

Oracle® Linux 7

Accessibility User's Guide

ORACLE

E92218-09
November 2021

Oracle Legal Notices

Copyright © 2018, 2021, Oracle and/or its affiliates.

Table of Contents

Preface	v
1 Working With Accessibility Features in Oracle Linux 7	1
1.1 About Assistive Technologies	1
1.2 About Universal Access in the GNOME Desktop	1
2 Working With Screen Readers and Magnifiers	5
2.1 Using the Orca Screen Reader	5
2.2 Using the Festival Command Interpreter	6
2.3 Using the GNOME Magnifier	6
3 Working With Assistive Mouse Tools	9
4 Working With On-Screen Keyboards	11
4.1 Using the GNOME On-Screen Keyboard	11
4.2 Using the Florence Virtual On-Screen Keyboard	11
5 Related Documentation	13

Preface

The [Oracle® Linux 7: Accessibility User's Guide](#) describes the accessibility features that are available in the Oracle Linux operating system.

Document generated on: 2021-11-17 (revision: 12724)

Audience

This document is intended for users and administrators of Oracle Linux. It describes accessibility features and tasks that are related to assistive technologies that are included in Oracle Linux. Oracle recommends that you read this document before installing, configuring, and using these features. The guide assumes that readers have a general understanding of the Linux operating system.

Related Documents

The latest version of this document and other documentation for this product are available at:

[Oracle® Linux 7 Documentation](#)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

For information about the accessibility of the Oracle Help Center, see the Oracle Accessibility Conformance Report at <https://www.oracle.com/corporate/accessibility/templates/t2-11535.html>.

Access to Oracle Support for Accessibility

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <https://www.oracle.com/corporate/accessibility/learning-support.html#support-tab>.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive

terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

Chapter 1 Working With Accessibility Features in Oracle Linux 7

Accessibility features provide users with vision, hearing, and motor impairments a way to access and use Oracle Linux software features more easily. This guide provides information and step-by-step instructions on enabling and configuring the accessibility features that are included in Oracle Linux 7.

The information and instructions in this guide focus primarily on the software features that are available in the GNOME desktop. Oracle Linux 7 includes both the GNOME Classic desktop and the GNOME desktop. As such, the following instructions vary slightly, depending on which desktop version you are running. Whenever available, command-line instructions are also provided.

1.1 About Assistive Technologies

Assistive technologies promote accessibility by targeting users with specific impairments, such as vision or hearing impairments, or impaired motor skills.

Alternative presentations that are provided for users with physical impairments include some of the following:

- Synthesized speech
- Magnified content
- Alternative input methods
- Additional navigation methods
- Content transformations

Oracle Linux provides several software features that enable users with physical impairments to use all of the functionality of the desktop. In addition, there are a variety of tools available in the desktop that enable you to customize its appearance and behavior.

Note that the Anaconda installation software for Oracle Linux 7 does not provide any accessibility features.

1.2 About Universal Access in the GNOME Desktop

In Oracle Linux 7 you enable and customize assistive features in the GNOME desktop by using the universal access feature.

You can optionally add an accessibility menu to the top bar of the desktop, which provides an easier way to turn accessibility features on and off. If the accessibility menu is not displayed, open the **Universal Access** settings panel, as described in the following steps, then toggle the **Always Show Universal Access Menu** switch to **ON**.

Note that you can only turn features on and off by clicking the menu icon that is located on the top bar of the desktop. If you need to customize accessibility features, you can do so by accessing the **Universal Access** settings panel.

- To open the **Universal Access** settings panel in the GNOME Classic desktop:
 1. From the **Applications** menu, select **System Tools**, and then select **Settings**.
 2. In the **All Settings** window, click the **Universal Access** icon.

- To open the **Universal Access** settings panel in the GNOME desktop:
 1. On the top bar of the desktop, click **Activities** to open the Activities overview.
 2. In the **Type to search...** field, start typing "universal access", then click the **Universal Access** icon.



Tip

For quick access to the Activities overview, press the **Super** key, which is located next to the left **Alt** key on most keyboards. The **Super** key functions the same way, regardless of which GNOME desktop version you are running.

- To manually open the **Universal Access** settings panel, type the following command:

```
$ gnome-control-center universal-access
```

Customizing Accessibility Features

You can customize accessibility features in the GNOME desktop by using the **Universal Access** settings panel, which is divided into the following sections:

- **Seeing**

This section includes accessibility features and options for users with visual impairments. You can enable and customize the following settings:

- **High Contrast:** Adjusts the contrast of windows and buttons on-screen so that they are more or less vivid.
- **Large Text:** Enlarges font so that it is more readable.
- **Cursor Size:** Increases and decreases the mouse cursor size.
- **Zoom:** Magnifies text so that it is more readable. Zoom is the default magnifier that is provided in Oracle Linux 7. See [Section 2.3, "Using the GNOME Magnifier"](#).
- **Screen Reader:** Enables you to speak the user interface. Orca is the on-screen reader that is provided in Oracle Linux 7. See [Section 2.1, "Using the Orca Screen Reader"](#).
- **Sound Keys:** Beeps when the **Num Lock** or **Caps Lock** key is turned on or off.

- **Hearing**

This section includes the **Visual Alerts** accessibility setting. When enabled, this setting provides a visual indication when an alert sound occurs. Available options include: **Flash the window title** and **Flash the entire screen**.

- **Typing**

This section includes accessibility features and options for users with mobility impairments. You can enable and customize the following settings:

- **Screen Keyboard:** Enables you to use applications and the desktop without physical keyboard. The GNOME on-screen reader (GOK) is the default on-screen keyboard in Oracle Linux 7. See [Section 4.1, "Using the GNOME On-Screen Keyboard"](#).
- **Repeat Keys:** Specifies that the keyboard not repeat letters when a key is held down. This setting also enables you to change the delay and speed of repeat keys.

- **Cursor Blinking:** Causes the cursor to blink in text fields when enabled.
- **Typing Assist (AccessX):** Opens a sub-menu that contains the following keyboard settings that you can enable and customize:
 - **Enable by keyboard:** Enables accessibility features to be turned on and off by using the keyboard.
 - **Sticky-keys:** Enables a sequence of keys to be treated as keyboard combinations. You can further customize sticky-keys by selecting these options: **Disable if two keys are pressed together** and **Beep when a modifier key is pressed**.
 - **Slow-keys:** Inserts a delay between when a key is pressed and when it is accepted. You can specify a length of time for the delay (ranging from Short to Long) by adjusting the **Slow-keys** slider. In addition, you can select any or all of the following options: **Beep when a key is pressed**, **Beep when a key is accepted**, and **Beep when a key is rejected**.
 - **Bounce-keys:** Ignores fast, duplicate key presses. You can specify a length of time for the delay (ranging from Short to Long) by adjusting the **Bounce-keys** slider. A **Beep when a key is reject** option is also available.

- **Pointing & Clicking**

Users who have difficulties using a mouse or pointing device can customize features in this section. See [Chapter 3, Working With Assistive Mouse Tools](#) for more information.

You can enable and customize the following settings in this section:

- **Mouse Keys:** Enables you to control the mouse pointer by using the numeric keypad on your keyboard.
- **Click Assist:** Provides assistance for clicking a mouse.

You can customize the following settings in the **Click Assist** dialog box:

- **Simulated Secondary Click:** Triggers a secondary click by holding down the primary button. You can specify a length of time for the delay (ranging from Short to Long) by adjusting the **Acceptance delay** slider.
- **Hover Click:** Triggers a click when the pointer hovers. To specify a length of time for the delay (ranging from Short to Long), adjust the **Delay** slider.

To specify a motion threshold range (from Small to Large), adjust the **Motion Threshold** slider.

- **Double-Click Delay:** Enables you to adjust the length of time to delay the double-click action.

For more detailed information about universal access in the GNOME desktop, go to <https://help.gnome.org/users/gnome-help/stable/a11y.html>.

Chapter 2 Working With Screen Readers and Magnifiers

Oracle Linux provides Orca as its default on-screen reader. The `orca` (version 3.6.3) package is installed on your Oracle Linux 7 system by default. Note that this version of Orca does *not* include a magnifier. In this Oracle Linux release, the GNOME screen magnifier (Zoom) provides magnifier capability for the visually impaired. See [Section 2.3, “Using the GNOME Magnifier”](#).

2.1 Using the Orca Screen Reader

When enabled, the Orca screen reader speaks text as you move the focus of your cursor on screen.

You can start Orca from the command line or from the GNOME desktop. To learn more about Orca, see <https://help.gnome.org/users/orca/stable/>.

Starting Orca From the Desktop

- To start Orca from the GNOME Classic desktop:

From the **Applications** menu, select **Sundry**, and then select **Orca**.

- To start Orca from the GNOME desktop:

1. On the top bar of the desktop, click **Activities** to open the Activities overview.
2. In the **Type to search...** field, start typing "orca", then click the **Orca** icon.

When the Orca screen reader starts, the **Orca Screen Reader** dialog is also displayed. Here, you can optionally customize preferences for Orca, get information about the Orca version that you are running, or quit Orca.

Customizing Preferences for Orca

When you start Orca by following the steps in [Section 2.1, “Using the Orca Screen Reader”](#), the **Orca Screen Reader** dialog is also displayed. Here, you can configure preferences for the tool. Note that you can customize preferences for Orca that apply globally to all features, such as the key echo functionality, or you can configure Orca preferences for individual features.



Note

If you started Orca manually by enabling the **Screen Reader** option in the **Seeing** section of the **Universal Access** settings panel, the screen reader starts with all of its preferences pre-configured. As such, you do *not* have the option to customize any of Orca's preferences after enabling the tool.

To customize Orca's preferences:

1. In the **Orca Screen Reader** dialog, click **Preferences**.
2. In the **Preferences** dialog, you can configure the following preferences:
 - **General**: Configure general preferences for how Orca behaves.
 - **Voice**: Configure preferences for the voice that Orca uses.
 - **Speech**: Configure preferences for what gets spoken.
 - **Braille**: Configure preferences for Orca braille display support.

- **Key Echo:** Configure preferences for what is spoken while you type.
 - **Key Bindings:** Configure keyboard shortcuts for Orca.
 - **Pronunciation:** Configure preferences for how words are pronounced.
 - **Text Attributes:** Configure preferences for what formatting is presented.
3. Click **OK** to save your changes and reload the new settings.

To discard your changes and use Orca with the default configuration, click **Cancel**. Clicking **Quit** closes the **Orca Screen Reader** dialog box and also exits the tool.

For more information about customizing Orca, go to <https://help.gnome.org/users/orca/stable/preferences.html.en>.

2.2 Using the Festival Command Interpreter

In addition to the default eSpeak speech synthesizer that is used by Orca, you can use the Festival Speech Synthesis System, which is a general purpose text-to-speech command-line tool. The `festival` (version 1.96) package is installed by default on your Oracle Linux 7 system.

You can use Festival in command mode and `tts` (text-to-speech) mode. Users with impaired vision can run the `festival` command with the `--tts` option to render text files as speech, as shown in the following example:

```
$ festival --tts path_to_text_file
```

For up-to-date information about Festival, including detailed command-line usage and examples, run the `man festival` command.

2.3 Using the GNOME Magnifier

Zoom is the default magnifier that is included in the GNOME desktop for Oracle Linux 7.

To start the magnifier from the GNOME Classic desktop:

1. From the **Applications** menu, select **System Tools**, and then select **Settings**.
2. In the **All Settings** window, click the **Universal Access** icon to open the **Universal Access** settings panel.
3. In the **Seeing** section, toggle the **Zoom** setting to **ON**.

This action opens the **Zoom Options** window, where you can customize settings for the tool.

To start the magnifier from the GNOME desktop:

1. On the top bar of the desktop, click **Activities** to open the Activities overview.
2. In the **Type to search...** field, start typing "universal access", then click the **Universal Access** icon to open the **Universal Access** settings panel.
3. Click the **Zoom** icon.

This action opens the **Zoom Options** window, where you can customize settings for the tool.



Note

You can also enable Zoom for a login screen by clicking the **Accessibility** menu icon located on the desktop.

Customizing Options for Zoom

You can customize the following options in the **Zoom Options** window:

- **Magnification:** Enables you to increase or decrease the magnification size by clicking the plus (+) or minus (-) signs.
- **Magnifier Position:** Enables you to specify where the magnifier is positioned on the desktop. For this option, you can select from the following two options: **Follow mouse cursor** or **Screen part**.

The **Follow mouse cursor** option enables you to specify that the magnifier's focus follow the cursor wherever it is positioned.

The **Screen part** option enables you to specify on which portion of the screen the magnifier is displayed. Settings include the following: **top half**, **bottom half**, **right half**, and **left half**.

The **Screen part** option also includes the following settings that you can customize:

- **Magnifier extends outside of screen:** Controls how the magnifier scrolls as it approaches an edge of the desktop. When selected, the contents within the magnifier continue to scroll as the mouse approaches an edge of the desktop. When deselected, the contents cease to scroll as the mouse approaches an edge of the desktop; only the mouse continues to move.
- **Keep magnifier cursor centered:** Enables the cursor to remain centered, regardless of the location of the magnifier's contents.
- **Magnifier cursor pushes content around** Enables the cursor to move the contents of the magnifier to another location on the desktop.
- **Magnifier cursor moves with the contents:** Enables the cursor to move with the contents of the magnifier.

Note that you can only specify one of these cursor options at any given time.

For more information, see the GNOME Help documentation at <https://help.gnome.org/users/gnome-help/stable/a11y-mag.html.en>.

Chapter 3 Working With Assistive Mouse Tools

Assistive mouse features provide users with motor impairments or limited mobility with alternative ways to use a mouse. You customize these features in the **Pointing & Clicking** section of the **Universal Access** settings panel in the GNOME desktop.

To access the **Pointing & Clicking** section from the GNOME Classic desktop:

1. From the **Applications** menu, select **System Tools**, and then select **Settings**.
2. In the **All Settings** window, click the **Universal Access** icon to open the **Universal Access** settings panel.

To access the **Pointing & Clicking** section from the GNOME desktop:

1. On the top bar of the desktop, click **Activities** to open the Activities overview.
2. In the **Type to search...** field, start typing "universal access", then click the **Universal Access** icon to open the **Universal Access** settings panel.

Customizing Mouse Tools for Accessibility

You can customize the following settings in the **Pointing & Clicking** section of the **Universal Access** settings panel:

- **Mouse Keys:** Enables you to control the mouse pointer by using the numeric keypad on your keyboard.
- **Click Assist:** Enables you to perform various mouse clicks without using a hardware button. The tool also includes capability for simulated secondary clicks, dwell clicks, and pointer capture.

The **Click Assist** functionality is provided by the Mousetweaks tool, which you can also invoke by using the command line. To obtain up-to-date command-line usage for the tool, run the `man mousetweaks` command.

In the **Click Assist** window, you can enable one or both of the following options:

- **Simulated Secondary Click:** Triggers a secondary click by holding down the primary button. You can specify a length of time for the delay (ranging from Short to Long) by adjusting the **Acceptance delay** slider.
- **Hover Click:** Triggers a click when the pointer hovers. To specify a length of time for the delay (ranging from Short to Long), adjust the **Delay** slider.

To specify a motion threshold range (from Small to Large), adjust the **Motion Threshold** slider.

- **Double-Click Delay:** Enables you to configure a time delay between the two clicks so that the click is registered as a double-click.

For more details, see [Section 1.2, “About Universal Access in the GNOME Desktop”](#).

Chapter 4 Working With On-Screen Keyboards

On-screen keyboards are typically used in situations where no keyboards exist or access to a keyboard is not possible, for example, wearable computers or palm devices. You can also use on-screen keyboards with a mouse or no-hand tools.

4.1 Using the GNOME On-Screen Keyboard

The GNOME On Screen Keyboard (GOK) is the default on-screen keyboard in Oracle Linux. GOK enables you to select windows and input text without using a physical keyboard.

To start the GNOME on-screen keyboard from the GNOME Classic desktop:

1. From the **Applications** menu, select **System Tools**, and then select **Settings**.
2. In the **All Settings** window, click the **Universal Access** icon to open the **Universal Access** settings panel.
3. In the **Typing** section, toggle the **Screen Keyboard** setting to **ON**.

To start the GNOME on-screen keyboard from GNOME desktop:

1. On the top bar of the desktop, click **Activities** to open the Activities overview.
2. In the **Type to search...** field, start typing "universal access", then click the **Universal Access** icon to open the **Universal Access** settings panel.
3. In the **Typing** section, toggle the **Screen Keyboard** setting to **ON**.

For more information, go to <https://help.gnome.org/users/gnome-help/stable/keyboard-osk.html.en>.

4.2 Using the Florence Virtual On-Screen Keyboard

In addition to GOK, you can install the Florence virtual keyboard. The `florence` package (version 0.6.2) is available in the EPEL 7 package repository, which can be found on the Oracle Linux 7 package repository list web page, under the "Packages for Test and Development" section.

Install the `florence` package by using the command line as follows:

```
# yum install florence
```

To start Florence from the GNOME Classic desktop:

1. From the **Applications** menu, select **System Tools**, and then select **Settings**.
2. In the **All Settings** window, click the **Universal Access** icon to open the **Universal Access** settings panel.
3. Click the **Florence** icon.

To start Florence from the GNOME desktop:

1. On the top bar of the desktop, click **Activities** to open the Activities overview.
2. In the **Type to search** field, type the word "florence", then click the **Florence** icon when it appears.

Configuring Preferences for the Florence Virtual Keyboard

- Click the icon in the desktop to toggle whether the Florence icon is displayed or hidden from view.
- Set the **autohide** option by right-clicking the Florence icon located in the GNOME panel, then selecting **Preferences** from the drop-down list. Setting this option hides the tool from view until you select an area to edit.
- Configure Florence to be transparent by using the same **Preferences** dialog box.

For more information, right-click the **Florence** icon located in the GNOME desktop panel, then choose **Help** from the drop-down list.

See also the Florence project page at <http://florence.sourceforge.net>.

Chapter 5 Related Documentation

For additional information, see the following related documentation:

- For general information about GNOME accessibility tools, see the documentation at <https://library.gnome.org/users/gnome-access-guide/>.
- For more in-depth information about the GNOME desktop, see the documentation at <https://help.gnome.org/>.

