

Practical 10: Install Windows Operating System Using Oracle VirtualBox and Understand Control Panel

Installation of an operating system (OS) is a basic requirement for running any computer.

In this practical, we learn how to:

- Install **Windows OS** using **Oracle VirtualBox** (a virtualization software).
- Explore & understand the **Control Panel**, where system settings and configurations are managed.

This method is safe because installation happens inside a *virtual machine* without affecting the actual computer.

Requirements

- Oracle VirtualBox (latest version)
- Windows ISO file (Windows 10/11)
- Minimum:
 - 4 GB RAM
 - 20–30 GB free disk space
 - Working PC/Laptop

Steps to Install Windows OS Using Oracle VirtualBox

Step 1: Install Oracle VirtualBox

1. Download VirtualBox from the official website.
2. Run the installer and click **Next** → **Next** → **Install**.
3. After installation, launch VirtualBox.

Step 2: Create a New Virtual Machine (VM)

1. Open VirtualBox > click **New**.
2. Enter Virtual Machine Name: *Windows OS*.
3. Type: choose **Microsoft Windows**.
4. Version: **Windows 10 (64-bit)** or whichever ISO you have.
5. Click **Next**.

Step 3: Allocate RAM

- Recommended: **2 GB (2048 MB)** or **4 GB** if available.
- Move slider → select memory size → click **Next**.

Step 4: Create Virtual Hard Disk

1. Select **Create a virtual hard disk now**.
2. Click **Create**.
3. Choose **VDI (VirtualBox Disk Image)** → Next.
4. Storage type: **Dynamically allocated** → Next.

5. Size: **30 GB** recommended → Create.

Step 5: Attach Windows ISO

1. Select the created VM → click **Settings**.
2. Go to **Storage** tab.
3. Under Controller: IDE → click "Empty".
4. On right side, click **CD icon** → **Choose a disk file**.
5. Select **Windows ISO file**.
6. Click **OK**.

Step 6: Start the Virtual Machine

1. Select VM → click **Start**.
2. Windows setup will begin loading.

Step 7: Windows Installation Steps

1. **Choose Language, Time, Keyboard** → **Next**
2. **Click Install Now**
3. **Select: I don't have a product key (optional)**
4. **Choose Windows Version (Home/Pro)**
5. **Accept License Terms** → **Next**
6. **Select: Custom Installation**

7. Choose the virtual disk → Next

Installation starts...

Windows will copy files → install features → restart the VM.

Step 8: Set Up Windows

Once Windows reboots:

1. Choose Region & Keyboard layout
2. Setup User Account (Name & Password optional)
3. Select privacy settings
4. Final Windows desktop will appear

Congratulations 🎉

Windows is successfully installed on Oracle VirtualBox!

4. Understanding Control Panel

Control Panel allows users to configure and manage system settings.

4.1 How to Open Control Panel

- Press **Windows + R** → type **control** → Enter.
OR
- Search “Control Panel” in Start Menu.

4.2 Important Control Panel Sections

1. System and Security

- View system information
- Windows Firewall
- Backup & Restore
- Power Options

2. Network and Internet

- View WiFi/Ethernet status
- Change adapter settings
- Network troubleshooting

3. Hardware and Sound

- Manage printers & scanners
- Mouse, keyboard settings
- Sound settings

4. Programs

- Uninstall or repair applications
- Manage Windows features

5. User Accounts

- Create/delete user accounts
- Change passwords

- Manage user types (Admin/Standard)

6. Appearance and Personalization

- Change themes
- Display settings
- Taskbar & Start menu

7. Clock and Region

- Set date/time
- Change time zones
- Keyboard language

8. Ease of Access

- Accessibility features
- Narrator, Magnifier
- Keyboard & mouse assist

5. Advantages of Using VirtualBox for OS Installation

- Safe environment (doesn't affect real PC).
- Easy to test different OS.
- Great for learning installations.

- Can take snapshots & restore anytime.
- No hardware risk.