

# Saving Iptables Firewall Rules Permanently

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This article explains several ways in which **iptables** rules can be stored permanently on Linux.

## Contents

- 1 iptables-save
  - 1.1 iptables-persistent for Debian/Ubuntu
  - 1.2 iptables Service for RedHat Enterprise Linux (RHEL) and CentOS
- 2 References

## iptables-save

The actual iptables rules are created and customized on the command line with the command `iptables` for IPv4 and `ip6tables` for IPv6.

These can be saved in a file with the command `iptables-save` for IPv4.

```
Debian/Ubuntu: iptables-save > /etc/iptables/rules.v4  
RHEL/CentOS: iptables-save > /etc/sysconfig/iptables
```

These files can be loaded again with the command `iptables-restore` for IPv4.

```
Debian/Ubuntu: iptables-restore < /etc/iptables/rules.v4  
RHEL/CentOS: iptables-restore < /etc/sysconfig/iptables
```

If you would also like to use IPv6 rules, these can be stored in a separate file.

```
Debian/Ubuntu: ip6tables-save > /etc/iptables/rules.v6  
RHEL/CentOS: ip6tables-save > /etc/sysconfig/ip6tables
```

The automatic loading of the configured iptables rules can be done by using the following methods:

## iptables-persistent for Debian/Ubuntu

Since Ubuntu 10.04 LTS (Lucid) and Debian 6.0 (Squeeze) there is a package with the name "iptables-persistent" which takes over the automatic loading of the saved iptables rules. To do this, the rules must be saved in the file `/etc/iptables/rules.v4` for IPv4 and `/etc/iptables/rules.v6` for IPv6.

For use, the package must simply be installed.

```
apt-get install iptables-persistent
```

If the installation fails, please check whether systemd has already had failures before the installation of iptables-persistent. Those systemd errors can cause the iptables-persistent installation to fail.<sup>[1]</sup>

Older iptables-persistent versions (e.g. like those in Debian Squeeze) still do not support IPv6 rules. There is only one file with the name `/etc/iptables/rules` for IPv4. Check the Init-Script for which files are loaded in your iptables-persistent version.

**Please check that your rules are loaded as desired following the first reboot after configuration.**

## iptables Service for RedHat Enterprise Linux (RHEL) and CentOS

RHEL/CentOS also offer simple methods to permanently save iptables rules for IPv4 and IPv6.

There is a service called "iptables". This must be enabled.

```
# chkconfig --list | grep iptables
iptables          0:off  1:off  2:on   3:on   4:on   5:on   6:off
# chkconfig iptables on
```

The rules are saved in the file `/etc/sysconfig/iptables` for IPv4 and in the file `/etc/sysconfig/ip6tables` for IPv6. You may also use the init script in order to save the current rules.

```
# service iptables save
```

Additional information can also be found here RHEL 6 Documentation

([https://access.redhat.com/site/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux/6/html/Security\\_Guide/sect-Security\\_Guide-IPTables.html](https://access.redhat.com/site/documentation/en-US/Red_Hat_Enterprise_Linux/6/html/Security_Guide/sect-Security_Guide-IPTables.html)).

**Please check that your rules are loaded as desired following the first reboot after configuration.**

## References

1. #765478 - update-rc.d: warning: start and stop actions are no longer supported; falling back to defaults (<https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=765478>) ([bugs.debian.org](https://bugs.debian.org))

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