SaltStack Installation and Configuration Guide

1. Overview

SaltStack is a powerful automation and configuration management tool that allows you to manage and orchestrate your infrastructure efficiently. This guide provides detailed information on system requirements, installation, and configuration for setting up a Salt environment.

2. System Requirements

2.1. Hardware Requirements

* Master Server: Minimum 2 CPU, 4 GB RAM, and 20 GB Disk Space.
* Minion Server: Minimum 1 CPU, 2 GB RAM, and 10 GB Disk Space.

2.2. Software Requirements

* Python Version: Salt requires Python 3.6 or newer.
* Supported Operating Systems: SaltStack is compatible with various operating systems (see Section 3 for details).

2.3. Port Numbers

|  |  |  |  |
| --- | --- | --- | --- |
| Service | Port Number | Protocol | Description |
| Salt Master | 4505 | TCP | The port for communication. |
| Salt Master | 4506 | TCP | The port for publishing events. |
| Salt Minion | 4505 | TCP | The port for communication. |

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| --- | --- | --- | --- |
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3. Supported Operating Systems

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| --- | --- | --- | --- | --- | --- |
|  | [Arch](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#arch) | [Master](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#master) | [Minion](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#minion) | [Full](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#full) or [Reasonable-effort](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#reasonable-effort) | [Tested](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#tested) |
| [AlmaLinux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#almalinux) 8 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [AlmaLinux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#almalinux) 9 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [Amazon Linux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#amazon-linux) 2 | x86\_64, aarch64 / arm64 |  | Yes | Full | Yes |
| [Amazon Linux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#amazon-linux) 2023 | x86\_64, aarch64 / arm64 |  | Yes | Full | Yes |
| [Arch Linux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#arch-linux) (latest) | x86\_64, aarch64 | Yes | Yes | Reasonable | Yes |
| [CentOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#centos) 7 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [CentOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#centos) Stream 8 | x86\_64, aarch64 / arm64 | Yes | Yes | Full |  |
| [CentOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#centos) Stream 9 | x86\_64, aarch64 / arm64 | Yes | Yes | Full |  |
| [Debian](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#debian) 11 | amd64, arm64 | Yes | Yes | Full | Yes |
| [Debian](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#debian) 12 | amd64, arm64 | Yes | Yes | Full | Yes |
| [Fedora](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#fedora) 40 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [FreeBSD](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#freebsd) 12.4 |  | Yes | Yes | Reasonable |  |
| [FreeBSD](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#freebsd) 13.1 |  | Yes | Yes | Reasonable |  |
| [macOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#macos) 12 | x86\_64 |  | Yes | Full |  |
| [macOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#macos) 13 | x86\_64 |  | Yes | Full |  |
| [macOS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#macos) 13 | arm64 |  | Yes | Full |  |
| [openSUSE](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#opensuse) Leap 15.4 |  | Yes | Yes | Reasonable |  |
| [Oracle Linux](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#oracle-linux) 7, 8, 9 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | [[1]](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#f1) |
| [Photon OS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#photon-os) 4 | x86\_64, aarch64 / arm64 | Yes | Yes | Full |  |
| [Photon OS](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#photon-os) 5 | x86\_64, aarch64 / arm64 | Yes | Yes | Full |  |
| [RedHat](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#redhat) 7 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [RedHat](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#redhat) 8 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [RedHat](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#redhat) 9 | x86\_64, aarch64 / arm64 | Yes | Yes | Full | Yes |
| [SLES](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#sles) 12 SP5 |  | Yes | Yes | Full |  |
| [SLES](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#sles) 15 SP4 |  | Yes | Yes | Full |  |
| [Ubuntu](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#ubuntu) 20.04 | amd64, arm64 | Yes | Yes | Full | Yes |
| [Ubuntu](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#ubuntu) 22.04 | amd64, arm64 | Yes | Yes | Full | Yes |
| [Ubuntu](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#ubuntu) 24.04 | amd64, arm64 | Yes | Yes | Full | Yes |
| [Windows](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#windows) Desktop 10 | x86, AMD64 |  | Yes | Full |  |
| [Windows](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#windows) Desktop 11 | x86, AMD64 |  | Yes | Full |  |
| [Windows](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#windows) 2016 | x86, AMD64 |  | Yes | Full | Yes |
| [Windows](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#windows) 2019 | x86, AMD64 |  | Yes | Full | Yes |
| [Windows](https://docs.saltproject.io/salt/install-guide/en/latest/topics/salt-supported-operating-systems.html#windows) 2022 | x86, AMD64 |  | Yes | Full | Yes |

4. Installing SaltStack

4.1. Manual Installation Directions by Operating System

These instructions detail how to manually install Salt on various operating systems. For a comprehensive overview of the installation process, refer to the Install Overview.

Warning: Pay attention to package versions when navigating [repo.saltproject.io](https://repo.saltproject.io). If you are using a RedHat 7 variant, ensure you select RedHat and then choose version 7 to avoid installing incompatible packages.

Operating Systems Installation Steps

1. Amazon Linux
2. Arch Linux
3. CentOS
4. Debian
5. Fedora
6. FreeBSD
7. macOS
8. Oracle Linux
9. Photon OS
10. RedHat (RHEL)
11. SUSE (SLES)
12. Ubuntu
13. Windows

For detailed instructions on each OS, follow the [link](https://docs.saltproject.io/salt/install-guide/en/latest/topics/install-by-operating-system/index.html#install-by-operating-system-index).

4.2. Bootstrap Installation

The Salt Project provides a Bootstrap script that allows you to install Salt on any Linux/Unix platform. This script installs the salt-master and salt-minion system packages and enables Salt services automatically. Please check this [bootstrap](https://docs.saltproject.io/salt/install-guide/en/latest/topics/bootstrap.html#install-bootstrap) page before installation for latest updates

Bootstrap Installation Steps:

1. Download the install script:

**curl -o bootstrap-salt.sh -L https://bootstrap.saltproject.io**

Alternatively, to download the script and run it immediately, use:

**curl -L https://bootstrap.saltproject.io | sudo sh -s --**

Note: The default installation will use classic packages of Salt unless specified otherwise.

1. Make the bootstrap script executable (optional):

**chmod +x bootstrap-salt.sh**

1. Run the script to install Salt services:
   * To install both the Salt master and minion services

**./bootstrap-salt.sh -M**

* + To install just the Salt master service:

**./bootstrap-salt.sh -M -N**

* + To install just the Salt minion service:

./bootstrap-salt.sh

* + To perform a pip-based installation (using Python’s pip):

./bootstrap-salt.sh -P

Bootstrap Installation Notes:

* Salt is often distributed in split packages, but only the salt-master and salt-minion packages are required for Salt to function.
* The bootstrap script can only install packages that are available on repo.saltproject.io. It will not work with packages on archive.repo.saltproject.io.

5. Configuring and Setting up a Salt Environment

After installation, you can configure your Salt environment by setting up the Salt Master and Minion.

5.1. Configuring Salt Master

* Edit Master Configuration: Modify /etc/salt/master to define the behavior of your Salt Master.
* Start Salt Master: Start the master service:

sudo systemctl start salt-master

sudo systemctl enable salt-master

5.2. Configuring Salt Minion

* Edit Minion Configuration: Modify /etc/salt/minion to point the minion to its master server:

master: <Master\_IP\_or\_Hostname>

* Start Salt Minion: Start the minion service:

sudo systemctl start salt-minion

sudo systemctl enable salt-minion

* Accept the Minion’s Key: On the master server, accept the minion’s key:

sudo salt-key -A

* Verify the Setup: Test the connection by running a simple command:

sudo salt '\*' test.ping

6. Conclusion

SaltStack is a versatile and powerful automation tool that simplifies the management of infrastructure. By following the above steps, you should now have a basic Salt environment configured. For more advanced setups, such as multi-master configurations, external pillars, and orchestration, please consult the official Salt documentation.

References

* SaltStack Official Website: <https://docs.saltproject.io/>
* SaltStack Installation Documentation: <https://repo.saltproject.io/>

This Confluence page provides a comprehensive guide to the system requirements, supporting libraries, dependencies, and step-by-step instructions to install and set up SaltStack on various operating systems. Feel free to modify or expand sections based on specific team requirements or additional features of Salt you wish to highlight.