

OpenJFX Installation Guide for Ubuntu

Prerequisites: Installing Java

Before installing OpenJFX, you need to have Java installed on your system.

⚠ IMPORTANT - Version Compatibility: The OpenJFX version must match your Java version. For example: - Java 11 → OpenJFX 11 - Java 17 → OpenJFX 17 - Java 21 → OpenJFX 21

Install Java (JDK)

```
sudo apt update
sudo apt install default-jdk
```

Verify the installation:

```
java -version
javac -version
```

Install a Specific Java Version

If you need a particular version:

```
# Java 11
sudo apt install openjdk-11-jdk
```

```
# Java 17 (LTS)
sudo apt install openjdk-17-jdk
```

```
# Java 21 (LTS)
sudo apt install openjdk-21-jdk
```

To switch between versions:

```
sudo update-alternatives --config java
sudo update-alternatives --config javac
```

Installing OpenJFX

Method 1: Via Ubuntu Repositories (recommended)

```
sudo apt update
sudo apt install default-jdk openjfx
```

This command installs Java (JDK) and OpenJFX with all their dependencies.

If you already have Java installed, you can install only OpenJFX:

```
sudo apt install openjfx
```

Method 2: Manual Installation from Official Website

1. Download OpenJFX from openjfx.io
2. Extract the archive to a directory, for example /opt/javafx
3. Note the path to the lib directory

Verifying the Installation

Verify Java

```
java -version
javac -version
```

You should see the installed Java version (e.g., OpenJDK 11 or higher).

Verify OpenJFX

```
dpkg -l | grep openjfx
```

You should see the installed OpenJFX packages.

Verify Version Compatibility

```
# Check Java version
```

```
java -version
```

```
# Check OpenJFX version
```

```
apt show openjfx | grep Version
```

The major version numbers must match (e.g., Java 17.x.x with OpenJFX 17.x.x).

JavaFX Application Launch Script

Create a file named launch-app.sh:

```
#!/bin/bash
```

```
# Configuration
```

```
JAVAFX_PATH="/usr/share/openjfx/lib" # Default Ubuntu path
```

```
CLASSPATH="lib/*:EspFx.jar:Thermoptim.jar"
```

```
MAIN_CLASS="rg.espfx.EspFx"
```

```
# Required JavaFX modules
```

```
MODULES="javafx.controls,javafx.fxml,javafx.graphics,javafx.base"
```

```
# Launch the application
```

```
java --module-path "$JAVAFX_PATH" \
  --add-modules "$MODULES" \
  -cp "$CLASSPATH" \
  "$MAIN_CLASS"
```

Make the Script Executable

```
chmod +x launch-app.sh
```

Launch the Application

```
./launch-app.sh
```

Configuration for Manual Installation

If you installed OpenJFX manually, modify the path in the script:

```
JAVAFX_PATH="/opt/javafx/lib" # Adjust according to your installation
```

Available JavaFX Modules

Adjust the MODULES variable according to your needs:

- javafx.base - Base classes
- javafx.controls - UI components (buttons, tables, etc.)
- javafx.fxml - FXML support
- javafx.graphics - Graphics and rendering
- javafx.media - Multimedia support
- javafx.swing - Swing integration
- javafx.web - Embedded web browser

Complete Example with JVM Options

```
#!/bin/bash
```

```
JAVAFX_PATH="/usr/share/openjfx/lib"  
APP_JAR="MyApplication.jar"  
MODULES="javafx.controls,javafx.fxml"
```

```
java --module-path "$JAVAFX_PATH" \  
    --add-modules "$MODULES" \  
    -Xmx512m \  
    -Dfile.encoding=UTF-8 \  
    -jar "$APP_JAR" "$@"
```

The "\$@" allows passing arguments to the script.

Troubleshooting

Error “java: command not found”

Java is not installed or not in PATH. Install Java:

```
sudo apt install default-jdk
```

Version Incompatibility Error

If you get strange errors on launch, check that versions match:

```
java -version # Note the major version (11, 17, 21, etc.)  
apt show openjfx | grep Version # Should have the same major version
```

If versions don't match, install the matching OpenJFX version or change Java version with `update-alternatives`.

Error "JavaFX runtime components are missing"

Verify that: - OpenJFX is properly installed - The `JAVAFX_PATH` is correct - Required modules are properly specified

Find Installation Path

```
dpkg -L openjfx | grep "\.jar$"
```

The directory containing the JAR files is your `JAVAFX_PATH`.

Versions

To check the installed version:

```
apt show openjfx | grep Version
```