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# T1562.004 - Disable or Modify System Firewall

## Description from ATT&CK

Adversaries may disable or modify system firewalls in order to bypass controls limiting network usage. Changes could be disabling the entire mechanism as well as adding, deleting, or modifying particular rules. This can be done numerous ways depending on the operating system, including via command-line, editing Windows Registry keys, and Windows Control Panel.

Modifying or disabling a system firewall may enable adversary C2 communications, lateral movement, and/or data exfiltration that would otherwise not be allowed.

## Atomic Tests

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## Atomic Test #1 - Disable Microsoft Defender Firewall

Disables the Microsoft Defender Firewall for the current profile. Caution if you access remotely the host where the test runs! Especially with the cleanup command which will re-enable firewall for the current profile...

**Supported Platforms:** Windows

**auto\_generated\_guid:** 88d05800-a5e4-407e-9b53-ece4174f197f

**Attack Commands:** Run with `command_prompt` !

```
netsh advfirewall set currentprofile state off
```



**Cleanup Commands:**

```
netsh advfirewall set currentprofile state on >nul 2>&1
```



## Atomic Test #2 - Disable Microsoft Defender Firewall via Registry

Disables the Microsoft Defender Firewall for the public profile via registry Caution if you access remotely the host where the test runs! Especially with the cleanup command which will re-enable firewall for the current profile...

**Supported Platforms:** Windows

**auto\_generated\_guid:** afedc8c4-038c-4d82-b3e5-623a95f8a612

**Attack Commands:** Run with `command_prompt` !

```
reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\FirewallSettings" /v BlockRemoteConnections /t REG_DWORD /d 1 /f
```

**Cleanup Commands:**

```
reg add "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\FirewallSettings" /v BlockRemoteConnections /t REG_DWORD /d 0 /f
```

## Atomic Test #3 - Allow SMB and RDP on Microsoft Defender Firewall

Allow all SMB and RDP rules on the Microsoft Defender Firewall for all profiles. Caution if you access remotely the host where the test runs! Especially with the cleanup command which will reset the firewall and risk disabling those services...

**Supported Platforms:** Windows

**auto\_generated\_guid:** d9841bf8-f161-4c73-81e9-fd773a5ff8c1

**Attack Commands:** Run with `command_prompt` !

```
netsh advfirewall firewall set rule group="remote desktop" new enable=Yes
netsh advfirewall firewall set rule group="file and printer sharing" new enable=Yes
```



#### Cleanup Commands:

```
netsh advfirewall reset >nul 2>&1
```



## Atomic Test #4 - Opening ports for proxy - HARDRAIN

This test creates a listening interface on a victim device. This tactic was used by HARDRAIN for proxying.

reference: <https://www.us-cert.gov/sites/default/files/publications/MAR-10135536-F.pdf>

Supported Platforms: Windows

auto\_generated\_guid: 15e57006-79dd-46df-9bf9-31bc24fb5a80

Attack Commands: Run with **command\_prompt** ! Elevation Required (e.g. root or admin)

```
netsh advfirewall firewall add rule name="atomic testing" action=allow dir=in proto
```



#### Cleanup Commands:

```
netsh advfirewall firewall delete rule name="atomic testing" protocol=TCP localpor
```



## Atomic Test #5 - Open a local port through Windows Firewall to any profile

This test will attempt to open a local port defined by input arguments to any profile

Supported Platforms: Windows

auto\_generated\_guid: 9636dd6e-7599-40d2-8eee-ac16434f35ed

Inputs:

Name	Description	Type	Default Value
local_port	This is the local port you wish to test opening	Integer	3389

Attack Commands: Run with powershell ! Elevation Required (e.g. root or admin)

```
netsh advfirewall firewall add rule name="Open Port to Any" dir=in protocol=tcp local_port=local_port
```

Cleanup Commands:

```
netsh advfirewall firewall delete rule name="Open Port to Any" | Out-Null
```

## Atomic Test #6 - Allow Executable Through Firewall Located in Non-Standard Location

This test will attempt to allow an executable through the system firewall located in the Users directory

Supported Platforms: Windows

auto\_generated\_guid: 6f5822d2-d38d-4f48-9bfc-916607ff6b8c

Inputs:

Name	Description	Type	Default Value
exe_file_path	path to exe file	Path	PathToAtomicsFolder\T1562.004\bin\AtomicTest.exe

Attack Commands: Run with powershell ! Elevation Required (e.g. root or admin)

```
Copy-Item #{exe_file_path} -Destination "C:\Users\${env:UserName}" -Force  
netsh advfirewall firewall add rule name="Atomic Test" dir=in action=allow program:
```



### Cleanup Commands:

```
netsh advfirewall firewall delete rule name="Atomic Test" | Out-Null  
Remove-Item C:\Users\${env:UserName}\AtomicTest.exe -ErrorAction Ignore
```



## Atomic Test #7 - Stop/Start UFW firewall

Stop the Uncomplicated Firewall (UFW) if installed.

Supported Platforms: Linux

auto\_generated\_guid: fe135572-edcd-49a2-afe6-1d39521c5a9a

Attack Commands: Run with **sh** ! Elevation Required (e.g. root or admin)

```
ufw disable
```



### Cleanup Commands:

```
ufw enable  
ufw status verbose
```



Dependencies: Run with **sh** !

Description: Check if ufw is installed on the machine.

Check Prereq Commands:

```
if [ ! -x "$(command -v ufw)" ]; then echo -e "\n***** ufw NOT installed *****\n";  
if echo "$(ufw status)" |grep -q "inactive"; then echo -e "\n***** ufw inactive **:
```



#### Get Prereq Commands:

```
echo ""
```



## Atomic Test #8 - Stop/Start UFW firewall systemctl

Stop the Uncomplicated Firewall (UFW) if installed, using systemctl.

**Supported Platforms:** Linux

**auto\_generated\_guid:** 9fd99609-1854-4f3c-b47b-97d9a5972bd1

**Attack Commands:** Run with **sh** ! Elevation Required (e.g. root or admin)

```
systemctl stop ufw
```



#### Cleanup Commands:

```
systemctl start ufw  
systemctl status ufw
```



**Dependencies:** Run with **sh** !

**Description:** Check if systemctl and ufw is installed on the machine.

#### Check Prereq Commands:

```
if [ ! -x "$(command -v systemctl)" ]; then echo -e "\n***** systemctl NOT installed";  
if [ ! -x "$(command -v ufw)" ]; then echo -e "\n***** ufw NOT installed *****\n";  
if echo "$(ufw status)" |grep -q "inactive"; then echo -e "\n***** ufw inactive **";
```



#### Get Prereq Commands:

```
echo ""
```



## Atomic Test #9 - Turn off UFW logging

Turn off the Uncomplicated Firewall (UFW) logging.

**Supported Platforms:** Linux

**auto\_generated\_guid:** 8a95b832-2c2a-494d-9cb0-dc9dd97c8bad

**Attack Commands:** Run with **sh** ! Elevation Required (e.g. root or admin)

```
ufw logging off
```



**Cleanup Commands:**

```
ufw logging low
ufw status verbose
```



**Dependencies:** Run with **sh** !

**Description:** Check if ufw is installed on the machine and enabled.

**Check Prereq Commands:**

```
if [ ! -x "$(command -v ufw)" ]; then echo -e "\n***** ufw NOT installed *****\n";
if echo "$(ufw status)" |grep -q "inactive"; then echo -e "\n***** ufw inactive **:
```



**Get Prereq Commands:**

```
echo ""
```





## Atomic Test #10 - Add and delete UFW firewall rules

Add and delete a rule on the Uncomplicated Firewall (UFW) if installed and enabled.

**Supported Platforms:** Linux

**auto\_generated\_guid:** b2563a4e-c4b8-429c-8d47-d5bcb227ba7a

**Attack Commands:** Run with **sh** ! Elevation Required (e.g. root or admin)

```
ufw prepend deny from 1.2.3.4
ufw status numbered
```



**Cleanup Commands:**

```
{ echo y; echo response; } | ufw delete 1
ufw status numbered
```



**Dependencies:** Run with **sh** !

**Description:** Check if ufw is installed on the machine and enabled.

**Check Prereq Commands:**

```
if [ ! -x "$(command -v ufw)" ]; then echo -e "\n***** ufw NOT installed *****\n";
if echo "$(ufw status)" |grep -q "inactive"; then echo -e "\n***** ufw inactive **:
```



**Get Prereq Commands:**

```
echo ""
```



## Atomic Test #11 - Edit UFW firewall user.rules file

Edit the Uncomplicated Firewall (UFW) rules file /etc/ufw/user.rules.

**Supported Platforms:** Linux

**auto\_generated\_guid:** beaf815a-c883-4194-97e9-fdbbb2bbdd7c

**Attack Commands:** Run with **sh** ! Elevation Required (e.g. root or admin)

```
echo "# THIS IS A COMMENT" >> /etc/ufw/user.rules  
grep "# THIS IS A COMMENT" /etc/ufw/user.rules
```



**Cleanup Commands:**

```
sed -i 's/# THIS IS A COMMENT//g' /etc/ufw/user.rules
```



**Dependencies:** Run with **sh** !

**Description:** Check if /etc/ufw/user.rules exists.

**Check Prereq Commands:**

```
if [ ! -f "/etc/ufw/user.rules" ]; then echo -e "\n***** ufw NOT installed *****\n"
```



**Get Prereq Commands:**

```
echo ""
```



## Atomic Test #12 - Edit UFW firewall ufw.conf file

Edit the Uncomplicated Firewall (UFW) configuration file /etc/ufw/ufw.conf which controls if the firewall starts on boot and its logging level.

**Supported Platforms:** Linux

**auto\_generated\_guid:** c1d8c4eb-88da-4927-ae97-c7c25893803b



```
echo "# THIS IS A COMMENT" >> /etc/ufw/sysctl.conf  
grep "# THIS IS A COMMENT" /etc/ufw/sysctl.conf
```



### Cleanup Commands:

```
sed -i 's/# THIS IS A COMMENT//g' /etc/ufw/sysctl.conf  
cat /etc/ufw/sysctl.conf
```



### Dependencies: Run with **sh** !

Description: Check if /etc/ufw/sysctl.conf exists.

### Check Prereq Commands:

```
if [ ! -f "/etc/ufw/sysctl.conf" ]; then echo -e "\n***** ufw NOT installed *****\n"
```



### Get Prereq Commands:

```
echo ""
```



## Atomic Test #14 - Edit UFW firewall main configuration file

Edit the Uncomplicated Firewall (UFW) main configuration file for setting default policies /etc/default/ufw.

Supported Platforms: Linux

auto\_generated\_guid: 7b697ece-8270-46b5-bbc7-6b9e27081831

Attack Commands: Run with **sh** ! Elevation Required (e.g. root or admin)

```
echo "# THIS IS A COMMENT" >> /etc/default/ufw  
grep "# THIS IS A COMMENT" /etc/default/ufw
```



### Cleanup Commands:

```
sed -i 's/# THIS IS A COMMENT//g' /etc/default/ufw
```



### Dependencies: Run with `sh` !

Description: Check if /etc/default/ufw exists.

### Check Prereq Commands:

```
if [ ! -f "/etc/default/ufw" ]; then echo -e "\n***** ufw NOT installed *****\n"; fi
```



### Get Prereq Commands:

```
echo ""
```



## Atomic Test #15 - Tail the UFW firewall log file

Print the last 10 lines of the Uncomplicated Firewall (UFW) log file /var/log/ufw.log.

Supported Platforms: Linux

auto\_generated\_guid: 419cca0c-fa52-4572-b0d7-bc7c6f388a27

### Attack Commands: Run with `sh` ! Elevation Required (e.g. root or admin)

```
tail /var/log/ufw.log
```




### Cleanup Commands:



### Dependencies: Run with `sh` !

Description: Check if /var/log/ufw.log exists.

Check Prereq Commands:

```
if [ ! -f "/var/log/ufw.log" ]; then echo -e "\n***** ufw NOT logging *****\n"; ex: 
```

Get Prereq Commands:

```
echo "" 
```