

Update and upgrade the operating system

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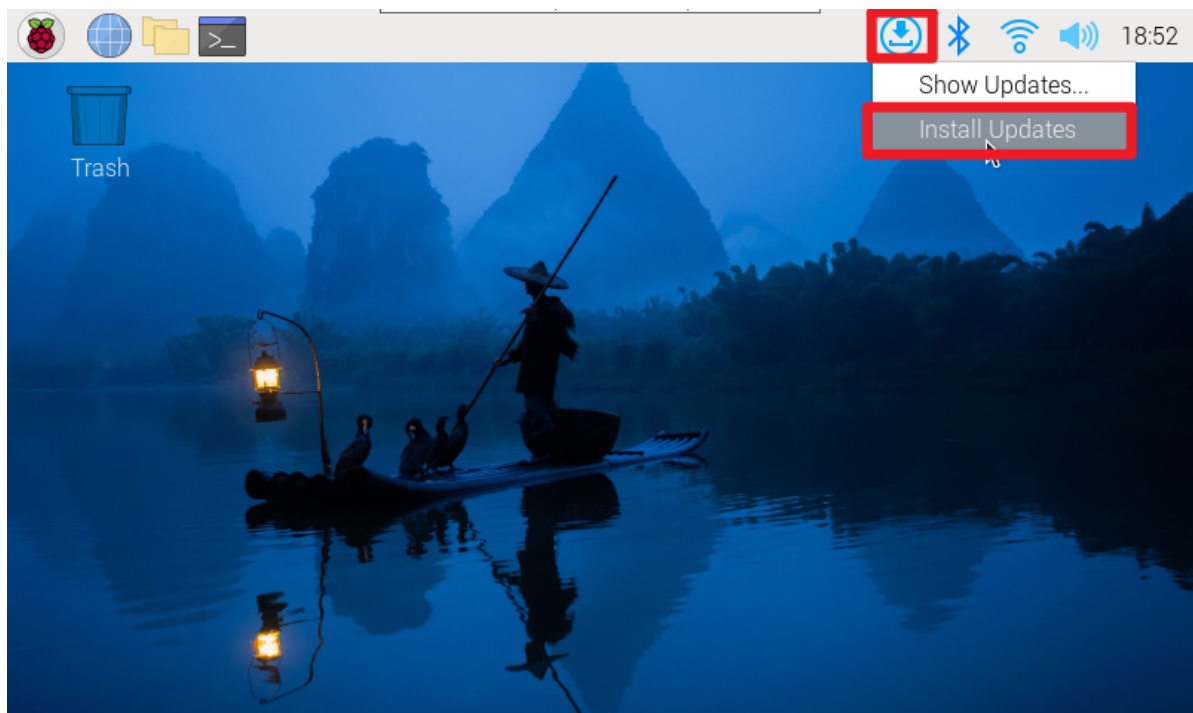
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Keeping the Raspberry Pi up to date can improve the security of the system, but it is not recommended for developers to update at will!

Graphical interface

Generally, the upper right corner of the desktop will also display a prompt for the Raspberry Pi system update. You can click the corresponding option to update!



Using APT

A tool used to manage software installation, upgrades, and removals.

The software sources of the Raspberry Pi are stored in the `sources.list` file, located at `/etc/apt/sources.list`. Do not modify the file unless necessary.

Update the software list

```
sudo apt update
```

Update the software to the latest version

```
sudo apt full-upgrade
```

Search for software

Command: `apt-cache search <package_name>`

Purpose: Used to search for a specific software package in the package repository.

Example: Search for packages related to "locomotive" in the package management system

```
apt-cache search locomotive
```

View software information

Command: `apt-cache show <package_name>`

Purpose: Used to display detailed information of a specific software package.

Example: Display detailed information of the package named "sl"

```
apt-cache show sl
```

Install software

Command: `sudo apt install <package_name>`

Purpose: Used to install a specific package with administrator privileges.

Example: Use administrator privileges (sudo) to install a software named "tree"

```
sudo apt install tree
```

Command: `sudo apt install <package_name> -y`

Purpose: Automatically confirm the installation of a specific package with administrator privileges.

Example: Automatically confirm (-y) the installation of a package named "tree" with administrator privileges

```
sudo apt install tree -y
```

Uninstall software

Command: `sudo apt remove <package_name>`

Purpose: Used to remove a specific package with administrator privileges.

Example: Uninstall a package named "tree" with administrator privileges.

```
sudo apt remove tree
```

Command: `sudo apt purge <package_name>`

Purpose: Used to completely remove a specific package with administrator privileges, including configuration files and useless dependencies.

Example: Completely remove the package named "tree" with administrator privileges, including configuration files and useless dependencies.

```
sudo apt purge tree
```

Using rpi-update

Used to update the boot files and firmware on the Raspberry Pi to provide support for new hardware, features, or fixes.

If you need to use this method to upgrade the firmware, it is recommended to back up the current system first, because running this command may cause the system to not boot normally.

Upgrading firmware

rpi-update needs to be run as root; you will need to reboot after the update is complete.

```
sudo rpi-update  
sudo reboot
```

Rollback to stable version

If the firmware upgrade still does not work properly, you can use the following command to reinstall the stable version firmware.

```
sudo apt-get update  
sudo apt install --reinstall raspi-firmware
```