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Oracle Linux 10

Release Notes for Oracle Linux 10 Developer Preview

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Preface

Oracle Linux 10: Release Notes for Oracle Linux 10 provides information about the new features and known issues in the Oracle Linux 10 release. The information applies to both x86_64 and 64-bit Arm (aarch64) architectures. This document might be updated after it is released.

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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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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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.

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About Oracle Linux 10 Developer Preview

This Oracle Linux 10 Developer Preview release is provided as an early preview of packages and the installation process for Oracle Linux 10. This release isn't intended for production use and is in active development.

> **Note:**
>
> Upgrading from an Oracle Linux Developer Preview release to its later official version isn't supported. If you're running the Developer Preview version, you must reinstall the official Oracle Linux release upon its general availability.

Available Architectures

The release is available for installation on the following platforms:

- Intel® 64-bit (x86_64) (x86-64-v3)
- AMD 64-bit (x86_64) (x86-64-v3)
- 64-bit Arm (aarch64) (Arm v8.0-A)

  The Arm platform runs only with Unbreakable Enterprise Kernel Release (UEK).

Shipped Kernels

For the x86_64 platform, Oracle Linux 10 ships with the following default kernel packages:

- **`kernel-6.12.0-41.el10`** (Red Hat Compatible Kernel (RHCK))
- **`kernel-uek-6.12.0-0.12.9.el10uek`** (Unbreakable Enterprise Kernel Release 8 (UEK R8 Developer Preview))

  For new installations, the UEK kernel is automatically enabled and installed. It also becomes the default kernel on first boot.

For the aarch64 platform, Oracle Linux ships with the UEK kernel only.

The Oracle Linux release is tested as a bundle, as shipped on the installation media image. When installed from the installation media image, the kernel's version included in the image is the minimum version that's supported. Downgrading kernel packages isn't supported, unless recommended by Oracle Support.

About the Unbreakable Enterprise Kernel

The Unbreakable Enterprise Kernel (UEK) is a Linux kernel built by Oracle and supported through Oracle Linux support. UEK is tested on Arm (aarch64), Intel® x86, and AMD x86 (x86_64) platforms. Each release contains added features, bug fixes, and updated drivers to provide support for key functional requirements, improve performance, and optimize the kernel

for use on Oracle products such as Oracle's Engineered Systems, Oracle Cloud Infrastructure, and large enterprise deployments for Oracle customers.

Typically, a UEK release contains changes to the kernel ABI relative to a previous UEK release. These changes require recompilation of third-party kernel modules on the system. To minimize impact on interoperability during releases, the Oracle Linux team works with third-party vendors regarding hardware and software that have dependencies on kernel modules. Thus, before installing the latest UEK release, verify its support status with the application vendor.

The kernel ABI for a UEK release remains unchanged in all later updates to the initial release.

The kernel source code for UEK is available after the initial release through a public git source code repository at https://github.com/oracle/linux-uek.

For more information about UEK such as tutorials, notices, and release notes of different UEK versions, go to Unbreakable Enterprise Kernel documentation.

Developer Preview Release Repositories

Oracle Linux 10 Developer Preview is intended to be used with the following yum repositories:

- `ol10_baseos_developer`
- `ol10_appstream_developer`
- `ol10_codeready_builder_developer`
- `ol10_developer_UEKnext`

Do not enable or use additional repositories with this release.

The Oracle Linux 10 Developer Preview release channels and RPM packages will be removed when the Oracle Linux 10 GA release is announced and available publicly.

Obtaining Installation Images

The following installation images for the current Oracle Linux 10 Developer Preview release are available:

- **Full ISO**: contains everything needed to boot a system and install Oracle Linux.
- **UEK Boot ISO**: contains everything that's required to boot a system with Unbreakable Enterprise Kernel (UEK) and start an installation
- **Boot ISO**: contains everything that's required to boot a system with Red Hat compatible kernel (RHCK) and start an installation
- **Source ISO**: contains sources for the packages included in Full ISO.

You can download these developer preview images from https://www.oracle.com/linux/downloads/linux-beta10-downloads.html.

Preparing Installation Media

Before you can use an ISO image to install Oracle Linux, you must first store it on bootable installation media, such as the following:

- USB Flash Drive
- DVD or CD

USB Flash Drive

You can install Oracle Linux by using a boot image on portable devices such as a USB flash drive or an SD card, if the system's firmware supports booting from those devices.

To create a bootable drive, use the `dd` or `xorriso-dd-target` command. Or, use a separate third-party utility to write the ISO image to a drive. See, for example, Create USB Installation Media for Oracle Linux with Fedora Media Writer.

> **Caution:**
>
> This procedure destroys any existing data on the drive. Ensure that you specify the correct device name for the USB drive on the system.

1. Insert a USB flash drive into an Oracle Linux system.
2. Use the `xorriso-dd-target` command to list available block devices and to identify likely candidate devices for use.

   ```
   xorriso-dd-target -with_sudo -list_all
   ```

   The command presents a password prompt as it uses sudo to access all devices on the system. Output similar to the following is displayed:

   ```
   sda : YES : usb+ has_vfat+ : SanDisk Cruzer Switch
   nvme0n1 : NO  : not_usb- has_vfat+ has_xfs- has_crypto_LUKS- has_swap- :
   PM9A1 NVMe Samsung 512GB
   ```

   The command identifies pluggable block devices that aren't used as system disk or sincere data storage. In the example output, the command identified a USB device at `/dev/sda`, that could be used to write an ISO image.
3. Ensure that any file systems on the device are unmounted.

   For example, to unmount the first partition on `/dev/sda`:

   ```
   sudo umount /dev/sda1
   ```

4. Write the contents of the ISO image file to the USB device.

   Do one of the following to write the ISO image file to the USB device:

   - Use the `dd` command directly:

     ```
     sudo dd if=./full_image.iso of=/dev/sda bs=512k
     ```

   - Use the `xorriso-dd-target` command to guide you through this process:

     ```
     xorriso-dd-target -with_sudo -plug_test -DO_WRITE -image_file ./
     full_image.iso
     ```

The command guides you through testing for appropriate devices and finally prompts you to select and approve writing to the device. Example output follows:

```
sudo /bin/lsblk seems ok.

Caused by option -plug_test: Attempt to find the desired device
by watching it appear after being plugged in.

Step 1:
Please make sure that the desired target device is plugged _out_ now.
If it is currently plugged in, make sure to unmount all its fileystems
and then unplug it.
Press the Enter key when ready.

Found and noted as _not_ desired:  nvme0n1

Step 2:
Please plug in the desired target device and then press the Enter key.

Waiting up to 10 seconds for a new device to be listed .... found: sda
Now waiting 5 seconds to let it settle .........
Found and noted as desired device:  sda

sda : YES : usb+ has_vfat+ : SanDisk Cruzer Switch

Step 3:
Last chance to abort. Enter the word 'yes' to start REAL WRITING.
yes
Looking for mount points of sda:
Performing:
  sudo /bin/dd if=/dev/zero of=/dev/'sda' bs=512 seek='30595071'
count=1 status=none
  sudo /bin/dd if='OracleLinux.iso' of=/dev/'sda' bs=1M status=progress
oflag=dsync ; sync
```

The USB flash drive is now ready to be used to boot a system and start the installation.

DVD or CD

Because of storage limits, optical media such as CDs or DVDs might not have capacity to accommodate most installation ISO images. However they can be used to store the boot ISO image.

1. Insert an empty recordable CD or DVD into the CD or DVD writer device.
2. Open a terminal and use `cdrecord` to write the ISO file to the device.

   To write the downloaded ISO image file to a CD or DVD, use a command such as `cdrecord`, for example:

   ```
   sudo cdrecord -v -eject speed=16 dev=/dev/sr0 file_name.iso
   ```

   To display the device that corresponds to the CD or DVD writer, use the `cdrecord --devices` command.

The CD or DVD is now ready to be used to boot a system and start the installation.

Upgrading From Previous Oracle Linux Releases

Upgrades from previous Oracle Linux releases to the current release are not available at this time.

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Known Issues

This chapter describes known issues that you may encounter when installing and using the Oracle Linux 10 software. Unless indicated otherwise, the issues apply to both x86_64 and aarch64 systems. Information that pertains only to a specific platform is also noted accordingly.

Installation Issues

The following are known installation issues for Oracle Linux 10.

Oracle Linux 10 Developer Preview Fails to Boot With Secure Boot Enabled

Oracle Linux 10 Developer Preview can be installed with Secure Boot enabled in the UEFI firmware, but the system fails to load on first boot. This is because the UEK-next kernel is a Developer Preview feature and isn't signed with an Oracle UEFI certificate. You can test Oracle Linux 10 Developer Preview with Secure Boot disabled in the system firmware.

If you need to test with Secure Boot enabled, you can enroll the hash of the UEK-next kernel included in the Developer Preview into the Machine Owner Key (MOK) list. You can find out more about how to do this in the tutorial at Use mokutil to Update Signature Keys for UEFI Secure Boot.

Installation From Closest Mirror Might Fail When Using a Network Proxy

When installing Oracle Linux 10 Developer Preview on a system that requires access to a network proxy, setting the installer to use the Closest Mirror option for a network-based install might fail even if the proxy service is configured in the installer.

Either use the full installation media to complete the installation, or configure proxy settings in the installer and manually add the BaseOS URL in the Software Selection. For example, for x86_64 platforms, set the installation URL to https://yum.oracle.com/repo/OracleLinux/OL10/baseos/developer/x86_64/, or https://yum.oracle.com/repo/OracleLinux/OL10/baseos/developer/aarch64/ for Arm platforms.

Installation On NVMe Devices Might Fail When Using Default Partitioning

Installation onto some systems with NVMe devices might fail when using the default partitioning option in the installer. The installer errors out with the following message:

```
fsconfig system call failed: Structure needs cleaning
```

This issue is caused by an installer bug when handling XFS file systems.

To work around the issue, you can change the file system for the device to Ext4 in the installer before proceeding with the installation. You can do this either in the graphical installer or by using a kickstart configuration.

(Bug 37374103)