Red Hat Enterprise Linux 9.0 Beta

Administering the system using the GNOME desktop environment

Administering Red Hat Enterprise Linux 9 using the GNOME desktop environment
Red Hat Enterprise Linux 9.0 Beta Administering the system using the GNOME desktop environment

Administering Red Hat Enterprise Linux 9 using the GNOME desktop environment
Abstract

This document describes how to perform selected system administration tasks using GNOME, which is the only available desktop environment in RHEL 9.
## Table of Contents

**MAKING OPEN SOURCE MORE INCLUSIVE** .................................................. 3

**PROVIDING FEEDBACK ON RED HAT DOCUMENTATION** .......................... 4

**CHAPTER 1. INSTALLING SOFTWARE IN GNOOME** ........................................ 5
  1.1. PREREQUISITES .................................................................................. 5
  1.2. THE GNOME SOFTWARE APPLICATION .............................................. 5
  1.3. INSTALLING AN APPLICATION USING GNOME SOFTWARE ................. 5
  1.4. INSTALLING AN APPLICATION TO OPEN A FILE TYPE ..................... 7
  1.5. INSTALLING AN RPM PACKAGE FILE IN GNOOME ......................... 7
  1.6. INSTALLING AN APPLICATION FROM THE ACTIVITIES OVERVIEW SEARCH ................................................................................. 8
  1.7. ADDITIONAL RESOURCES (OR NEXT STEPS) .................................. 9

**CHAPTER 2. INSTALLING APPLICATIONS USING FLATPAK** ......................... 10
  2.1. THE FLATPAK TECHNOLOGY ............................................................... 10
  2.2. SETTING UP FLATPAK ....................................................................... 10
  2.3. ENABLING THE RED HAT FLATPAK REMOTE .................................... 10
  2.4. SEARCHING FOR FLATPAK APPLICATIONS ...................................... 11
  2.5. INSTALLING FLATPAK APPLICATIONS .............................................. 12
  2.6. LAUNCHING FLATPAK APPLICATIONS ............................................. 12
  2.7. UPDATING FLATPAK APPLICATIONS ............................................... 13
  2.8. INSTALLING FLATPAK APPLICATIONS IN THE GRAPHICAL INTERFACE ............................................................................. 13
  2.9. UPDATING FLATPAK APPLICATIONS IN THE GRAPHICAL INTERFACE ............................................................................. 14

**CHAPTER 3. DISPLAYING THE SYSTEM SECURITY CLASSIFICATION** ............ 15
  3.1. DISPLAYING THE SYSTEM SECURITY CLASSIFICATION AT LOGIN ........ 15
  3.2. ENABLING SYSTEM SECURITY CLASSIFICATION BANNERS ............. 15

**CHAPTER 4. SETTING A DEFAULT DESKTOP SESSION FOR ALL USERS** ........ 17
MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright’s message.
PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We appreciate your input on our documentation. Please let us know how we could make it better. To do so:

- For simple comments on specific passages:
  1. Make sure you are viewing the documentation in the *Multi-page HTML* format. In addition, ensure you see the *Feedback* button in the upper right corner of the document.
  2. Use your mouse cursor to highlight the part of text that you want to comment on.
  3. Click the *Add Feedback* pop-up that appears below the highlighted text.
  4. Follow the displayed instructions.

- For submitting more complex feedback, create a Bugzilla ticket:
  1. Go to the *Bugzilla* website.
  2. As the Component, use *Documentation*.
  3. Fill in the *Description* field with your suggestion for improvement. Include a link to the relevant part(s) of documentation.
  4. Click *Submit Bug*. 
CHAPTER 1. INSTALLING SOFTWARE IN GNOME

You can install applications and other software packages using several methods in GNOME.

1.1. PREREQUISITES

- You have administrator permissions on the system.

1.2. THE GNOME SOFTWARE APPLICATION

GNOME Software is an utility that enables you to install and update applications and software components in a graphical interface.

GNOME Software provides a catalog of graphical applications, which are the applications that include a *.desktop file. The available applications are grouped into multiple categories according to their purpose.

GNOME Software uses the PackageKit and Flatpak technologies as its back ends.

1.3. INSTALLING AN APPLICATION USING GNOME SOFTWARE

This procedure installs a graphical application using the GNOME Software utility.

Procedure

1. Launch the GNOME Software application.

2. Find the application that you want to install using any of the following methods:
   - Click the search button ( ) in the upper-left corner of the window and type the name of the application.
• Browse the application categories in the Explore tab.

3. Click the selected application.

4. Click Install.
1.4. INSTALLING AN APPLICATION TO OPEN A FILE TYPE

This procedure installs an application that can open a given file type.

**Prerequisites**

- You can access a file of the required file type in your file system.

**Procedure**

1. Try opening a file that is associated with an application that is currently not installed on your system.

2. GNOME automatically identifies the suitable application that can open the file, and offers to download the application.

1.5. INSTALLING AN RPM PACKAGE FILE IN GNOME
This procedure installs an RPM software package that you manually downloaded as a file.

**Prerequisites**

- You have downloaded the required RPM package.

**Procedure**

1. In the **Files** application, open the directory that stores the downloaded RPM package.

   **NOTE**

   By default, downloaded files are stored in the `/home/user/Downloads/` directory.

2. Double-click the RPM package file to install it.

### 1.6. INSTALLING AN APPLICATION FROM THE ACTIVITIES OVERVIEW SEARCH

This procedure installs a graphical application from search results on the GNOME **Activities Overview** screen.

**Procedure**

1. Open the **Activities Overview** screen.

2. Type the name of the required application in the search entry.

   ![Activities Overview Screenshot](image)

   The search results display the application's icon, name, and description.

3. Click the application's icon to open the **Software** application.
4. Click **Install** to finish the installation in **Software**.

**Verification**

- Click **Open** to launch the installed application.

### 1.7. ADDITIONAL RESOURCES (OR NEXT STEPS)

- Managing software with YUM
- Chapter 2, *Installing applications using Flatpak*
CHAPTER 2. INSTALLING APPLICATIONS USING FLATPAK

You can install certain applications using the Flatpak package manager. The following sections describe how to search for, install, launch, and update Flatpak applications on the command line and in the graphical interface.

IMPORTANT

Red Hat provides Flatpak applications only as a Technology Preview feature. Technology Preview features are not supported with Red Hat production service level agreements (SLAs) and might not be functionally complete. Red Hat does not recommend using them in production. These features provide early access to upcoming product features, enabling customers to test functionality and provide feedback during the development process. For more information about the support scope of Red Hat Technology Preview features, see https://access.redhat.com/support/offerings/techpreview.

The Flatpak package manager itself is fully supported.

2.1. THE FLATPAK TECHNOLOGY

Flatpak provides a sandbox environment for application building, deployment, distribution, and installation.

Applications that you launch using Flatpak have minimum access to the host system, which protects the system installation against third-party applications. Flatpak provides application stability regardless of the versions of libraries installed on the host system.

Flatpak applications are distributed from repositories called remotes. Red Hat provides a remote with RHEL applications. Additionally, third-party remotes are available as well. Red Hat does not support applications from third-party remotes.

2.2. SETTING UP FLATPAK

This procedure installs the Flatpak package manager.

Procedure

- Install the flatpak package:

  # dnf install flatpak

2.3. ENABLING THE RED HAT FLATPAK REMOTE

This procedure configures the Red Hat Container Catalog as a Flatpak remote on your system.

Prerequisites

- You have an account on the Red Hat Customer Portal.
NOTE
For large-scale deployments where the users do not have Customer Portal accounts, Red Hat recommends using registry service accounts. For details, see Registry Service Accounts.

Procedure

1. Enable the `rhel` Flatpak remote:

   ```bash
   $ flatpak remote-add --if-not-exists rhel
   https://flatpaks.redhat.io/rhel.flatpakrepo
   ```

2. Log into the Red Hat Container Catalog:

   ```bash
   $ podman login registry.redhat.io
   Username: your-user-name
   Password: your-password
   ```

   Provide the credentials to your Red Hat Customer Portal account or your registry service account tokens.

   By default, Podman saves the credentials only until you log out.

3. Optional: Save your credentials permanently. Use one of the following options:

   - Save the credentials for the current user:
     ```bash
     $ cp $XDG_RUNTIME_DIR/containers/auth.json
         $HOME/.config/flatpak/oci-auth.json
     ```

   - Save the credentials system-wide:
     ```bash
     # cp $XDG_RUNTIME_DIR/containers/auth.json
         /etc/flatpak/oci-auth.json
     ```

   For best practices, Red Hat recommends that you log into the Red Hat Container Catalog using registry account tokens when installing credentials system-wide.

Verification

- List the enabled Flatpak remotes:

  ```bash
  $ flatpak remotes
  ```

  Name   Options
  rhel   system,oci,no-gpg-verify

2.4. SEARCHING FOR FLATPAK APPLICATIONS
This procedure searches for an application in the enabled Flatpak remotes on the command line. The search uses the application name and description.

Prerequisites

- Flatpak is installed.
- The Red Hat Flatpak repository is enabled.

Procedure

- Search for an application by name:

  ```
  $ flatpak search application-name
  
  For example, to search for the **LibreOffice** application, use:
  
  $ flatpak search LibreOffice
  
  The search results include the ID of the application:
  
<table>
<thead>
<tr>
<th>Application ID</th>
<th>Version</th>
<th>Branch</th>
<th>Remotes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>org.libreoffice.LibreOffice</td>
<td></td>
<td></td>
<td>rhel</td>
<td>The LibreOffice productivity suite</td>
</tr>
</tbody>
</table>
  ```

### 2.5. INSTALLING FLATPAK APPLICATIONS

This procedure installs a selected application from the enabled Flatpak remotes on the command line.

Prerequisites

- Flatpak is installed.
- The Red Hat Flatpak remote is enabled.

Procedure

- Install an application from the **rhel** remote:

  ```
  $ flatpak install rhel application-id
  
  Replace `application-id` with the ID of the application. For example:
  
  $ flatpak install rhel org.libreoffice.LibreOffice
  ```

### 2.6. LAUNCHING FLATPAK APPLICATIONS

This procedure launches an installed Flatpak application from the command line.

Prerequisites

- Flatpak is installed.
- The selected Flatpak application is installed.

**Procedure**

- Launch the application:

  ```
  $ flatpak run application-id
  ```

  Replace `application-id` with the ID of the application. For example:

  ```
  $ flatpak run org.libreoffice.LibreOffice
  ```

2.7. UPDATING FLATPAK APPLICATIONS

This procedure updates one or more installed Flatpak applications to the most recent version in the corresponding Flatpak remote.

**Prerequisites**

- Flatpak is installed.
- A Flatpak remote is enabled.

**Procedure**

- Update one or more Flatpak applications:
  - To update a specific Flatpak application, specify the application ID:

    ```
    $ flatpak update application-id
    ```

  - To update all Flatpak applications, specify no application ID:

    ```
    $ flatpak update
    ```

2.8. INSTALLING FLATPAK APPLICATIONS IN THE GRAPHICAL INTERFACE

This procedure searches for Flatpak applications using the **Software** application.

**Prerequisites**

- Flatpak is installed.
- The Red Hat Flatpak remote is enabled.

**Procedure**

1. Open the **Software** application.

2. Make sure that the **Explore** tab is active.
3. Click the search button in the upper-left corner of the window.

4. In the input box, type the name of the application that you want to install, such as LibreOffice.

5. Select the correct application in the search results.
   If the application is listed several times, select the version where the Source field in the Details section reports flatpaks.redhat.io.

6. Click the Install button.

7. If Software asks you to log in, enter your Customer Portal credentials or your registry service account tokens.

8. Wait for the installation process to complete.

9. Optional: Click the Launch button to launch the application.

2.9. UPDATING FLATPAK APPLICATIONS IN THE GRAPHICAL INTERFACE

This procedure updates one or more installed Flatpak applications using the Software application.

Prerequisites

- Flatpak is installed.
- A Flatpak remote is enabled.

Procedure

1. Open the Software application.

2. Select the Updates tab.

3. In the Application Updates section, you can find all available updates to Flatpak applications.

4. Update one or more applications:
   - To apply all available updates, click the Update All button.
   - To update only a specific application, click the Update button next to the application item.

5. Optional: Enable automatic application updates.
   a. Click the menu button in the upper-right corner of the window.
   b. Select Update Preferences.
   c. Enable Automatic Updates.
      Flatpak applications now update automatically.
CHAPTER 3. DISPLAYING THE SYSTEM SECURITY CLASSIFICATION

As an administrator of deployments where the user must be aware of the security classification of the system, you can create either a login screen heads-up banner or a classification banner.

3.1. DISPLAYING THE SYSTEM SECURITY CLASSIFICATION AT LOGIN

You can now configure the GNOME Display Manager (GDM) login screen to display an overlay banner that contains a predefined message. This is useful for deployments where the user is required to read the security classification of the system before logging in.

Procedure

1. Install the gnome-shell-extension-heads-up-display package:
   
   ```
   # yum install gnome-shell-extension-heads-up-display
   ```

2. Create the /etc/dconf/db/gdm.d/99-hud-message file with the following content:

   ```
   [org/gnome/shell]
   enabled-extensions=['heads-up-display@gnome-shell-extensions.gcampax.github.com']
   
   [org/gnome/shell/extensions/heads-up-display]
   message-heading="Security classification title"
   message-body="Security classification description"
   ```

   Replace the following values with text that describes the security classification of your system:

   **Security classification title**
   
   A short heading that identifies the security classification.
   
   **Security classification description**
   
   A longer message that provides additional details, such as references to various guidelines.

3. Update the dconf database:

   ```
   # dconf update
   ```

4. Reboot the system.

3.2. ENABLING SYSTEM SECURITY CLASSIFICATION BANNERS

You can now create a classification banner to state the overall security classification level of the system. This is useful for deployments where the user must be aware of the security classification level of the system that they are logged into.

You can create a classification banner within the running session, the lock screen, and login screen, and customize its background color, its font, and its position within the screen.

This procedure creates a red banner with a white text placed on both the top and bottom of the login screen.
Procedure

1. Install `gnome-shell-extension-classification-banner` package.
   
   # yum install gnome-shell-extension-classification-banner

2. Create the `/etc/dconf/db/gdm.d/99-class-banner` file with the following content:

   ```
   [org/gnome/shell]
   enabled-extensions=[classification-banner@gnome-shell-extensions.gcampax.github.com]

   [org/gnome/shell/extensions/classification-banner]
   background-color='rgba(200,16,46,0.75)'
   message='TOP SECRET'
   top-banner=true
   bottom-banner=true
   system-info=true
   color='rgb(255,255,255)'
   ```

3. Update the `dconf` database:

   # dconf update

4. Reboot the system.
You can configure a default desktop session that is preselected for all users that have not logged in yet.

If a user logs in using a different session than the default, their selection persists to their next login.

**Procedure**

1. Copy the configuration file template:

   ```
   # cp /usr/share/accountsservice/user-templates/standard /etc/accountsservice/user-templates/standard
   ```

2. Edit the new `/etc/accountsservice/user-templates/standard` file. On the `Session=gnome` line, replace `gnome` with the session that you want to set as the default.

3. Optional: To configure an exception to the default session for a certain user, follow these steps:

   a. Copy the template file to `/var/lib/AccountsService/users/user-name`:

   ```
   # cp /usr/share/accountsservice/user-templates/standard /var/lib/AccountsService/users/user-name
   ```

   b. In the new file, replace variables such as `${USER}` and `${ID}` with the user values.

   c. Edit the `Session` value.