

## UFW

UFW already installed:

```
(base) momina@death-eater:~$ sudo apt-get install ufw
[sudo] password for momina:
Reading package lists... Done
Building dependency tree
Reading state information... Done
ufw is already the newest version (0.36-0ubuntu0.18.04.1).
ufw set to manually installed.
The following packages were automatically installed and are no longer required:
 gyp libegl1-mesa libfwup1 libjs-async libjs-inherits libjs-node-uuid libjs-underscore
 libllvm9 libuv1-dev linux-headers-5.4.0-47-generic linux-hwe-5.4-headers-5.4.0-45
 linux-hwe-5.4-headers-5.4.0-47 linux-image-5.4.0-47-generic linux-modules-5.4.0-47-generic
 linux-modules-extra-5.4.0-47-generic node-abbrev node-ansi node-ansi-color-table node-archy
 node-async node-balanced-match node-block-stream node-brace-expansion node-builtin-modules
 node-combined-stream node-concat-map node-cookie-jar node-delayed-stream node-forever-agent
 node-form-data node-fs.realpath node-fstream node-fstream-ignore node-github-url-from-git
 node-glob node-graceful-fs node-hosted-git-info node-inflight node-inherits node-ini
 node-is-builtin-module node-isexe node-json-stringify-safe node-lockfile node-lru-cache
 node-mime node-minimatch node-mkdirp node-mute-stream node-node-uuid node-nopt
 node-normalize-package-data node-npmlog node-once node-osenv node-path-is-absolute
 node-pseudomap node-qs node-read node-read-package-json node-request node-retry node-rimraf
 node-semver node-sha node-slide node-spdx-correct node-spdx-expression-parse
 node-spdx-license-ids node-tar node-tunnel-agent node-underscore
 node-validate-npm-package-license node-which node-wrapappy node-yallist
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 30 not upgraded.
```

Checking ufw status:

```
(base) momina@death-eater:~$ sudo ufw status
Status: active

To Action From
--
Apache ALLOW Anywhere
Apache (v6) ALLOW Anywhere (v6)
```

Checking status:

```
(base) momina@death-eater:~$ sudo ufw status verbose
Status: active
Logging: on (low)
Default: deny (incoming), allow (outgoing), deny (routed)
New profiles: skip

To Action From
--
80/tcp (Apache) ALLOW IN Anywhere
80/tcp (Apache (v6)) ALLOW IN Anywhere (v6)
```

Checking numbered list of rules:

```
(base) momina@death-eater:~$ sudo ufw status numbered
Status: active

To Action From
--
[ 1] Apache ALLOW IN Anywhere
[ 2] Apache (v6) ALLOW IN Anywhere (v6)
```

Enabling ufw:

```
(base) momina@death-eater:~$ sudo ufw enable
Firewall is active and enabled on system startup
```

Disabling ufw:

```
(base) momina@death-eater:~$ sudo ufw disable
Firewall stopped and disabled on system startup
(base) momina@death-eater:~$ _
```

Reset ufw:

```
(base) momina@death-eater:~$ sudo ufw reset
Resetting all rules to installed defaults. Proceed with operation (y|n)? n
Aborted
```

Allowing outgoing connections:

```
(base) momina@death-eater:~$ sudo ufw default allow outgoing comment 'allowing outgoing'
Default outgoing policy changed to 'allow'
(be sure to update your rules accordingly)
```

Denying incoming:

```
(base) momina@death-eater:~$ sudo ufw default deny incoming comment 'denying incoming'
Default incoming policy changed to 'deny'
(be sure to update your rules accordingly)
```

Allowing/Denying ports:

```
(base) momina@death-eater:~$ sudo ufw allow ssh comment 'allowing ssh'
Rules updated
Rules updated (v6)
(base) momina@death-eater:~$ sudo ufw allow 222 comment 'allowing 222'
Rules updated
Rules updated (v6)
(base) momina@death-eater:~$ sudo ufw deny ssh comment 'denying ssh'
Rules updated
Rules updated (v6)
(base) momina@death-eater:~$ sudo ufw allow http comment 'allowing http'
Rules updated
Rules updated (v6)
(base) momina@death-eater:~$ sudo ufw allow 80 comment 'allowing port 80'
Rules updated
Rules updated (v6)
```

```
(base) momina@death-eater:~$ sudo ufw allow https comment 'allowing https'
Rules updated
Rules updated (v6)
(base) momina@death-eater:~$ sudo ufw allow 443 comment 'allowing port 443'
Rules updated
Rules updated (v6)
```

```
(base) momina@death-eater:~$ sudo ufw allow proto tcp from any to any port 80,443 comment 'allowing http and https'
Rule added
Rule added (v6)
(base) momina@death-eater:~$ sudo ufw deny proto tcp from any to any port 80,443 comment 'denying http and https'
Rule updated
Rule updated (v6)
(base) momina@death-eater:~$ sudo ufw allow ftp comment 'allowing ftp'
Rule added
Rule added (v6)
(base) momina@death-eater:~$ sudo ufw allow 21/tcp comment 'allowing tcp on port 22'
Rule updated
Rule updated (v6)
```

```
(base) momina@death-eater:~$ sudo ufw allow from 192.168.1.1 comment 'allowing connection with this IP'
Rule updated
```

```
(base) momina@death-eater:~$ sudo ufw allow from 192.168.1.103 to any port 22 comment 'allowing on port 22'
Rule updated
(base) momina@death-eater:~$ sudo ufw allow from 192.168.1.103/24 to any port 22 comment 'allowing from thisIP/24 to port 22'
WARN: Rule changed after normalization
Rule added
```

Enabling and checking status:

```

(base) momina@death-eater:~$ sudo ufw enable
Firewall is active and enabled on system startup
(base) momina@death-eater:~$ sudo ufw status
Status: active

To Action From
--
Apache ALLOW Anywhere
22/tcp DENY Anywhere # denying ssh
222 ALLOW Anywhere # allowing 222
80/tcp ALLOW Anywhere # allowing http
80 ALLOW Anywhere # allowing port 80
443/tcp ALLOW Anywhere # allowing https
443 ALLOW Anywhere # allowing port 443
80,443/tcp DENY Anywhere # denying http and https
21/tcp ALLOW Anywhere # allowing tcp on port 22
Anywhere ALLOW 192.168.1.1 # allowing connection with this IP
22 ALLOW 192.168.1.103 # allowing on port 22
22 ALLOW 192.168.1.0/24 # allowing from this IP/24 to port 22
Apache (v6) ALLOW Anywhere (v6)
22/tcp (v6) DENY Anywhere (v6) # denying ssh
222 (v6) ALLOW Anywhere (v6) # allowing 222
80/tcp (v6) ALLOW Anywhere (v6) # allowing http
80 (v6) ALLOW Anywhere (v6) # allowing port 80
443/tcp (v6) ALLOW Anywhere (v6) # allowing https
443 (v6) ALLOW Anywhere (v6) # allowing port 443
80,443/tcp (v6) DENY Anywhere (v6) # denying http and https
21/tcp (v6) ALLOW Anywhere (v6) # allowing tcp on port 22

```

Checking status (verbose):



```
(base) momina@death-eater:~$ sudo ufw status verbose
Status: active
Logging: on (low)
Default: deny (incoming), allow (outgoing), deny (routed)
New profiles: skip
```

To	Action	From	
--	-----	----	
80/tcp (Apache)	ALLOW IN	Anywhere	
22/tcp	DENY IN	Anywhere	# denying ssh
222	ALLOW IN	Anywhere	# allowing 222
80/tcp	ALLOW IN	Anywhere	# allowing http
80	ALLOW IN	Anywhere	# allowing port 80
443/tcp	ALLOW IN	Anywhere	# allowing https
443	ALLOW IN	Anywhere	# allowing port 443
80,443/tcp	DENY IN	Anywhere	# denying http and https
21/tcp	ALLOW IN	Anywhere	# allowing tcp on port 22
Anywhere	ALLOW IN	192.168.1.1	# allowing connection with this IP
22	ALLOW IN	192.168.1.103	# allowing on port 22
22	ALLOW IN	192.168.1.0/24	# allowing from thisIP/24 to port 22
80/tcp (Apache (v6))	ALLOW IN	Anywhere (v6)	
22/tcp (v6)	DENY IN	Anywhere (v6)	# denying ssh
222 (v6)	ALLOW IN	Anywhere (v6)	# allowing 222
80/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing http
80 (v6)	ALLOW IN	Anywhere (v6)	# allowing port 80
443/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing https
443 (v6)	ALLOW IN	Anywhere (v6)	# allowing port 443
80,443/tcp (v6)	DENY IN	Anywhere (v6)	# denying http and https
21/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing tcp on port 22

Checking status (numbered):

```
(base) momina@death-eater:~$ sudo ufw status numbered
Status: active
```

	To	Action	From	
	--	-----	----	
[ 1]	Apache	ALLOW IN	Anywhere	
[ 2]	22/tcp	DENY IN	Anywhere	# denying ssh
[ 3]	222	ALLOW IN	Anywhere	# allowing 222
[ 4]	80/tcp	ALLOW IN	Anywhere	# allowing http
[ 5]	80	ALLOW IN	Anywhere	# allowing port 80
[ 6]	443/tcp	ALLOW IN	Anywhere	# allowing https
[ 7]	443	ALLOW IN	Anywhere	# allowing port 443
[ 8]	80,443/tcp	DENY IN	Anywhere	# denying http and https
[ 9]	21/tcp	ALLOW IN	Anywhere	# allowing tcp on port 22
[10]	Anywhere	ALLOW IN	192.168.1.1	# allowing connection with this IP
[11]	22	ALLOW IN	192.168.1.103	# allowing on port 22
[12]	22	ALLOW IN	192.168.1.0/24	# allowing from thisIP/24 to port 22
[13]	Apache (v6)	ALLOW IN	Anywhere (v6)	
[14]	22/tcp (v6)	DENY IN	Anywhere (v6)	# denying ssh
[15]	222 (v6)	ALLOW IN	Anywhere (v6)	# allowing 222
[16]	80/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing http
[17]	80 (v6)	ALLOW IN	Anywhere (v6)	# allowing port 80
[18]	443/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing https
[19]	443 (v6)	ALLOW IN	Anywhere (v6)	# allowing port 443
[20]	80,443/tcp (v6)	DENY IN	Anywhere (v6)	# denying http and https
[21]	21/tcp (v6)	ALLOW IN	Anywhere (v6)	# allowing tcp on port 22

Deleting rule:

```
(base) momina@death-eater:~$ sudo ufw delete 2 comment 'dont want to delete 1'
Deleting:
deny 22/tcp comment 'denying ssh'
Proceed with operation (y|n)? y
Rule deleted
```

Resetting ufw:

```
(base) momina@death-eater:~$ sudo ufw reset
Resetting all rules to installed defaults. Proceed with operation (y|n)? n
Aborted
```

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