Course: Complete Guide to Installing and Using Fedora Linux (2025 Edition)

Module 1: Introduction to Fedora

1.1 What is Fedora?

Fedora is a cutting-edge Linux distribution developed by the Fedora Project and sponsored by Red Hat. Known for its innovation, stability, and developer-focused ecosystem, Fedora serves as the upstream source of RHEL (Red Hat Enterprise Linux).

1.2 Key Features

- Backed by Red Hat
- GNOME desktop environment by default
- Frequent, modern release cycles
- Excellent hardware support
- First to adopt new Linux technologies (e.g., Wayland, PipeWire)

1.3 Homepage and Downloads

- Homepage: https://getfedora.org
- Download ISO: https://getfedora.org/en/workstation/download/

Module 2: System Requirements

2.1 Minimum Requirements

- CPU: 2 GHz dual-core
- RAM: 4 GB (8 GB recommended)
- Storage: 20 GB minimum (50+ GB recommended)
- UEFI/BIOS support

Module 3: Preparing for Installation

3.1 Backup Your Data

Create backups of all important files before continuing.

3.2 Download Fedora Workstation ISO

Use the official link above and choose the Workstation edition for general use.

3.3 Create Bootable USB

- **Windows**: Use tools like Rufus
- **Linux/macOS**:

```
sudo dd if=fedora-workstation.iso of=/dev/sdX bs=4M status=progress && sync
```

3.4 BIOS/UEFI Configuration

- Disable Secure Boot if it causes issues
- Set USB device as the primary boot option

Module 4: Installing Fedora

4.1 Boot from USB

Insert the bootable USB and select it from the boot menu. Choose "Start Fedora-Workstation-Live".

4.2 Try or Install Fedora

- You can try Fedora without installing
- Click on "Install to Hard Drive" to begin setup

4.3 Select Language & Region

Choose language, time zone, and keyboard layout.

4.4 Installation Destination

Select the disk where Fedora should be installed.

- **Automatic partitioning** is recommended for beginners.
- **Custom partitioning** (advanced):
- `/boot/efi` : 300MB (FAT32)
- `/` : 30+ GB (ext4 or Btrfs)
- `swap` : 2–4 GB
- `/home` : remaining space

4.5 User Configuration

Set:

- Root password (optional)
- Create new user with admin privileges

4.6 Begin Installation

Click "Begin Installation" and wait for 10–15 minutes.

4.7 Reboot and Login

After installation, remove USB and reboot into your new Fedora system.

Module 5: First Boot and Updates

5.1 Welcome Wizard

Complete initial setup with user login and online account options.

5.2 Run System Updates

```
sudo dnf update
```

5.3 Install Codecs and Additional Software

```
sudo dnf groupupdate multimedia --setop="install_weak_deps=False" --exclude=PackageKit-gstreamer-plugin
```

Module 6: Software Management

6.1 GNOME Software Center

Use the Software Center to install apps like Firefox, VLC, and GIMP.

6.2 Terminal Installations

```
sudo dnf install vlc gnome-tweaks neofetch htop
```

6.3 Enable RPM Fusion Repositories

```
sudo dnf install https://download1.rpmfusion.org/free/fedora/rpmfusion-free-release-$(rpm -E %fedora).noarch.rpm
```

Module 7: Best Usage Scenarios

7.1 Developers

- Up-to-date compiler and libraries
- Flatpak/Snap/Docker support

7.2 Office & Productivity

- LibreOffice, PDF readers, browser pre-installed

7.3 Multimedia

- GStreamer codecs, Kdenlive, Audacity support

7.4 Advanced Users

- Custom kernel, Btrfs snapshotting, SELinux

Module 8: Maintenance & Security

8.1 Keep System Updated

```
sudo dnf upgrade
```

8.2 Enable Firewall

```
sudo systemctl enable --now firewalld
```

8.3 Use Timeshift or Btrfs Snapshots

Install Timeshift for ext4 users or use native Btrfs snapshots.

8.4 Clean Cache

```
sudo dnf clean all
```

Course Completion

You've learned:

- How to install Fedora from scratch
- Software setup and system updates
- Best use cases and customization tips

📅 Fedora ISO Download: https://getfedora.org/en/workstation/download/

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