Red Hat Enterprise Linux 10-beta

Getting started with the GNOME desktop environment

Use the desktop environment provided with RHEL 10.

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Abstract

Learn how to use the GNOME desktop environment in RHEL 10, including the GNOME desktop and essential desktop applications.

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RHEL BETA RELEASE

Red Hat provides Red Hat Enterprise Linux Beta access to all subscribed Red Hat accounts. The purpose of Beta access is to:

- Provide an opportunity to customers to test major features and capabilities prior to the general availability release and provide feedback or report issues.
- Provide Beta product documentation as a preview. Beta product documentation is under development and is subject to substantial change.

Note that Red Hat does not support the usage of RHEL Beta releases in production use cases. For more information, see the Red Hat Knowledgebase solution What does Beta mean in Red Hat Enterprise Linux and can I upgrade a RHEL Beta installation to a General Availability (GA) release?.

CHAPTER 1. OVERVIEW OF GNOME INTERFACES

You can switch between several user interfaces in GNOME.

IMPORTANT

To work correctly, GNOME requires your system to support **3D acceleration**. This includes bare-metal systems as well as hypervisor solutions such as **VMWare**.

If GNOME does not start or performs poorly on your VMWare virtual machine (VM), see Why does the GUI fail to start on my VMware virtual machine? (Red Hat Knowledgebase).

1.1. GNOME INTERFACES AND DISPLAY PROTOCOLS

You can use one of the following GNOME user interfaces in RHEL 10:

- GNOME Standard (default in RHEL 10)
- GNOME Classic

Both interfaces are provided by **GNOME Shell**, which is a **Wayland** display server. Applications communicate with GNOME shell by using the **Wayland** protocol. The combination of GNOME Shell and Wayland can be referred to as **GNOME Shell on Wayland**.

Input devices

RHEL 10 uses a unified input stack, **libinput**, which manages all common device types, such as mice, touchpads, touchscreens, tablets, trackballs and pointing sticks.

GNOME Shell on Wayland uses **libinput** directly for all devices, and no switchable driver support is available.

Additional resources

- For information about how to switch the environments, see Selecting GNOME environment and display protocol.

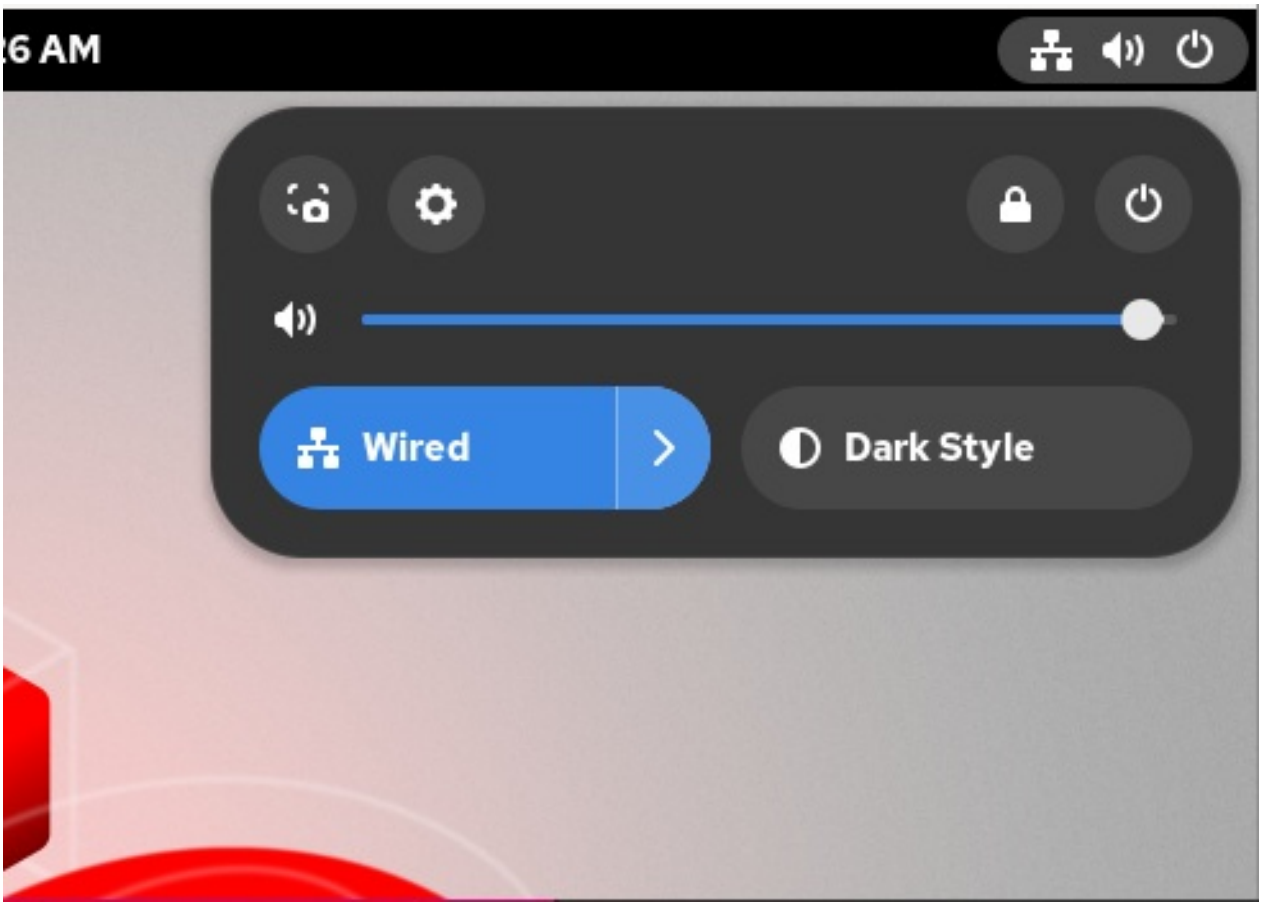
1.2. GNOME STANDARD

The GNOME Standard user interface includes these major components:

Top bar

The horizontal bar at the top of the screen provides access to some of the basic functions of GNOME Standard, such as the **Activities Overview**, clock and calendar, system status icons, and the **settings menu**.

Settings menu



Located in the upper-right corner, it provides the following functionalities:

- Opening the GNOME screenshot and screen recording tool
- Opening the Settings app
- Controlling the sound volume
- Accessing your network connections
- Turning off the computer, locking the computer, and switching user

Activities Overview

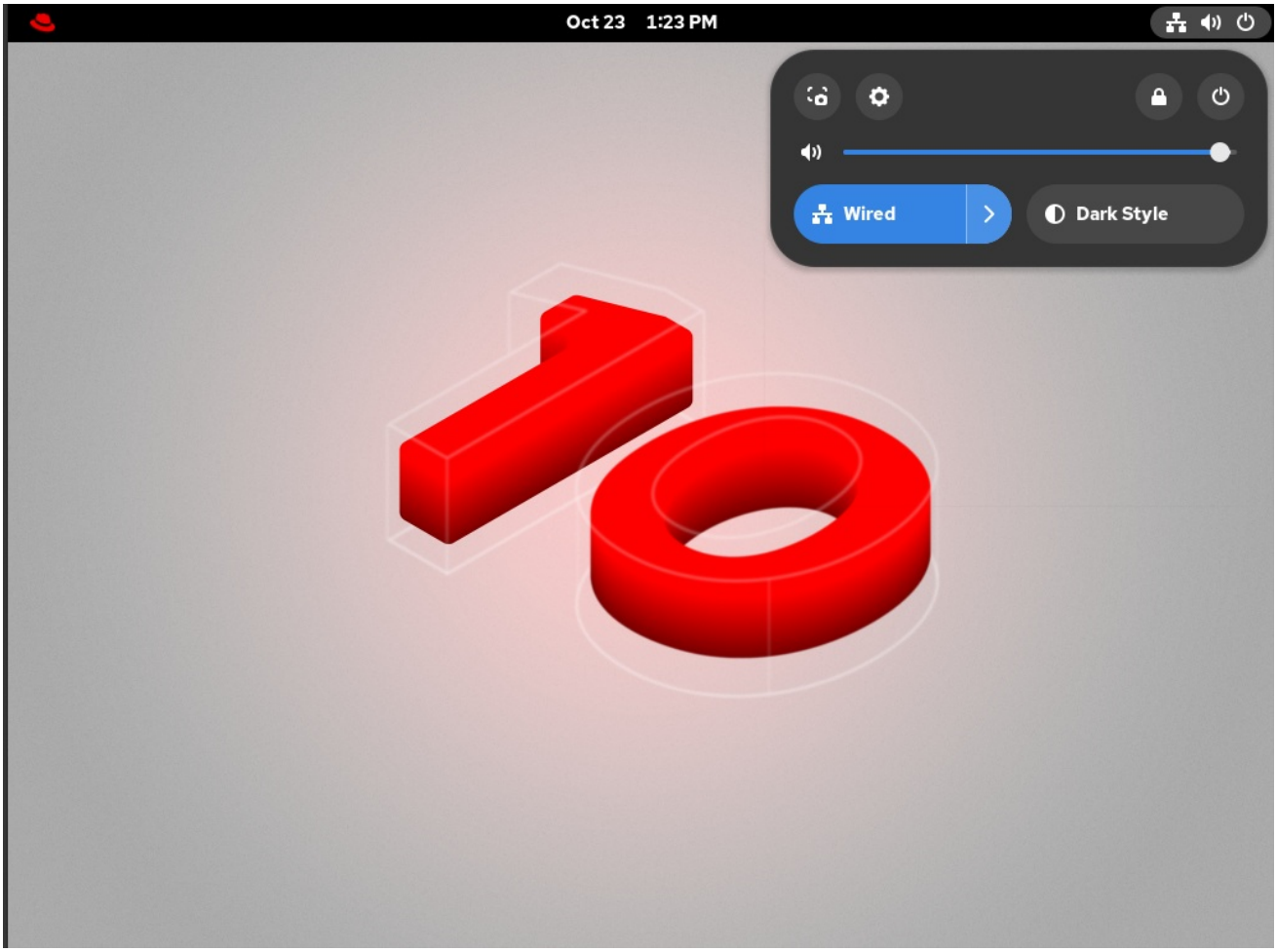
Includes windows and applications views that let you run applications and windows and switch between them.
The **search entry** at the top allows for searching various items available on the desktop, including applications, documents, files, and configuration tools.

The horizontal bar on the bottom contains a list of favorite and running applications. You can add or remove applications from the default list of favorites.

Calendar popover

You can open it by clicking the date and time in the top bar. It includes recent notifications, a calendar, a calendar events list, world clocks, and weather.

The GNOME Standard desktop



1.3. GNOME CLASSIC

GNOME Classic is a mode suitable for users who prefer a more traditional desktop experience that is similar to the GNOME 2 environment used with RHEL 6. It is based on GNOME 3 technologies but includes multiple features similar to GNOME 2.

The GNOME Classic user interface consists of these major components:

Applications and Places

The **Apps** menu is displayed at the upper-left corner of the screen. It gives you access to applications organized into categories.
The **Places** menu is displayed next to the **Apps** menu in the top bar. It gives you quick access to important folders, for example, Downloads or Pictures.

Taskbar

Displayed at the bottom of the screen. The taskbar includes a list of open windows and a workspace indicator. In the workspace indicator, you can see the current workspace and move between available workspaces.

Four available workspaces

In GNOME Classic, the number of available workspaces is set to four by default.

Minimize and maximize buttons

Window title bars in GNOME Classic feature the minimize and maximize buttons.

A traditional Super+Tab window switcher

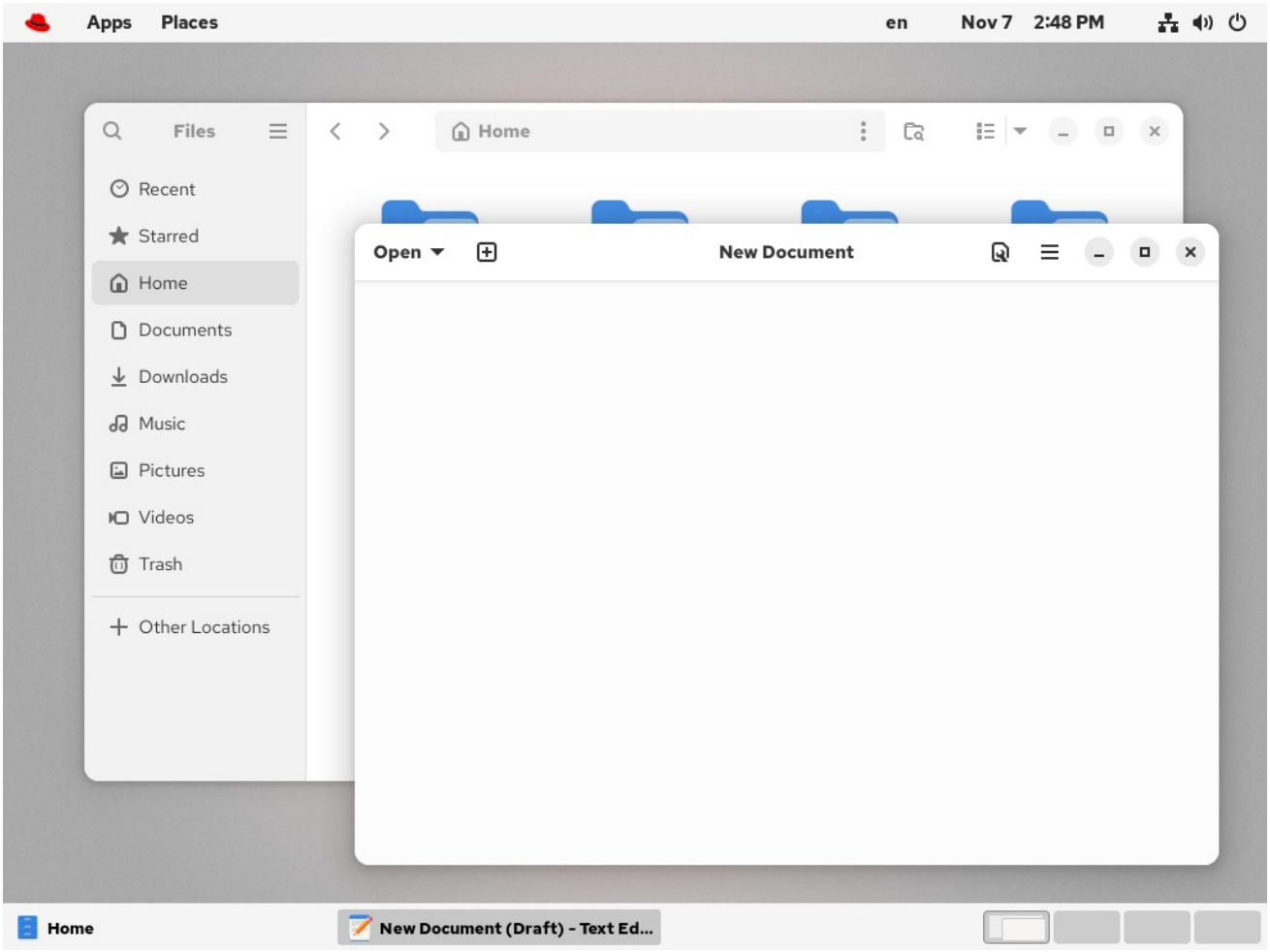
In GNOME Classic, windows in the **Super+Tab** window switcher are not grouped by application.

System menu

Located in the upper-right corner. Just as in the GNOME Standard session, you can perform the following actions with it:

- Opening the GNOME Screenshot and GNOME Screen Recording apps
- Opening the Settings app
- Controlling the sound volume
- Accessing your network connections
- Turning off the computer, locking the computer, and switching the user

The GNOME Classic desktop



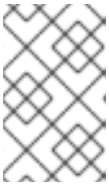
1.4. SELECTING A GNOME INTERFACE

The default desktop interface for RHEL 10 is the standard GNOME desktop. However, you can also switch from standard GNOME to GNOME Classic.

The change of GNOME interface is persistent across user logouts, and also when powering off or rebooting the computer.

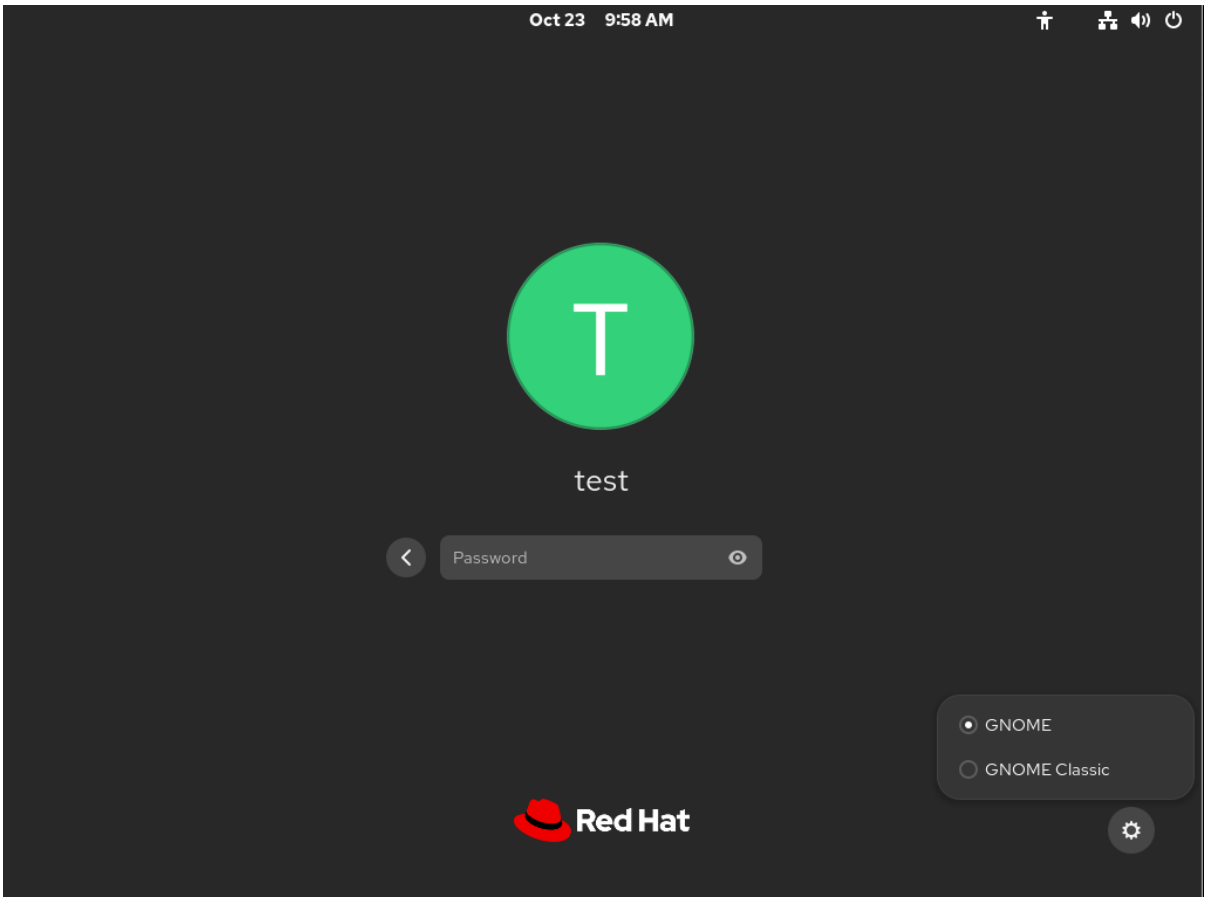
Procedure

1. On the login screen, select a user, then click the gear button in the lower-right corner of the screen.



NOTE

You cannot access this option from the lock screen. The login screen, also called GNOME Display Manager (GDM), appears when you first start RHEL or when you log out of your current session.



2. From the drop-down menu that appears, select the option that you prefer.

CHAPTER 2. LAUNCHING APPLICATIONS IN GNOME

You can launch installed applications by using several different methods in the GNOME desktop environment.

2.1. LAUNCHING AN APPLICATION IN THE STANDARD GNOME SESSION

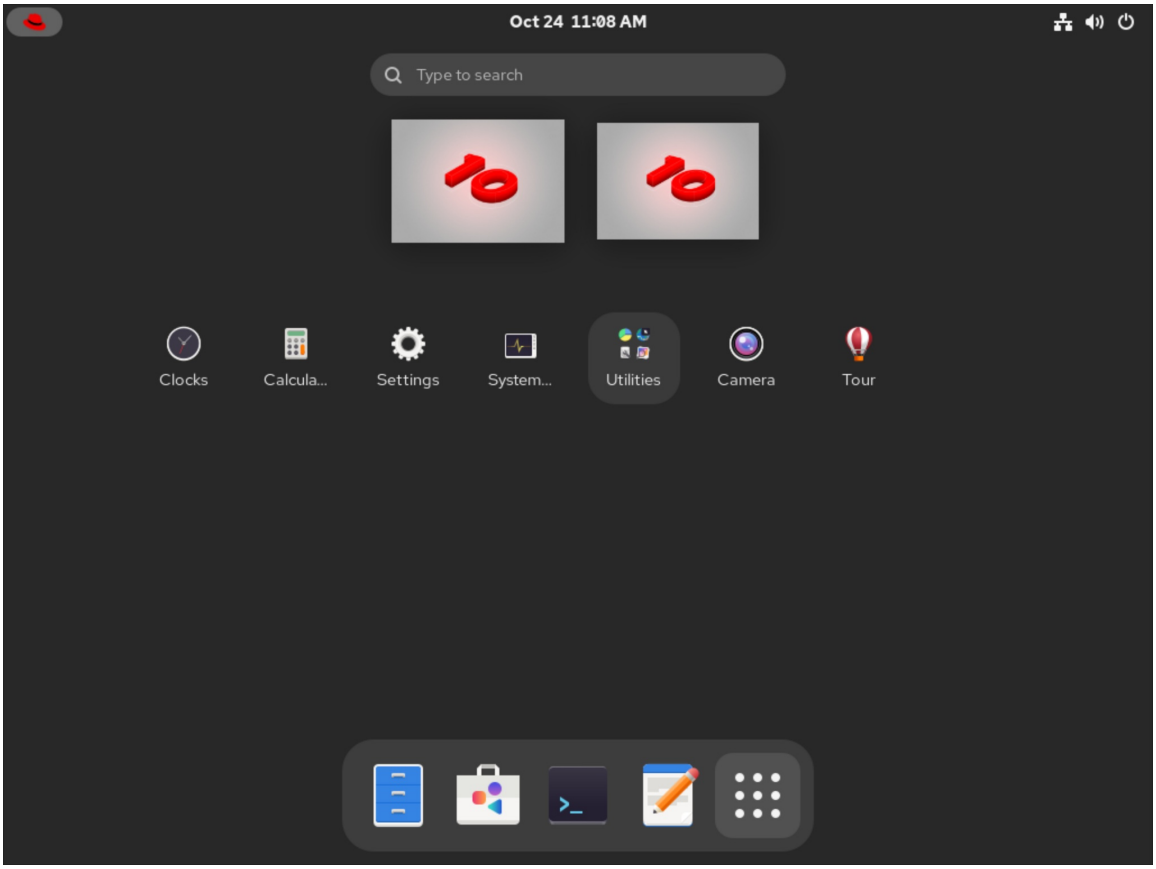
In the GNOME desktop environment, you can launch graphical applications that have been installed on your system.

Prerequisites

- You are using the standard GNOME session.

Procedure

1. Open the **Activities Overview** screen by using either of the following ways:
   - Click the **Red Hat logo** in the top panel.
   - Press the **Super** key, which is usually labeled with the Windows logo, ⌘, or .
2. Find the application by using either of the following ways:
   - Click the **Show Apps** icon in the bottom horizontal bar.



   - Type the name of the required application in the search text field.
3. Click the application in the displayed list.

2.2. LAUNCHING AN APPLICATION IN GNOME CLASSIC

In the GNOME desktop environment, you can launch graphical applications that have been installed on your system.

Prerequisites

- You are using the GNOME Classic session.

Procedure

1. Open the **Apps** menu in the top panel.
2. Choose the required application from the available categories, which can include:
   - Favorites
   - Accessories
   - Graphics
   - Internet
   - Office
   - Sound & Video
   - System Tools
   - Utilities

2.3. LAUNCHING AN APPLICATION IN GNOME BY USING A COMMAND

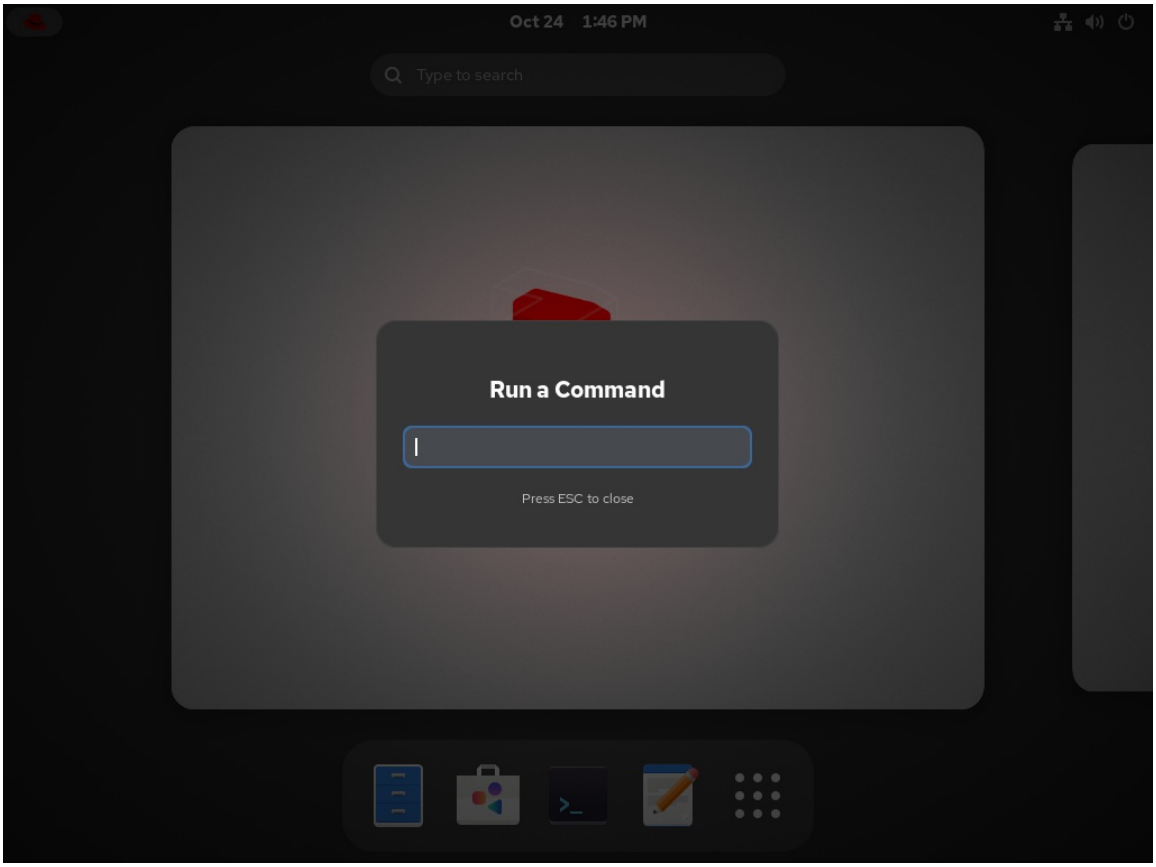
You can launch a graphical application in GNOME by entering a command.

Prerequisites

- You know the command that starts the application.

Procedure

1. Open a command prompt by using either of the following ways:
   - Open a terminal.
   - Press the **Alt**+**F2** shortcut to open the **Run a Command** screen.



2. Type the application command in the command prompt.
3. Confirm the command by pressing **Enter**.

CHAPTER 3. SEARCHING FOR FILES IN GNOME

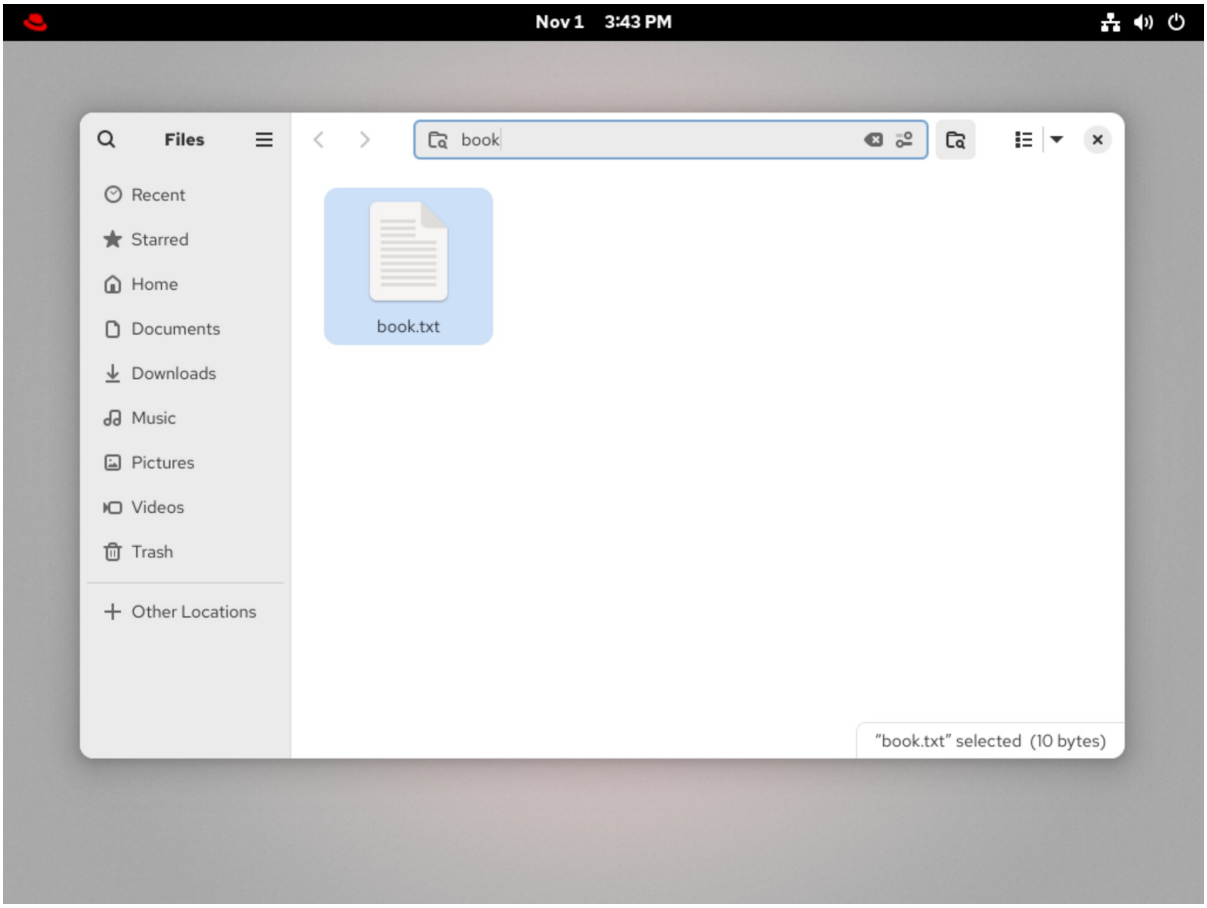
As a user in the GNOME environment, you can search for files by using the **Files** application.

3.1. PERFORMING A BASIC FILE SEARCH

You can search for files in your home directory and all folders inside of it based on a file name.

Procedure

1. Open the **Files** application.
2. Press the **Search** button.
3. In the text field, type the file name or a part of the file name that you are searching for.



4. The window now lists all files in your home directory that match the file name.

3.2. PERFORMING AN ADVANCED FILE SEARCH

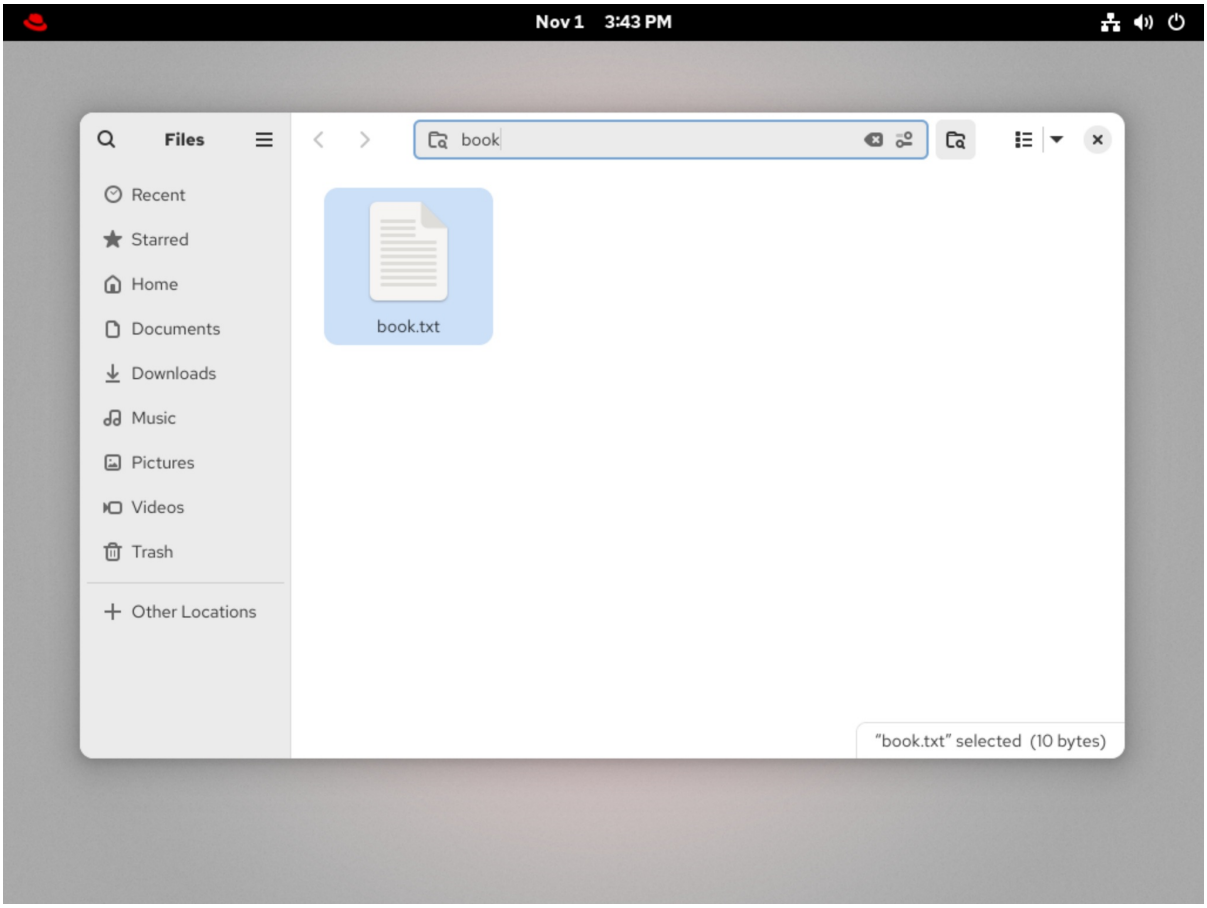
You can search for files in a specific location, based on a file name, a time of access, a time of modification, or a file type.

Procedure

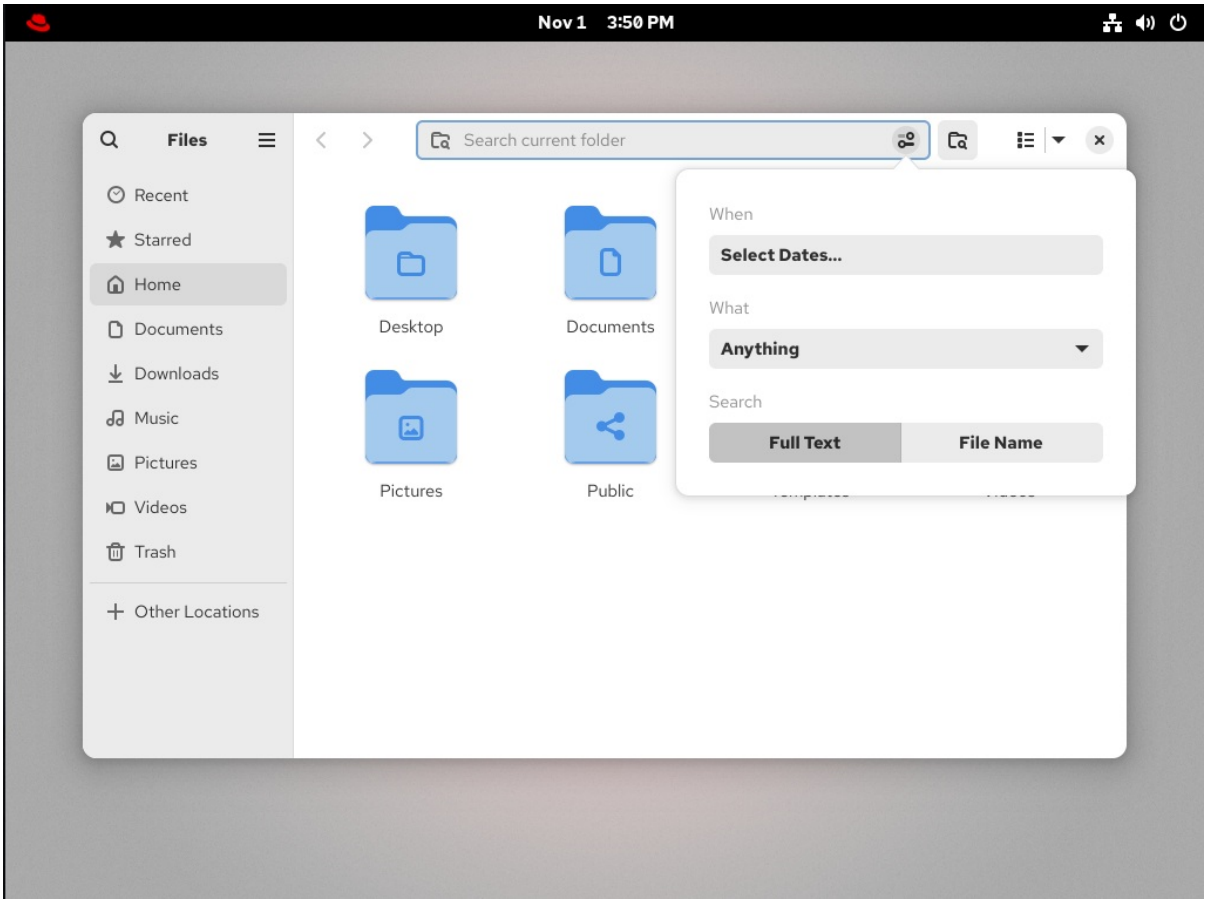
1. Open the **Files** application.
2. Navigate to the folder where you want to search for a file.
   The search recursively descends into all folders contained in this location.

3. Press the **Search** button.

4. Optional: Type the file name or a part of the file name that you are searching for in the text field. If you do not provide a file name, the search lists all files that match the other criteria, regardless of their file names.



5. Click the **Filter search results** button next to the text field.
In this menu, you can select other search criteria.



6. To specify the access or modification time, click **Select dates** next to the **When** label. Enter a date or select a time point from the list.
   Below the time list, you can switch between **Last modified** and **Last used**.

7. To specify the file type, click **Anything** next to the **What** label. Select a file type from the list.

8. To switch between a search based on file content or file names, use the **Full Text** and **File Name** buttons.

NOTE

The full-text search only works in indexed locations. You can configure the indexed locations in the **Search** section of the **Settings** application.

9. Click the triangle button next to the text field to hide the menu.

10. The window now lists all files in the specified directory that match your search criteria.

CHAPTER 4. BOOKMARKING FILES AND LOCATIONS

In GNOME, applications and dialogs that manage files list bookmarks in the left side bar. You can add, remove, and edit the bookmarks.

4.1. ADDING A BOOKMARK

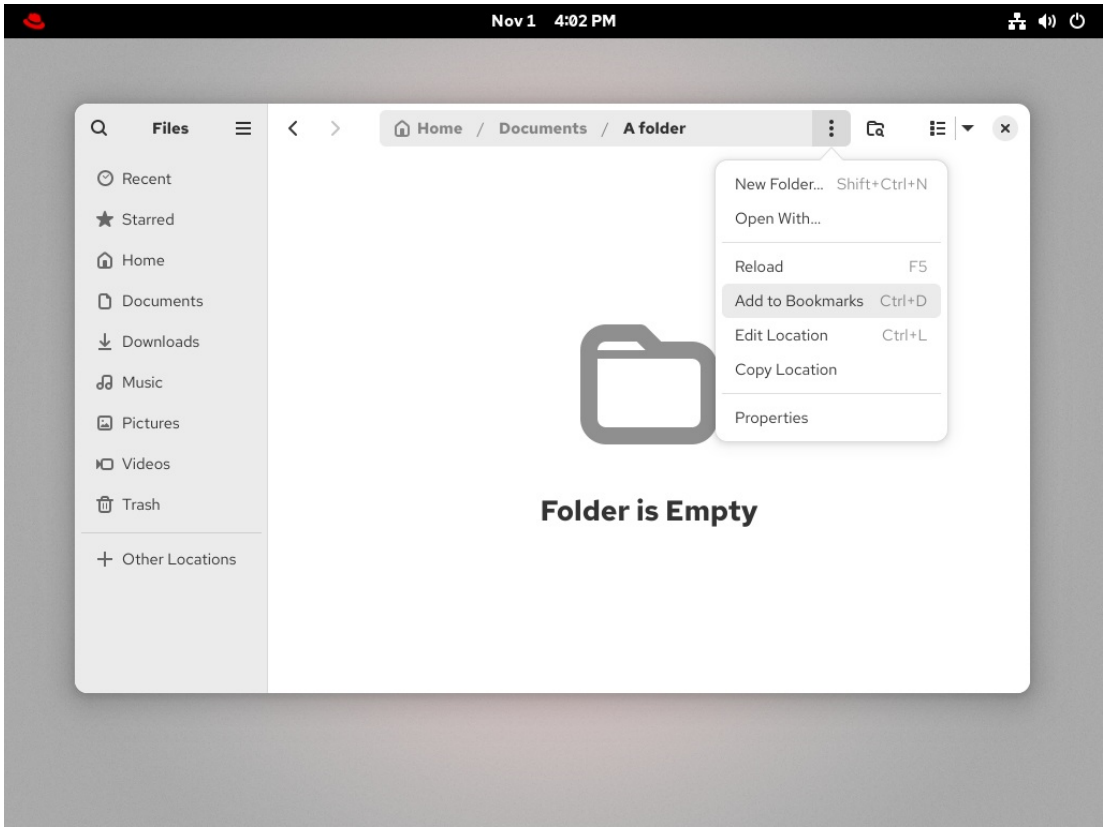
You can save a reference to a folder by bookmarking it in the **Files** application.

Prerequisite

- Locate the folder in the **Files** application.

Procedure

- Add the folder to bookmarks by using either of the following methods:
  - Dragging:
    i. Drag the folder to the left side bar.
    ii. Drop it over the **New bookmark** item.
  - Keyboard shortcut:
    i. Open the folder.
    ii. Press **Ctrl**+**D**.
  - Menu:
    i. Open the folder.
    ii. In the navigation bar at the top of the window, click the name of the folder.



iii. Select **Add to Bookmarks**.

Verification

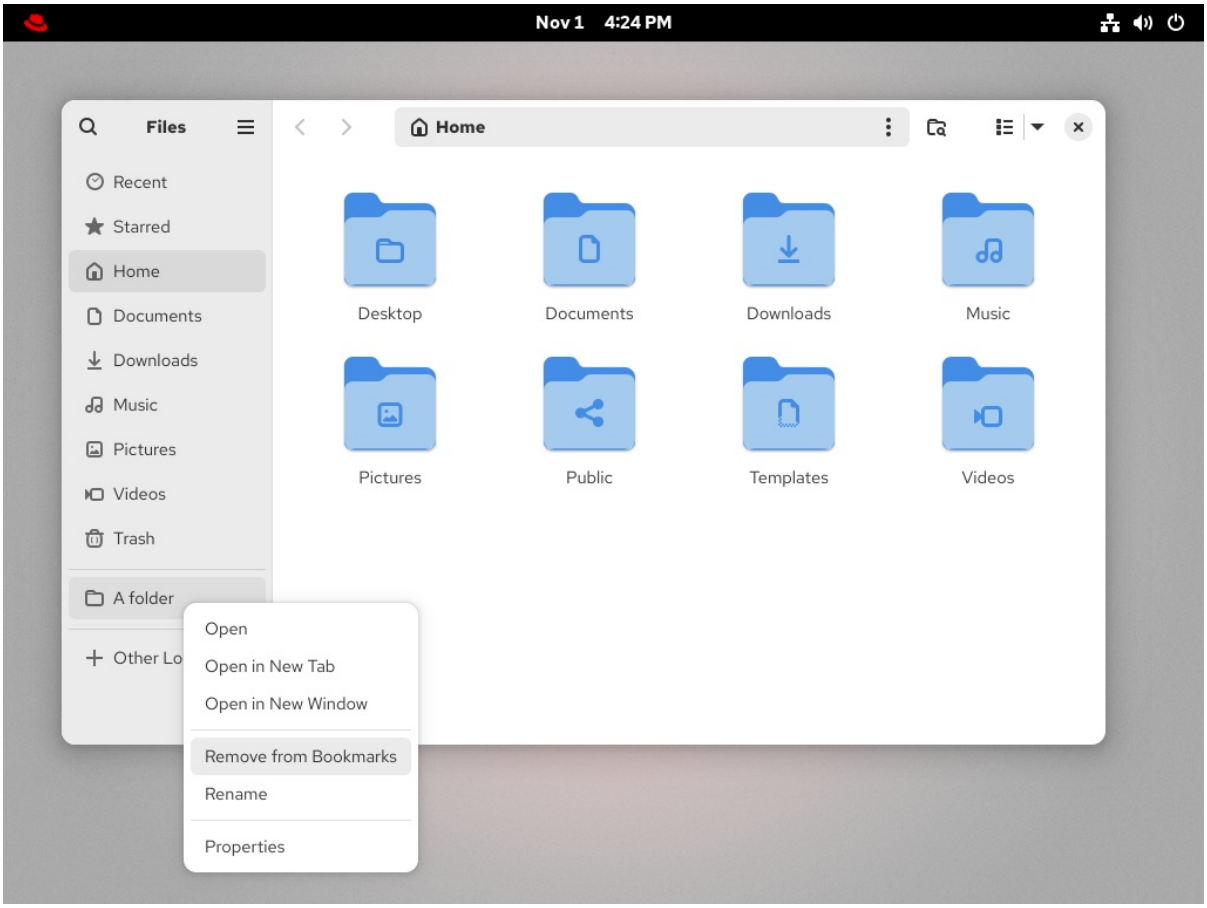
- Check that the bookmark now appears in the side bar.

4.2. REMOVING A BOOKMARK

You can delete an existing bookmark in the **Files** application.

Procedure

1. Right-click the bookmark in the side bar.
2. Select **Remove** from the menu.



Verification

- Check that the bookmark no longer appears in the side bar.

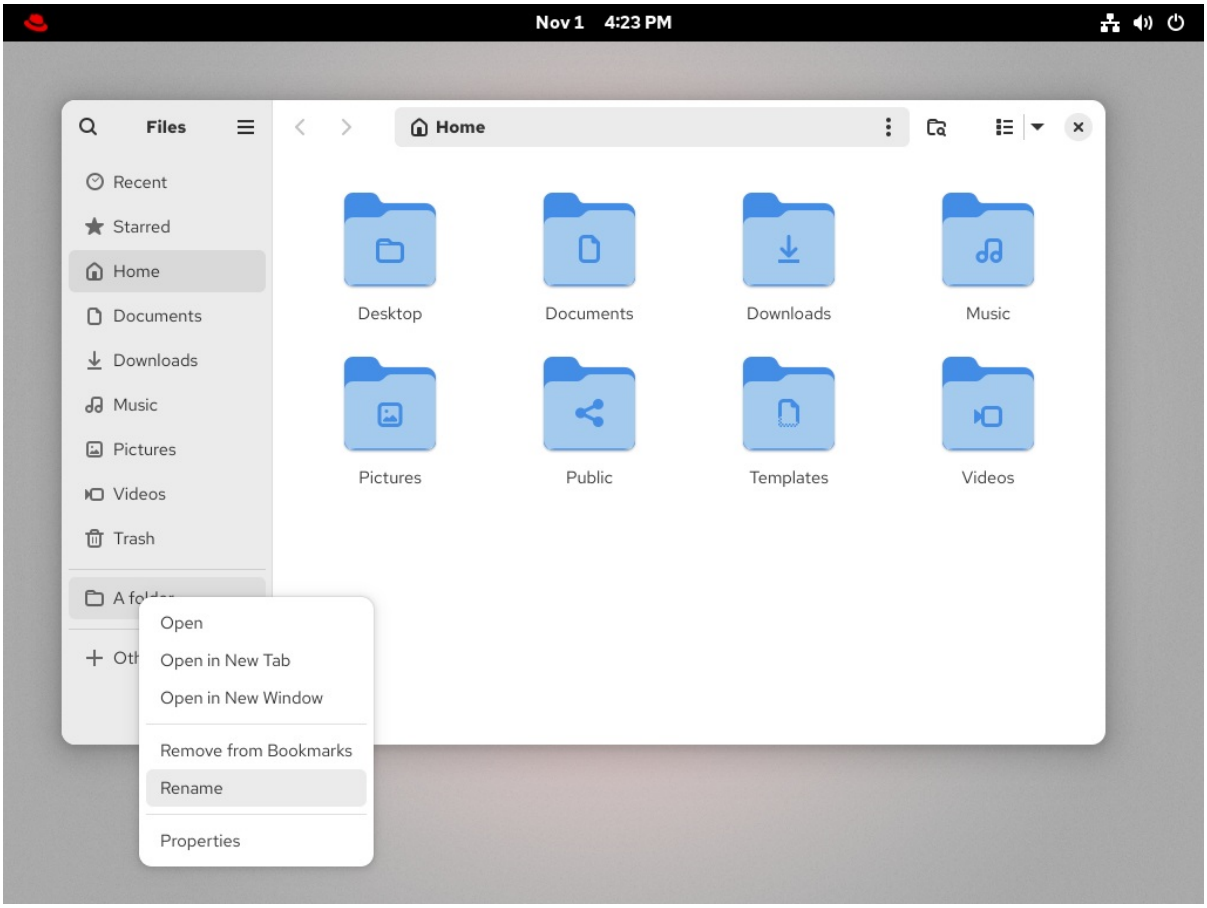
4.3. RENAMING A BOOKMARK

You can rename a bookmark to distinguish it from other bookmarks. If you have bookmarks to several folders that all share the same name, you can tell the bookmarks apart if you rename them.

Renaming the bookmark does not rename the folder.

Procedure

1. Right-click the bookmark in the side bar.
2. Select **Rename**.



3. In the **Name** field, enter the new name for the bookmark.
4. Click **Rename**.

Verification

- Check that the side bar lists the bookmark under the new name.

4.4. ADDING A BOOKMARK FOR ALL USERS

As a system administrator, you can set a bookmark for several users at once so that file shares are easily accessible to all the users.

Procedure

1. In the home directory of each existing user, edit the **~*user*/.config/gtk-3.0/bookmarks** file.
2. In the file, add a Uniform Resource Identifiers (URI) line that identifies the bookmark.
   For example, the following lines add bookmarks to the **/usr/share/doc/** directory and to the GNOME FTP network share:

   ```
   file:///usr/share/doc/
   ftp://ftp.gnome.org/
   ```

3. Optional: To also add the bookmarks for every newly created user on the system:
   a. Create the **/etc/skel/.config/gtk-3.0/bookmarks** file.
   b. Enter the bookmark URI lines in the file.

CHAPTER 5. TYPING EMOJI CHARACTERS

You can insert an emoji character in any application, regardless of the graphical toolkit that the application uses.

Procedure

1. Open an application.
2. Make sure that a text field is active.
3. Press **Ctrl**+**.**.
   The underscored letter **e** appears at your cursor.

NOTE

If an application is built on the GTK toolkit, you can also open emoji selection by pressing **Ctrl**+**;**.

4. Type a keyword that identifies the emoji character that you want to insert, such as **smile**.
   For the full list of keywords associated with emoji characters, see the *Other Keywords* column on the Emoji List page.
5. Repeatedly press **Space** to browse the emoji characters that match your keyword.
6. Confirm the selected emoji character by pressing **Enter**.

CHAPTER 6. RECORDING YOUR SCREEN IN GNOME

You can record your desktop or specific application activities with GNOME Screen Recording, which is a built-in feature in the GNOME desktop environment. The recordings are saved as video files in the WebM format.

Procedure

1. Open GNOME Screen Recording in one of the following ways:
   - Pressing **PrtScr** and clicking the **Record Screen** button with the camera icon.
   - Typing **Take a screenshot** from the **Activities Overview** screen and clicking the **Record Screen** button with the camera icon.
   - Pressing the **Ctrl**+**Alt**+**Shift**+**R** keyboard shortcut.
2. Select whether to record the entire screen or an area by using the **Area Selection** or **Screen Selection** button.
3. If you want your pointer to be visible in the recording, click the **Show pointer** button with the cursor icon.
4. Start the recording by pressing the round **Capture** button or pressing **Space**.
   After the recording begins, a red indicator appears in the upper-right corner of the screen. It shows the time of the recording.
5. To stop the recording, press the red indicator in the upper-right corner of the screen.
   The indicator disappears, signaling the end of the recording.

The recorded video files are saved in the **~/Videos/Screencasts** directory. The file names of recorded videos start with **Screencast from** and include the date and time of the recording.

CHAPTER 7. BROWSING FILES ON A NETWORK SHARE

You can connect to a network share provided by a server and browse the files on the server like local files. You can download or upload files by using the file browser.

7.1. GVFS URI FORMAT FOR NETWORK SHARES

GNOME uses the GVFS URI format to refer to network shares and files on them. When you connect to a network share from GNOME, you provide the address to the network share in the following format:

```
<protocol>://<user_name>@<domain_name>:<port>/<folder>/<file>
```

Where:

- ***<protocol>*** specifies the connection type, such as **ssh** for the SSH protocol.
- ***<user_name>*** specifies the user name. Some protocols do not require user names.
- ***<domain.name>*** is the address of the server, such as **server.example.com**.
- ***<port>*** specifies the port number. Some connections do not require specifying a port number.

GVFS URI examples for common network share protocols

- **ssh://user@server.example.com/path**
- **smb://server/share**
- **dav://example.server.com/path**
- **ftp://ftp.example.com/path**

Additional resources

- The GVFS system
- The format of the GVFS URI string

7.2. MOUNTING A STORAGE VOLUME IN GNOME

You can manually mount a local storage volume or a network share in the **Files** application.

Procedure

1. Open the **Files** application.
2. Click **Other Locations** in the side bar.
   The window lists all connected storage volumes and all network shares that are publicly available on your local area network.

   If you can see the volume or network share in this list, mount it by clicking the item.

   If you want to connect to a different network share, use the following steps.

3. Enter the GVFS URI string to the network share in the **Enter server address** field.
4. Press **Connect**.
5. If the dialog asks you for login credentials, enter your name and password into the relevant fields.
6. When the mounting process finishes, you can browse the files on the volume or network share.

7.3. UNMOUNTING A STORAGE VOLUME IN GNOME

You can unmount a storage volume, a network share, or another resource in the **Files** application.

WARNING

Always unmount a storage volume before removing the drive from the computer. Removing a drive might corrupt the data on the volumes that are still mounted.

Procedure

1. Open the **Files** application.
2. In the side bar, click the **Unmount** (⏏) icon next to the chosen mount.
3. Wait until the mount disappears from the side bar or a notification about the safe removal appears.

7.4. ADDITIONAL RESOURCES

- Managing storage volumes in GNOME
- Mounting NFS shares
- Mounting an SMB Share on Red Hat Enterprise Linux

CHAPTER 8. ENABLING CHINESE, JAPANESE, OR KOREAN TEXT INPUT

If you write with Chinese, Japanese, or Korean characters, you can configure RHEL to input text in your language.

8.1. INPUT METHODS

Certain scripts, such as Chinese, Japanese, or Korean, require keyboard input to go through an Input Method Engine (IME) to enter native text.

An input method is a set of conversion rules between the text input and the selected script. An IME is a software that performs the input conversion specified by the input method.

To input text in these scripts, you must set up an IME. If you installed the system in your native language and selected your language at the **GNOME Initial Setup** screen, the input method for your language is enabled by default.

The following input method engines (IMEs) are available on RHEL from the listed packages:

Table 8.1. Available input method engines

Languages	Scripts	IME name	Package
Chinese	Simplified Chinese	Intelligent Pinyin	**ibus-libpinyin**
Chinese	Traditional Chinese	New Zhuyin	**ibus-libzhuyin**
Korean	Hangul	Hangul	**ibus-hangul**
Other	Various	M17N	**ibus-m17n**

8.2. SWITCHING THE INPUT METHOD IN GNOME

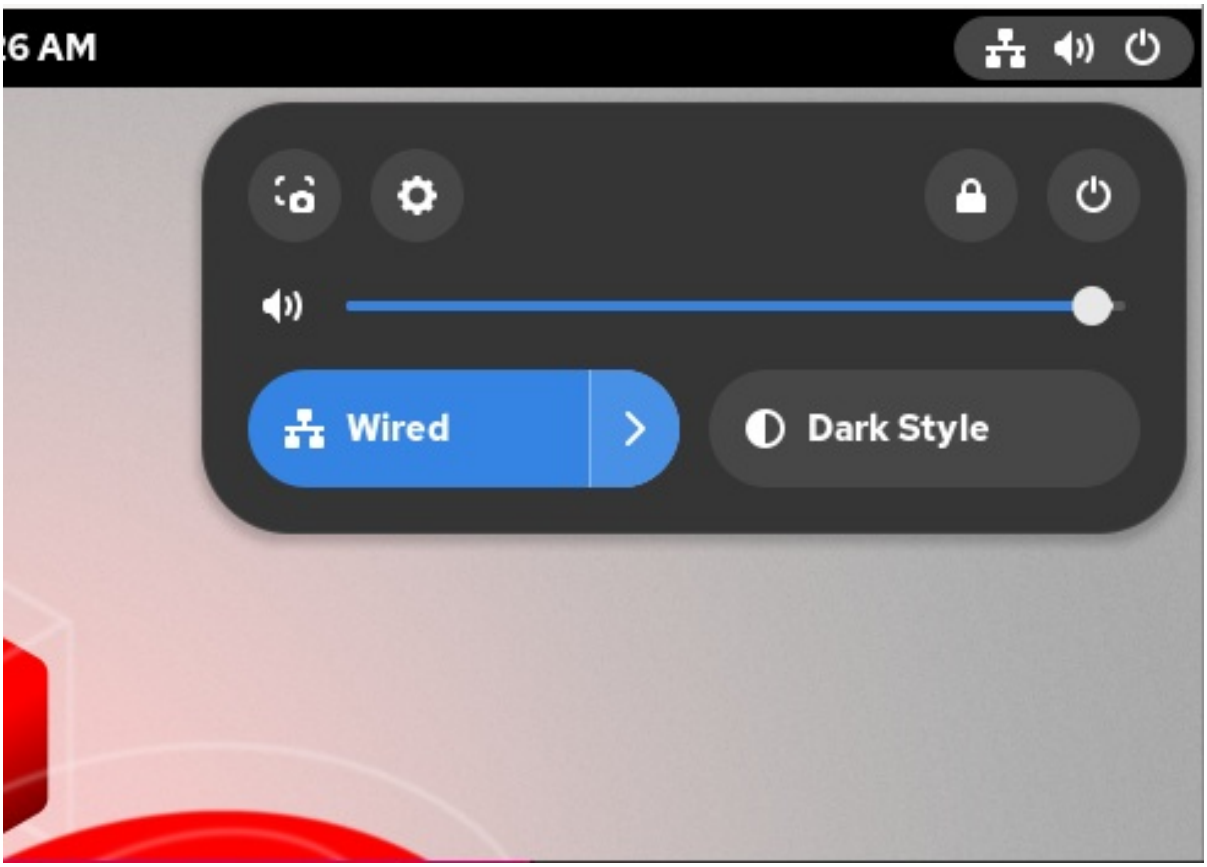
Before you can switch to a different script, for example, Chinese, Japanese, or Korean scripts, you must configure the input method.

Prerequisites

- The input method packages are installed. You can install all available input packages by entering the **dnf install @input-methods** command.

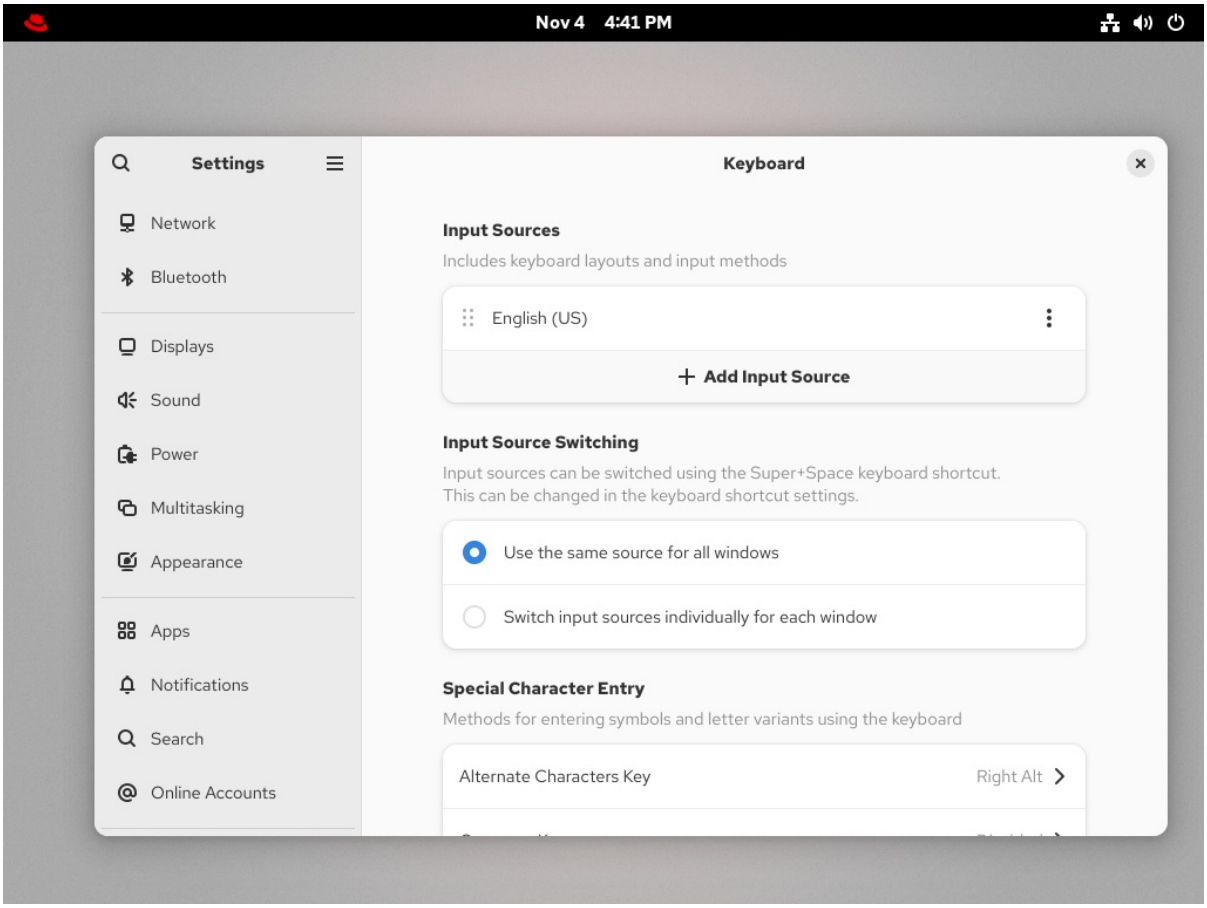
Procedure

1. Go to the **settings menu**, which is accessible from the upper-right screen corner, and click the settings icon.



2. Select the **Keyboard** section.

3. In the **Input Sources** list, review the currently enabled input methods.

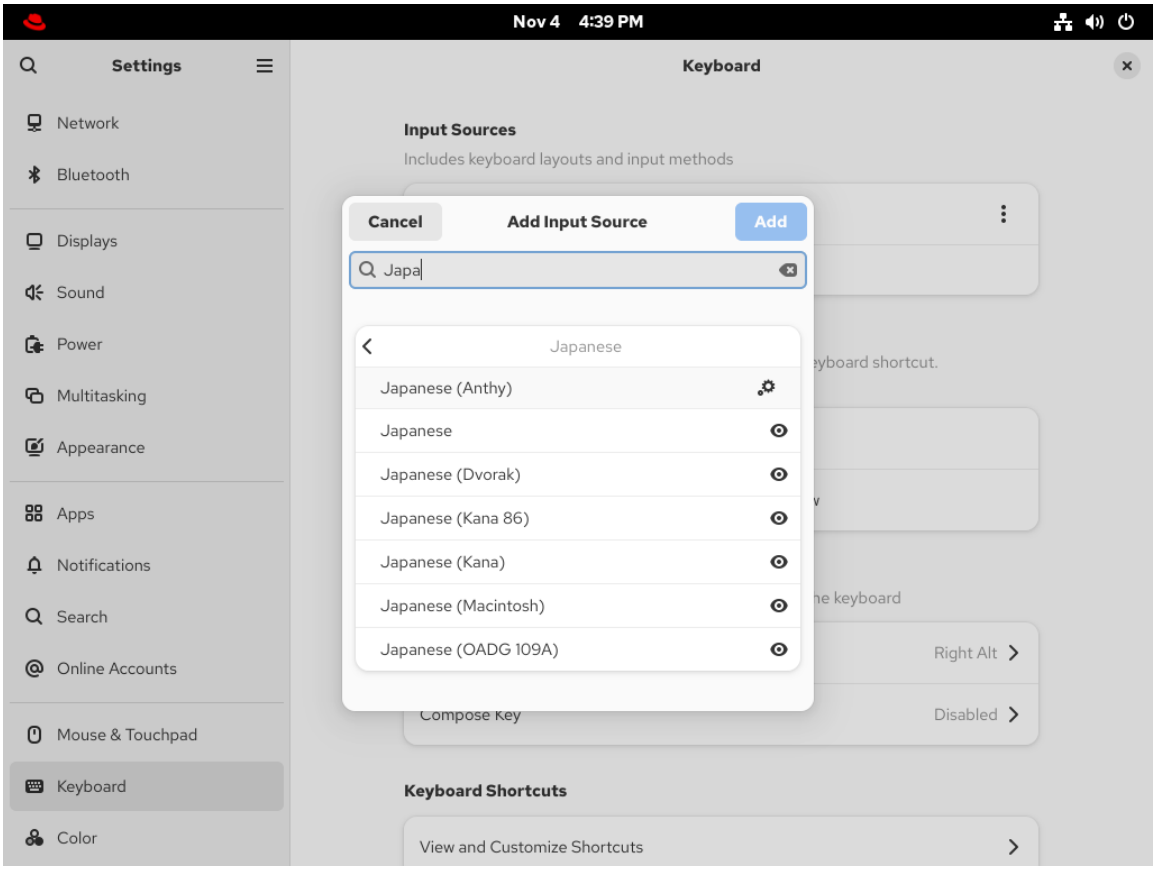


4. If your input method is missing, click the **Add Input Source** button under the **Input Sources** list and select your language.

NOTE

If you cannot find your language in the menu, expand the selection by clicking **More** (⋮) at the end of the list.

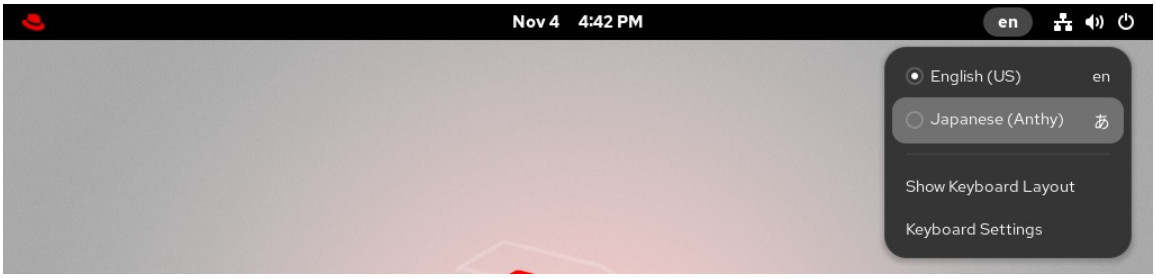
a. Select the input method that you want to use. A gear icon marks all input methods to distinguish them from simple keyboard layouts.



b. Confirm your selection by clicking **Add**.

5. Switch the active input method in one of the following ways:

- Click the input method indicator on the right side of the top panel and select your input method.



- Switch between the enabled input methods by using the **Super+Space** keyboard shortcut.

Verification

1. Open a text editor.
2. Type text in your language.
3. Verify that the text appears in your native script.

8.3. ADDITIONAL RESOURCES

- Installing a font for the Chinese standard GB 18030 character set (Red Hat Knowledgebase)

CHAPTER 9. ENABLING AUTHENTICATION WITH ENTERPRISE CREDENTIALS IN GNOME

If your workplace uses Active Directory (AD), LDAP, or Identity Management (IdM), you can log in to the GNOME desktop environment with your AD or IdM account.

9.1. CONFIGURING ENTERPRISE CREDENTIALS IN GNOME

You can configure your system to use enterprise credentials by using Settings.

Procedure

1. Open **Settings**.
2. Click **Online Accounts**.
3. Select **Enterprise Authentication (Kerberos)**.
4. In the **Principal** field, enter your domain username in the **username@domain.com** format.
5. Click **Connect**.
6. Enter your enterprise password and click **Continue**.
   Depending on the configuration of your domain, you might be asked for the domain administrator credentials.

9.2. ADDING ENTERPRISE USERS IN GNOME

You can add an enterprise user to GNOME using Settings.

Prerequisites

- Administrative access.
- You have enterprise credentials from an Active Directory (AD), LDAP, or Identity Management (IdM) server.

Procedure

1. Open **Settings**.
2. Open the **System** screen.
3. Click **Users**.
4. Click **Add Enterprise Login**
5. Enter the domain, username, and password for your Enterprise account.
6. Click **Add**.
   Depending on the domain configuration, you might need to enter administrator credentials.

9.3. LOGGING IN TO GNOME WITH ENTERPRISE CREDENTIALS

If your network has an Active Directory, LDAP, or Identity Management (IdM) domain available, and you have a domain account, you can log in to GNOME with your enterprise credentials.

Procedure

- At the GNOME login prompt, type your domain username followed by an **@** sign and then your domain name.

```
username@domain.com
```

9.4. ADDITIONAL RESOURCES

- For troubleshooting, see the **realm(8)** man page on your system

CHAPTER 10. REMOTELY ACCESSING THE DESKTOP

You can remotely connect to the desktop on a RHEL server by using graphical GNOME applications. The connection depends on how the server is configured. You can use one or more of the following options:

Desktop sharing

Allows remote clients to connect to the desktop session of the Linux user that is currently logged in on the server.

Remote login

Allows remote clients to open the GNOME login screen, where they can login as a Linux user with the correct credentials.

10.1. ENABLING DESKTOP SHARING ON THE SERVER BY USING GNOME

You can enable a remote desktop connection from a single client by configuring the Red Hat Enterprise Linux server.

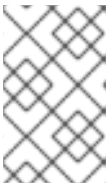
Prerequisites

- The **gnome-remote-desktop** package is installed.

Procedure

1. Configure a firewall rule to enable access to the server:

```
# firewall-cmd --permanent --add-port=3389/tcp
success
```



NOTE

If you also configure remote login on the server, the port number for desktop sharing changes. In that case, modify the firewall rule to add port number **3390** instead.

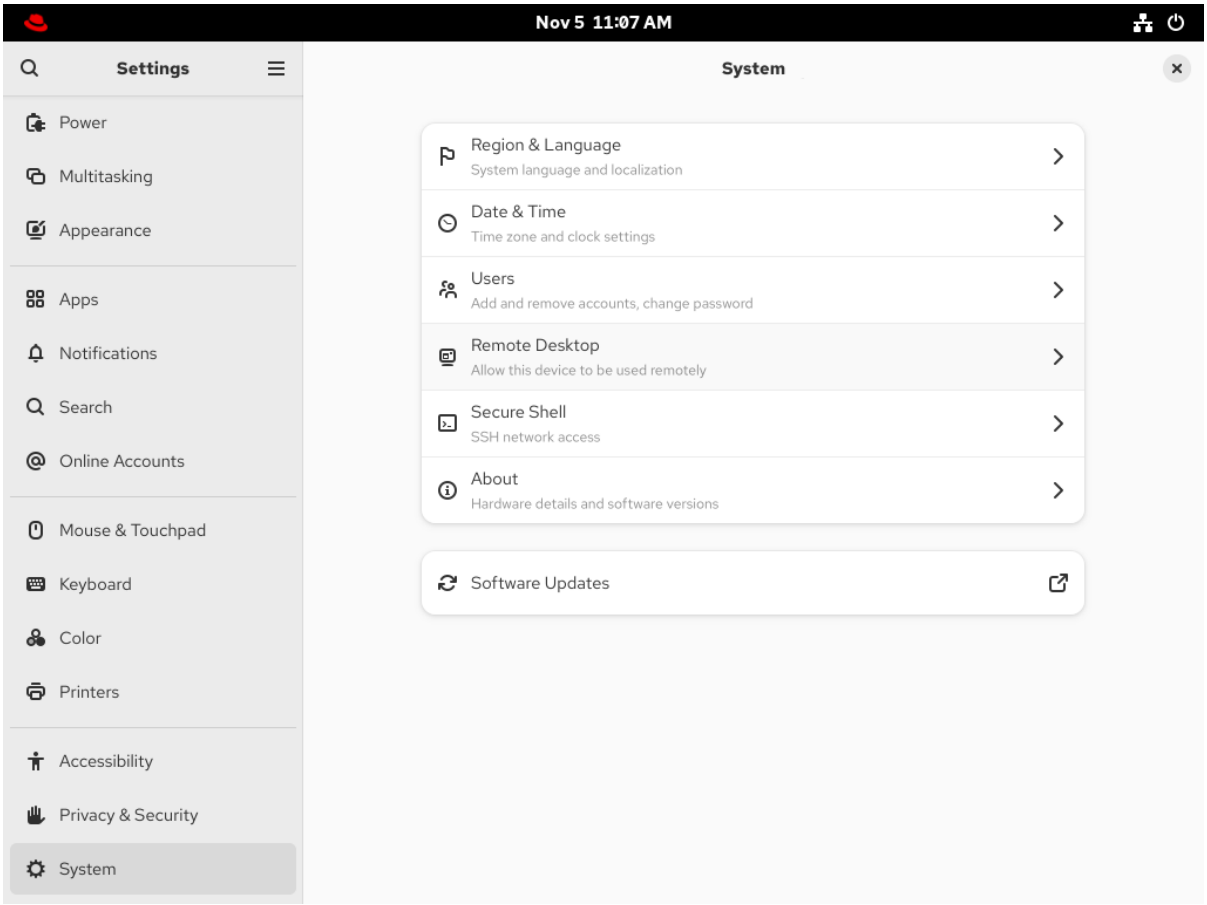
2. Reload firewall rules:

```
# firewall-cmd --reload
success
```

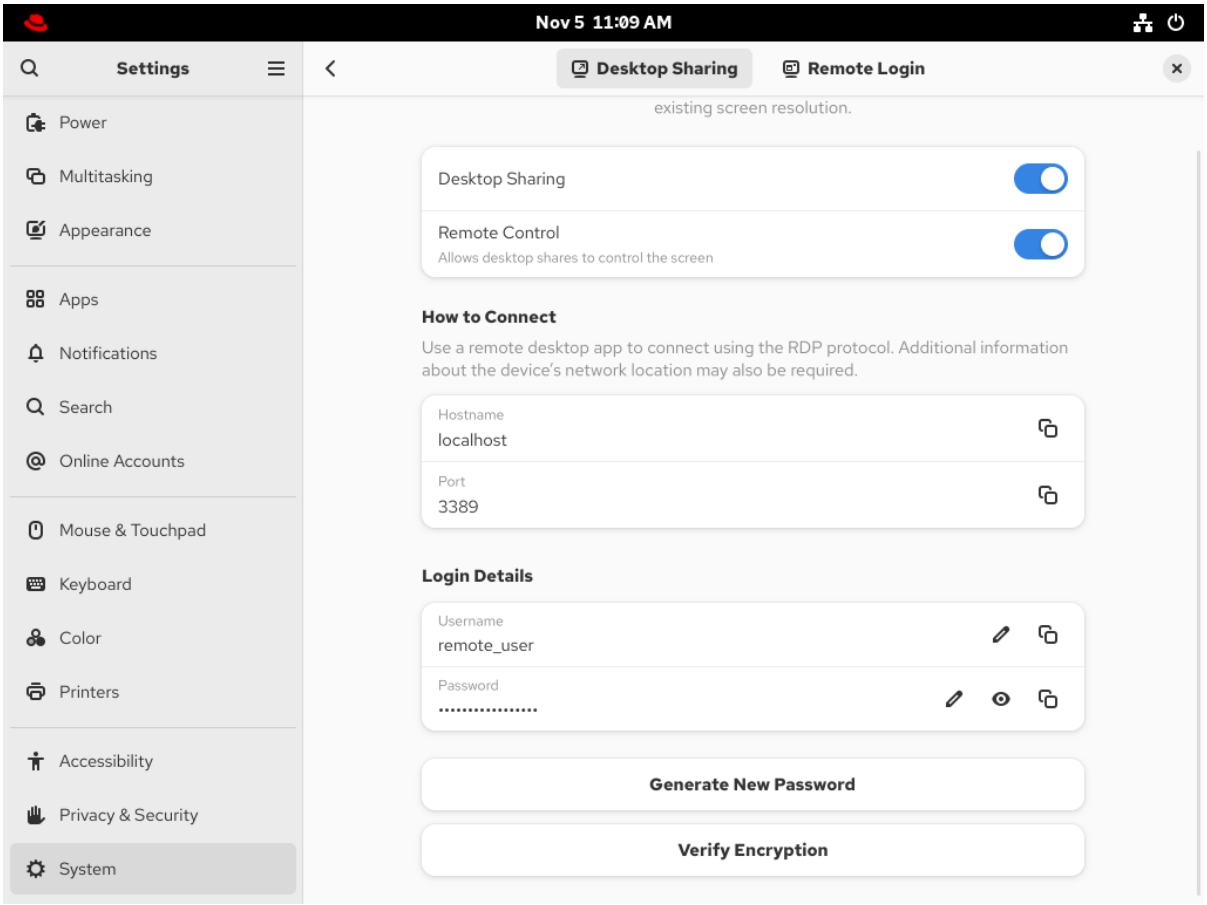
1. Set SELinux to permissive mode:

```
# setenforce 0
```

2. Open **Settings** in GNOME.
3. Open the **System** screen.
4. Select **Remote Desktop**.



5. Set **Desktop Sharing** to **On**.
6. Optional: To allow the remote user to control your screen, set **Remote Control** to **On**.
7. Set a user name and a password in the **Login Details** section. Remote clients must enter these credentials when connecting to your desktop from a remote client.



10.2. CONFIGURING GNOME REMOTE LOGIN

By activating **Remote Login** in GNOME, you can allow remote clients to log in to the GNOME session as the Linux users on your system.

Prerequisites

- The **gnome-remote-desktop** package is installed.

Procedure

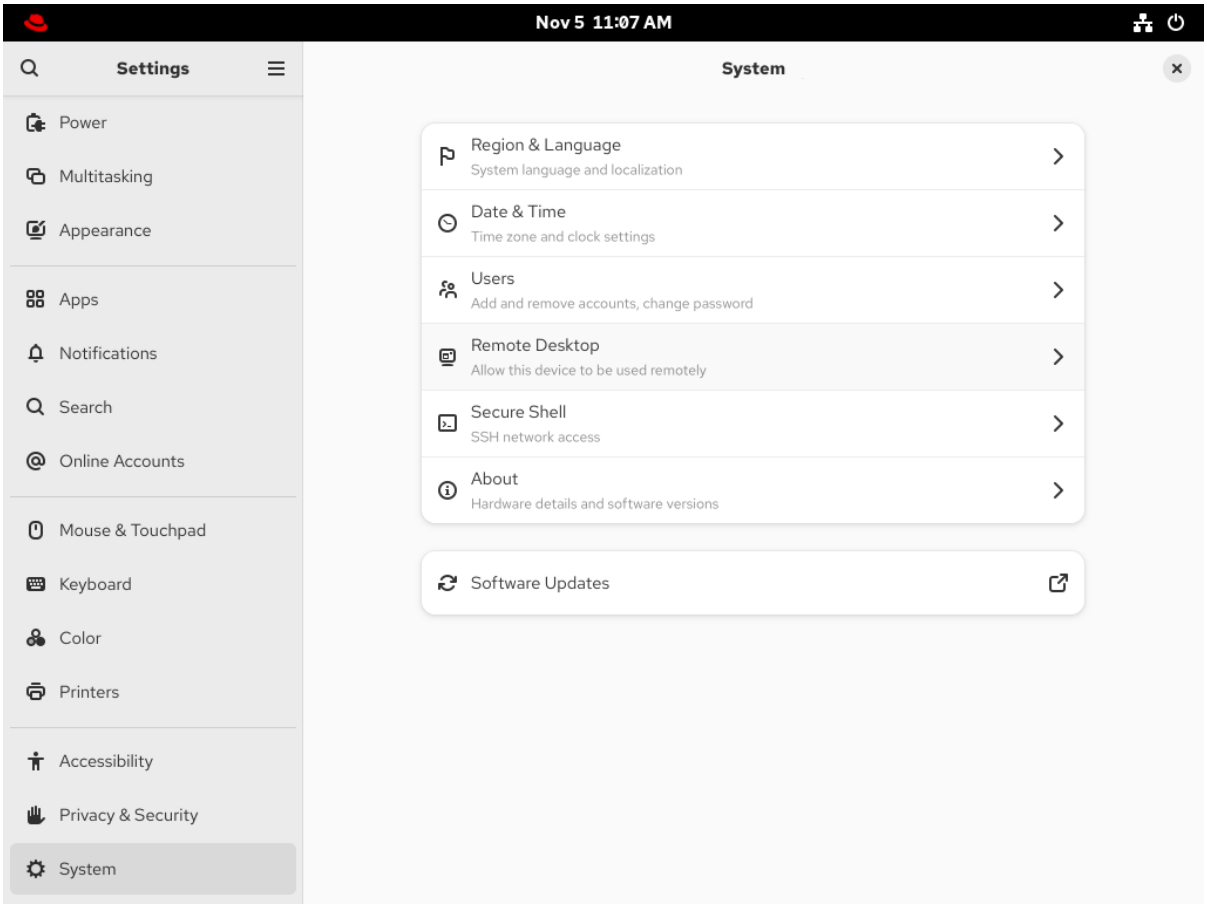
1. Configure a firewall rule to enable access to the server:

```
# firewall-cmd --permanent --add-port=3389/tcp
success
```

2. Reload firewall rules:

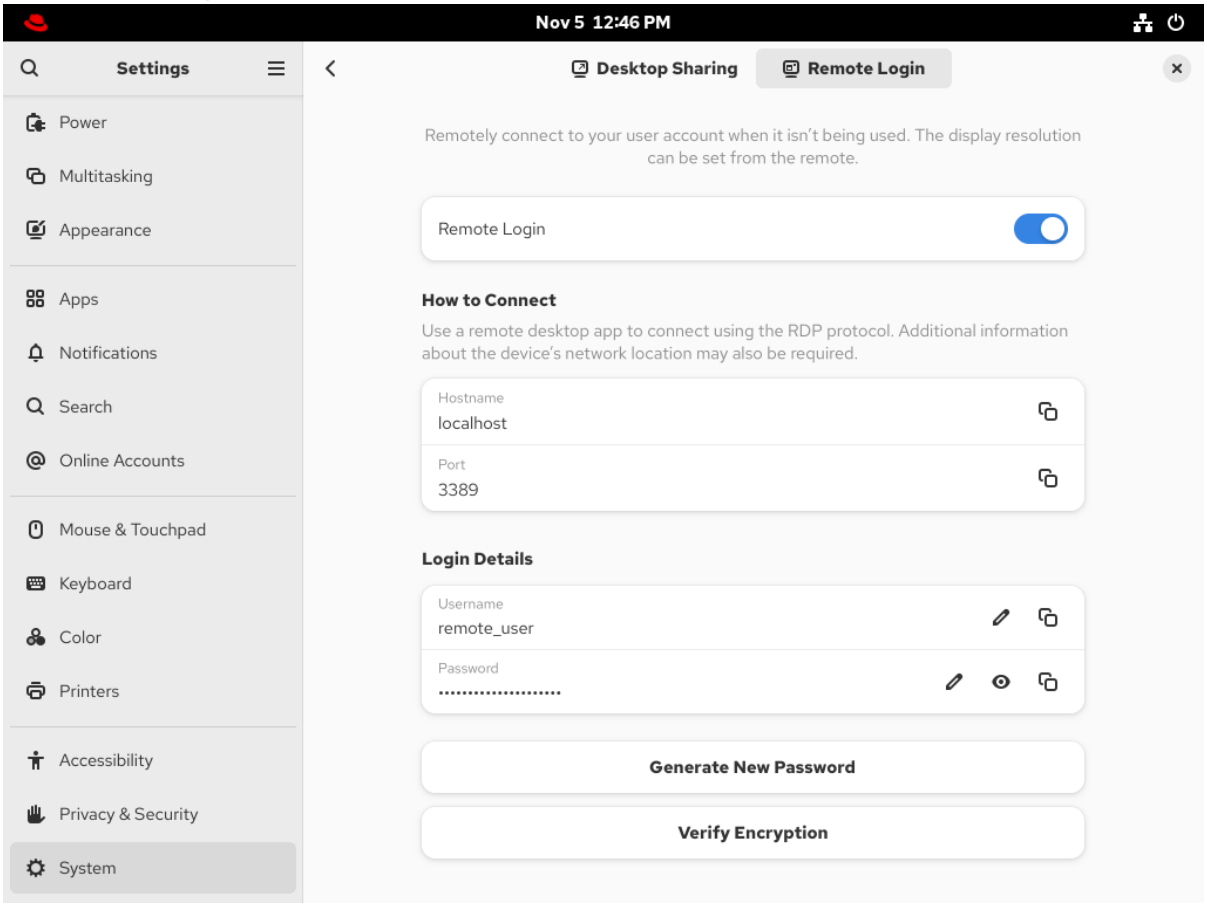
```
# firewall-cmd --reload
success
```

3. Open **Settings** in GNOME.
4. Open the **System** screen.
5. Select **Remote Desktop**.



6. Click the **Remote Login** tab in the menu header.

7. Set **Remote Login** to **On** to enable screen sharing.



8. Set a user name and a password in the **Login Details** section. Remote clients must enter these credentials when connecting to this system's login screen from a remote client.

10.3. CONNECTING TO A REMOTE DESKTOP BY USING GNOME

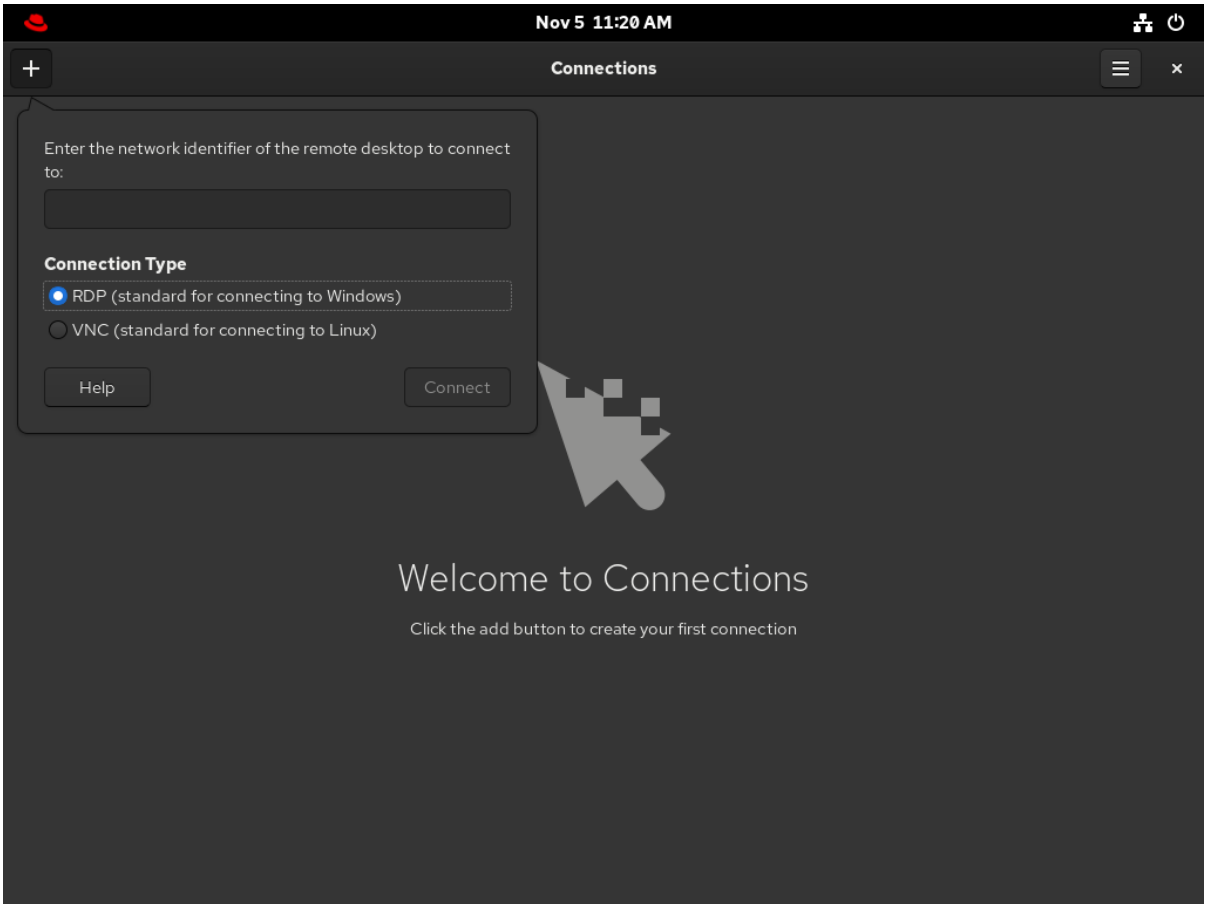
You can connect from a Red Hat Enterprise Linux client to a remote desktop server by using the **Connections** application. The connection depends on the remote server configuration.

Prerequisites

- Desktop sharing or remote login is enabled on the server. For more information, see Enabling desktop sharing on the server by using GNOME or Configuring GNOME remote login.
- For desktop sharing, a user is logged in to the GNOME graphical session on the server.
- The **gnome-connections** package is installed on the client.

Procedure

1. On the client, launch the **Connections** application.
2. Click the **+** button in the top bar to open a new connection.



3. Enter the IP address of the server.
4. Choose the connection type based on the operating system you want to connect to:

Remote Desktop Protocol (RDP)

Use RDP for connecting to Windows and RHEL 10 servers.

Virtual Network Computing (VNC)

Use VNC for connecting to servers with RHEL 9 and previous versions.

5. Click **Connect**.

Verification

1. On the client, check that you can see the shared server desktop.
2. On the server, a screen sharing indicator appears on the right side of the top panel:

You can control screen sharing in the **System** menu of the server.

CHAPTER 11. REMOTELY ACCESSING A GRAPHICAL APPLICATION

You can remotely launch a graphical application on a RHEL server and use it from the remote client. From RHEL 10 clients, you can remotely launch applications that support the Wayland display protocol by using the **waypipe** proxy, and applications that support the X11 display protocol by using X11 forwarding. You can also configure a RHEL 10 server for remotely launching graphical applications via SSH with X11 forwarding.

11.1. LAUNCHING AN APPLICATION REMOTELY BY USING WAYPIPE

You can access a Wayland-based graphical application on a RHEL server from a remote client by using SSH and the **waypipe** proxy.

Prerequisites

- The **waypipe** package is installed on both the client and the remote system.
- The application can run natively on Wayland.

Procedure

1. Launch the application remotely through **waypipe** and SSH.

```
[local-user]$ waypipe -c lz4=9 ssh <remote-server> <application-binary>

The authenticity of host '<remote-server> (<192.168.122.120>)' can't be established.
ECDSA key fingerprint is
SHA256:<uYwFlgtP/2YABMHKv5BtN7nHK9SHRL4hdYxAPJVK/kY>.
Are you sure you want to continue connecting (yes/no/[fingerprint])?
```

2. Confirm that a server key is valid by checking its fingerprint.
3. Continue connecting by typing **yes**.

```
Warning: Permanently added '<remote-server>' (ECDSA) to the list of known hosts.
```

4. When prompted, type the server password.

```
remote-user's password:
[remote-user]$
```

11.2. LAUNCHING AN APPLICATION REMOTELY BY USING X11 FORWARDING

You can access a graphical application on a remote RHEL server from a client by using SSH.

Prerequisites

- X11 forwarding over SSH is enabled on the server. For details, see Enabling X11 forwarding on the server.

- Ensure that an X11 display server is running on your system:
  - On RHEL, X11 is available by default in the graphical interface.
  - On Microsoft Windows, install an X11 server such as Xming.
  - On macOS, install the XQuartz X11 server.
- You have configured and restarted an OpenSSH server. For details, see Configuring and starting an OpenSSH server.

Procedure

1. Log in to the server by using SSH:

```
[<local_user>]$ ssh -X -Y <remote_server>
The authenticity of host '<remote_server> (192.168.122.120)' can't be established.
ECDSA key fingerprint is SHA256:uYwFlgtP/2YABMHKv5BtN7nHK9SHRL4hdYxAPJVK/kY.
Are you sure you want to continue connecting (yes/no/[fingerprint])?
```

2. Confirm that a server key is valid by checking its fingerprint.

NOTE

If you plan to log in to the server on a regular basis, add the user's public key to the server by using the **ssh-copy-id** command.

3. Confirm by typing **yes**.

```
Warning: Permanently added '<remote_server>' (ECDSA) to the list of known hosts.
```

4. When prompted, type the password of the user on the remote server:

```
<remote_user>'s password:
[<remote_user> ~]$
```

5. Launch the application from the command line:

```
[<remote_user>]$ <application-binary>
```

TIP

To skip the intermediate terminal session, use the following command:

```
[<local_user>]$ ssh user@server -X -Y -C <application-binary>
```

11.3. ENABLING X11 FORWARDING ON THE SERVER

Configure a RHEL server so that remote clients can use graphical applications on the server over SSH.

Procedure

1. Install basic X11 packages:

```
# dnf install xorg-x11-xauth xorg-x11-fonts-\* dbus-x11
```

NOTE

Your applications might require additional graphical libraries.

2. Enable the **X11Forwarding** option in the **/etc/ssh/sshd_config** configuration file:

```
X11Forwarding yes
```

The option is disabled by default in RHEL.

3. Restart the **sshd** service:

```
# systemctl restart sshd.service
```

CHAPTER 12. CONFIGURING GNOME TO STORE USER SETTINGS ON HOME DIRECTORIES HOSTED ON AN NFS SHARE

If you use GNOME on a system with home directories hosted on an NFS server, you must change the **keyfile** backend of the **dconf** database. Otherwise, **dconf** might not work correctly.

This change affects all users on the host because it changes how **dconf** manages user settings and configurations stored in the home directories.

Procedure

1. Add the following line to the beginning of the **/etc/dconf/profile/user** file. If the file does not exist, create it.

   ```
   service-db:keyfile/user
   ```

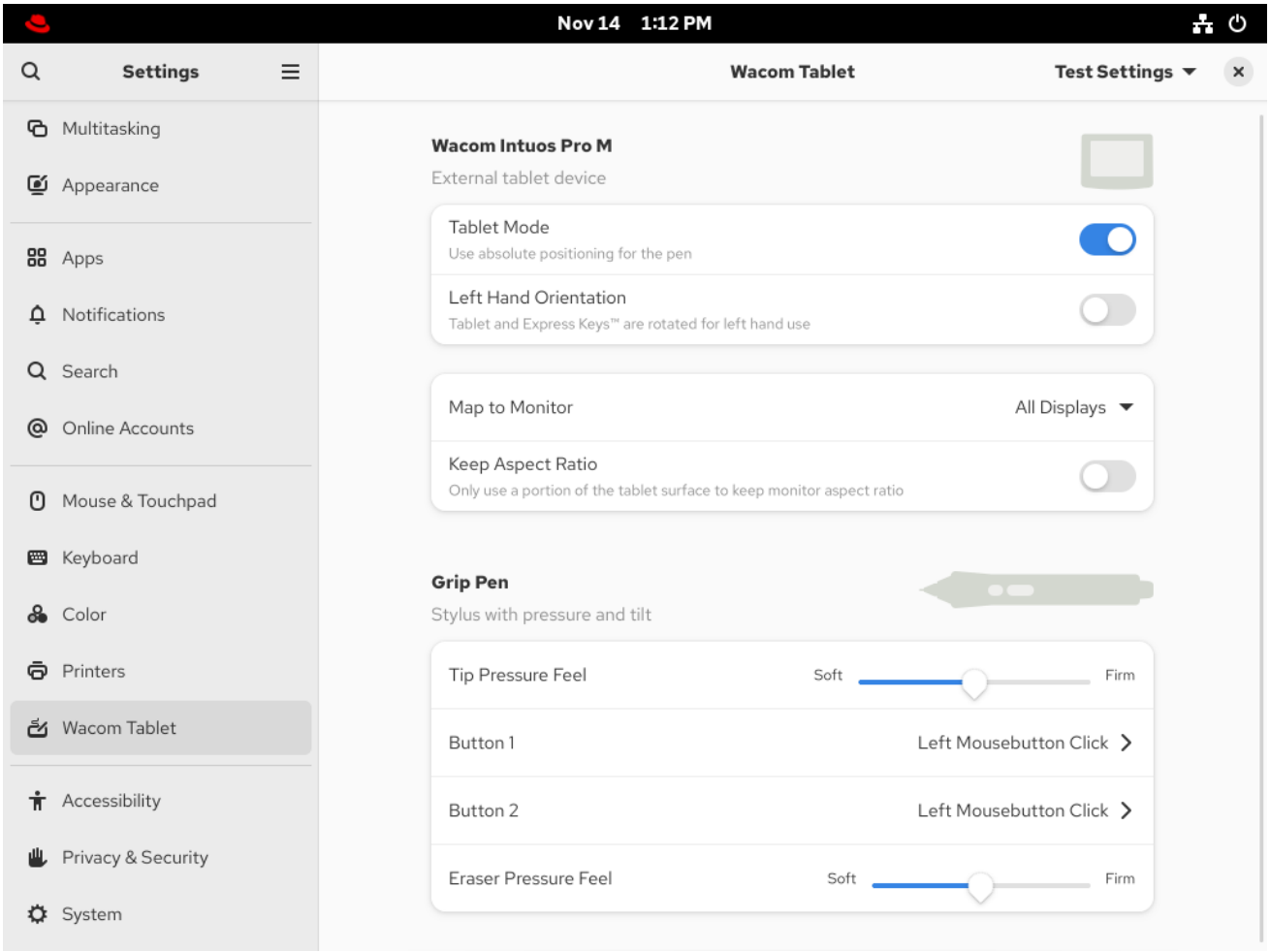
   With this setting, **dconf** polls the **keyfile** back end to determine whether updates have been made, so settings might not be updated immediately.

2. The changes take effect when the users logs out and in.

CHAPTER 13. TABLETS

You can manage Wacom tablets connected to your system from the **Wacom Tablet** settings panel in the GNOME environment.

The Wacom Tablet settings panel



The **Wacom Tablet** settings panel and the **libinput** stack use the **libwacom** tablet client library, which stores additional data about Wacom tablets that the system cannot obtain by querying the device directly.

If your tablet is listed in the **libwacom** library, it is visible in the **Wacom Tablet** settings panel.

If the **Wacom Tablet** settings panel displays "This device is unknown and may present wrong capabilities", the tablet is supported by the underlying input stack but some functionality might be missing. In that case, you can perform the Adding support for the new tablet procedure.

If the **Wacom Tablet** settings panel is empty, the tablet is not exposed by the kernel. In that case, contact Red Hat support.

13.1. ADDING SUPPORT FOR A NEW TABLET

If the **Wacom Tablet** settings panel displays "This device is unknown and may present wrong capabilities", the tablet is supported by the underlying input stack but some functionality might be missing. You can resolve this by adding a definition file for the tablet into the **libwacom** tablet information client library.

Prerequisites

- The **libwacom** package is installed on your system.

Procedure

1. List all local devices recognized by the **libwacom** database:

```
$ libwacom-list-local-devices
```

   Make sure that your device is recognized in the output.

   If your device is not listed, the device is missing from the **libwacom** database. However, the device might still be supported by the kernel if it is listed in the **/proc/bus/input/devices** file.

2. Optional: Check whether the device is supported at all by entering the **libwacom-list-devices** command, provided in the **libwacom-utils** package. This command lists all devices supported by your installed version of **libwacom**.

3. Check whether the definition file is available in the **/usr/share/libwacom/** directory.
   To use screen mapping correctly, support for your tablet must be included in the **libwacom** database.

IMPORTANT

A common indicator that a device is not supported by **libwacom** is that it works normally in a GNOME session, but the device is not correctly mapped to the screen.

4. If the definition file for your device is not available in **/usr/share/libwacom/**, you have these options:

   - Find the definition file in the linuxwacom/libwacom upstream repository and copy the file to your system.
   - Find a similar device in the linuxwacom/libwacom upstream repository and modify the definition file accordingly.

5. Add and install the definition file with the **.tablet** suffix:

```
# cp <tablet_definition_file>.tablet /etc/libwacom
```

   After the file is installed, the device is part of the **libwacom** database. The device is then available through **libwacom-list-local-devices**.

13.2. SETTING WACOM TABLET CONFIGURATION VALUES IN THE CLI

Instead of changing the settings in the **Wacom Tablet** settings panel, you can change the settings on the command line. Wacom tablet and stylus configuration files are saved in the following locations by default:

Tablet configuration

org.gnome.desktop.peripherals.tablet:/org/gnome/desktop/peripherals/tablets/*<vid>*:*<pid>*/

Stylus configuration

org.gnome.desktop.peripherals.tablet.stylus:/org/gnome/desktop/peripherals/tablet/stylus/*<serial number>*/

NOTE

By using ***<vid>***, ***<pid>***, and ***<serial_number>*** in configuration paths, you can configure tablets and styli independently.

Prerequisites

- The **libwacom** package is installed on your system.

Procedure

1. List local devices to display their IDs:

```
$ libwacom-list-local-devices
devices:
- name: 'Wacom Intuos Pro M'
  bus: 'usb'
  vid: '0x056a'
  pid: '0x0357'
  nodes:
  - /dev/input/event6: 'Wacom Co.,Ltd. Wacom Intuos Pro M Pen'
  - /dev/input/event7: 'Wacom Co.,Ltd. Wacom Intuos Pro M Pad'
  styli:
   - id: 0x100802
```

   If a device does not support unique serial numbers, the stylus is identified with a generic identifier based on the tablet's VID and PID:

   org.gnome.desktop.peripherals.tablet.stylus:/org/gnome/desktop/peripherals/tablet/stylus/default-*<vid>*:*<pid>*/

2. Determine the serial number for the particular device:

```
# libwacom-show-stylus /dev/input/event6
Please put tool in proximity
Tool id 0x100802 serial 0x2380369c in-proximity: False
```

3. List the available settings for the selected device:

   - For a tablet:

```
$ gsettings list-recursively
org.gnome.desktop.peripherals.tablet:/org/gnome/desktop/peripherals/tablet/<vid>:<pid>/
org.gnome.desktop.peripherals.tablet area [0.0, 0.0, 0.0, 0.0]
org.gnome.desktop.peripherals.tablet keep-aspect false
org.gnome.desktop.peripherals.tablet left-handed false
org.gnome.desktop.peripherals.tablet mapping 'absolute'
org.gnome.desktop.peripherals.tablet output ['', '', '']
```

     Replace ***<vid>*** and ***<pid>*** with the IDs of your device.

   - For a stylus:

```
$ gsettings list-recursively
org.gnome.desktop.peripherals.tablet.stylus:/org/gnome/desktop/peripherals/tablet/stylus/
<serial_number>/
org.gnome.desktop.peripherals.tablet.stylus button-action 'default'
org.gnome.desktop.peripherals.tablet.stylus button-keybinding ''
org.gnome.desktop.peripherals.tablet.stylus eraser-pressure-curve [0, 0, 100, 100]
org.gnome.desktop.peripherals.tablet.stylus eraser-pressure-range [0, 100]
org.gnome.desktop.peripherals.tablet.stylus pressure-curve [0, 0, 100, 100]
org.gnome.desktop.peripherals.tablet.stylus pressure-range [0, 100]
org.gnome.desktop.peripherals.tablet.stylus secondary-button-action 'default'
org.gnome.desktop.peripherals.tablet.stylus secondary-button-keybinding ''
org.gnome.desktop.peripherals.tablet.stylus tertiary-button-action 'default'
org.gnome.desktop.peripherals.tablet.stylus tertiary-button-keybinding ''
```

Replace ***<serial_number>*** with the ID of your device.

4. Set an option to the value that you want:

```
$ gsettings set <schema_name>:<path> <key> <value>
```

Replace:

- ***<schema_name>:<path>*** with the schema and path to your device.
- ***<key>*** with the option you want to change.
- ***<value>*** with the value you want to set.

For example:

```
$ gsettings set
org.gnome.desktop.peripherals.tablet.stylus:/org/gnome/desktop/peripherals/tablet/stylus/0x238
0369c pressure-range "[0, 75]"
```