN Portal

Restrict to Specific OS Versions

Name	Action
7	Deny
8	Deny
8.1	Allow
10	Allow
11	Allow
Apple 10.13	Allow
Apple 10.14	Allow
Apple 10.15	Allow
Apple 11	Allow

Enable Web Mode

Portal Message: **SSL-VPN Portal**

Theme: **Blue**

Show Session Information:

Show Connection Launcher:

Show Login History:

User Bookmarks:

Enable FortiClient Download

Download Method: **Direct SSL-VPN Proxy**

Customize Download Location:

Windows:

Mac:

FortiFirewall VM64-KVM FFW

- Dashboard
- Security Fabric
- Network
- System
- Policy & Objects
- VPN**
- Overlay Controller VPN
- IPsec Tunnels
- IPsec Wizard
- IPsec Tunnel Template
- SSL-VPN Portals
- SSL-VPN Settings**
- VPN Location Map
- User & Authentication
- Log & Report

SSL-VPN Settings

No SSL-VPN policies exist. Click here to create a new SSL-VPN policy using the settings.

Connection Settings

Enable SSL-VPN

Listen on Interface(s) WAN (port1)

Listen on Port 8443

Web mode access will be listening at <https://192.168.1.253:8443>

Redirect HTTP to SSL-VPN

Restrict Access Allow access from any host Limit access to specific hosts

Idle Logout

Inactive For 600 Seconds

Server Certificate Fortinet_Factory

SSL-VPN Setup Guides

- Web Mode
- Web Mode for Remote User
- Tunnel Mode
- Full Tunnel for Remote User
- Split Tunnel for Remote User
- Tunnel Mode Host Check
- Multi-realm
- Multi-Realm
- Authentication
- Certificate Authentication
- LDAP-Integrated Certificate Authentication
- FortiToken Mobile Push Authentication
- RADIUS on FortiAuthenticator
- RADIUS and FortiToken Mobile Push on FortiAuthenticator
- Local User Password Policy
- RADIUS Password Renew on FortiAuthenticator
- LDAP User Password Renew
- VPN Setup on FortiClient
- Configuring an SSL VPN Connection
- Troubleshooting

FortiFirewall VM64-KVM FFW

- Dashboard
- Security Fabric
- Network
- System
- Policy & Objects
- Firewall Policy**
- IPv4 DoS Policy
- Addresses
- Internet Service Database
- Services
- Schedules
- Virtual IPs
- IP Pools
- Traffic Shapers
- Traffic Shaping Policy
- Traffic Shaping Profile
- VPN
- Local Authentication

New Policy

Name **SSLVPNPOLICY**

Incoming Interface **SSL-VPN tunnel interface (ssl.root)**

Outgoing Interface **LAN (port2)**

Source **SSLVPN_TUNNEL_ADDR1**

Destination One user or group is required

Schedule **always**

Service *****

Action **ACCEPT**

Inspection Mode Flow-based

Firewall / Network Options

NAT

IP Pool Configuration Use Outgoing Interface Address Use Dynamic IP Pool

Preserve Source Port

SSL-VPN Tunnel Address

Address	Type	IP Range	Interface	References
SSLVPN_TUNNEL_ADDR1	IP Range	172.16.1.100 - 172.16.1.150	SSL-VPN tunnel interface (ssl.root)	2
SSLVPN_TUNNEL_ADDR1	Service			
SSLVPN_TUNNEL_ADDR1	User			

SSL-VPN Tunnel Address

- * all
- FABRIC_DEVICE
- FIREWALL_AUTH_PORTAL_ADDRESS
- gmail.com
- login.microsoft.com
- login.microsoftonline.com
- login.windows.net
- none
- SSLVPN_TUNNEL_ADDR1
- wildcard.dropbox.com
- wildcard.google.com
- ADDRESS GROUP (2)
- G Suite
- Microsoft Office 365

FortiFirewall VM64-KVM FFW

New Policy

Name LAN
Color Change
Type Subnet
IP/Netmask 172.16.1.0/24
Source Interface LAN (port2)

Destination Write a comment... 0/255

Action OK Cancel

FortiFirewall VM64-KVM FFW

New Policy

Name SSLVPNPOLICY
Incoming Interface SSL-VPN tunnel interface (ssl.root)
Outgoing Interface LAN (port2)
Source SSLVPN_TUNNEL_ADDR1
SSLVPNUSERSGROUP

Destination LAN

Schedule always

Service ALL

Action ✓ ACCEPT

FortiFirewall VM64-KVM FFW

New Policy

Destination LAN
Schedule always
Service ALL

Action ✓ ACCEPT

Inspection Mode Flow-based Proxy-based

Firewall / Network Options

NAT

Logging Options

Log Allowed Traffic

Generate Logs when Session Starts

Comments Write a comment... 0/1023

Enable this policy

Testing the Lab

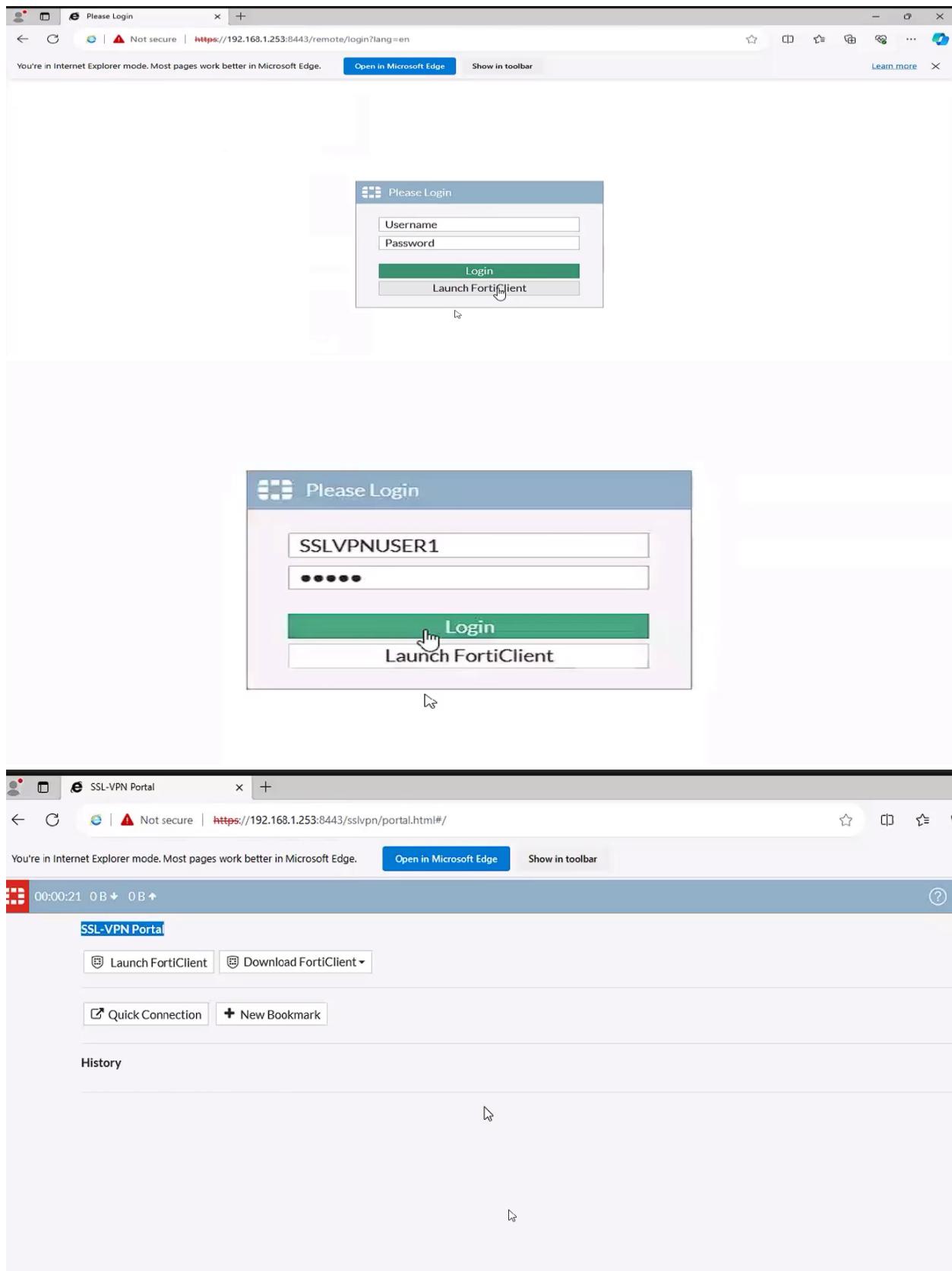
To test the SSL VPN configuration:

1. Open a browser on the client machine.
2. Enter the VPN portal address (e.g., <https://<vpn-portal-ip>>).
3. Log in with the configured credentials.
4. Check connectivity to internal resources:
 - o Ping internal IP addresses.
 - o Access services behind the VPN.

The Results

After completing the above steps:

- SSL VPN was successfully configured on the network device.
- The client machine was able to:
 - o Log in to the VPN portal.
 - o Establish an encrypted SSL VPN connection.
 - o Access internal network resources securely.



The image shows a dual-monitor setup. The top monitor displays the SSL-VPN Portal interface. The header includes a red square icon, the text "00:00:47 0 B↓ 0 B↑", and a "SSL-VPN Portal" button. Below the header are three main buttons: "Launch FortiClient", "Quick Connection", and "History". A dropdown menu titled "Download FortiClient" is open, showing options for "Windows" (which is highlighted), "iOS", "Android", and "Mac". The bottom monitor displays the FortGuard Labs website. The header features a search bar, the "FortGuard Labs" logo, and navigation links for "News / Research", "Services", "Threat Intelligence", "Resources", and "About". The "FORTINET" logo is in the top right. The main content area is titled "Services" and lists three categories: "Network" (with a globe icon), "Application" (with a gear icon), and "Files and Endpoint" (with a folder icon).