



# Java Development Environment

For Java Training

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# Course Objectives & Pre-requisites

- To Prepare your development machine with the basic requirements to develop Java Applications efficiently.
  - Target Oracle JDK Location: C:\Program Files\Java\jdk-12.0.1
  - Target Apache Netbeans Location: C:\netbeans11
- Pre-requisites:
  - Reliable internet connection to download Oracle JDK and Apache Netbeans IDE
  - Operating System: MS Windows 10
  - Document viewer: Adobe PDF Reader
  - Recommended Hardware:
    - CPU: Intel Core i5 or equivalent
    - Memory: 4GB or above
    - HDD: 1GB or above free disk space in C:\

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# Composition of a Basic Java Dev Environment

- Java Development Kit (JDK)
  - Oracle JDK



- Java Integrated Development Environment (IDE)
  - Apache Netbeans



- Operating System (OS)
  - Windows 10



# Steps to setup Java Development Environment

1. Download and install JDK
  - Configure Windows System Environment Variables
    - (Optional if JDK installer had pre-configured this)
  - Verify JDK installation
2. Download and install IDE
  - Extract and copy Apache Netbeans files
  - Verify Apache Netbeans installation

# Java Development Kit (JDK)

- There are 2 popular JDKs freely available

- Open JDK

- Download: <http://openjdk.java.net/projects/jdk/12/>
- Open source GNU General Public License V2 (<https://openjdk.java.net/legal/gplv2+ce.html>)
- Free to use and bundle/distribute with your products



- Oracle JDK (this will be used for training)

- Download: <https://www.oracle.com/technetwork/java/javase/downloads/jdk12-downloads-5295953.html>
- Free use for personal, development, Oracle approved products, Oracle Cloud Infra (<https://www.oracle.com/technetwork/java/javase/terms/license/javase-license.html>)
- Commercial and support license available (<https://www.oracle.com/java/java-se-subscription.html>)



# Oracle JDK 12.0.1 Installation (1/3)

- Go to URL: <https://www.oracle.com/technetwork/java/javase/downloads/jdk12-downloads-5295953.html>
- JDK 12 was released on 19 March 2019

The screenshot shows the Oracle JDK 12.0.1 download page. The browser tab is titled 'Java SE Development Ki'. The address bar shows the URL: <https://www.oracle.com/technetwork/java/javase/downloads/jdk12-downloads-5295953.html>.

Annotations on the page:

- 1. Click here to accept License Agreement (points to the 'Accept License Agreement' radio button)
- 2. Click here to download (points to the download link for 'jdk-12.0.1\_linux-x64\_bin.tar.gz')

**Java SE Development Kit 12.0.1**

You must accept the [Oracle Technology Network License Agreement for Oracle Java SE](#) to download this software.

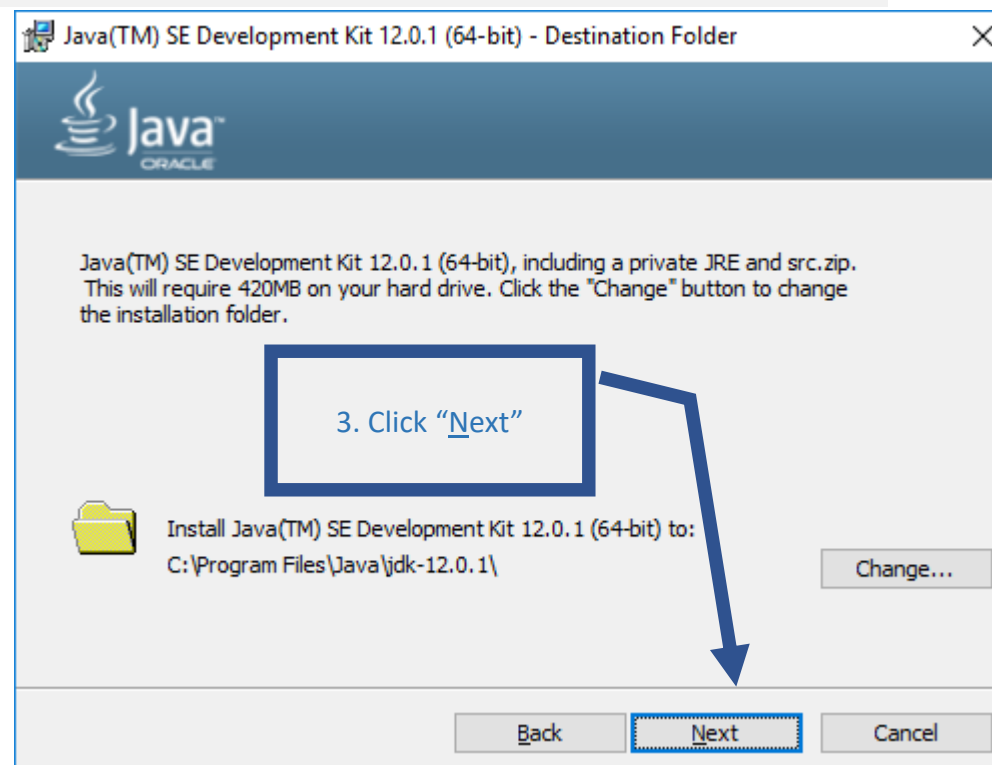
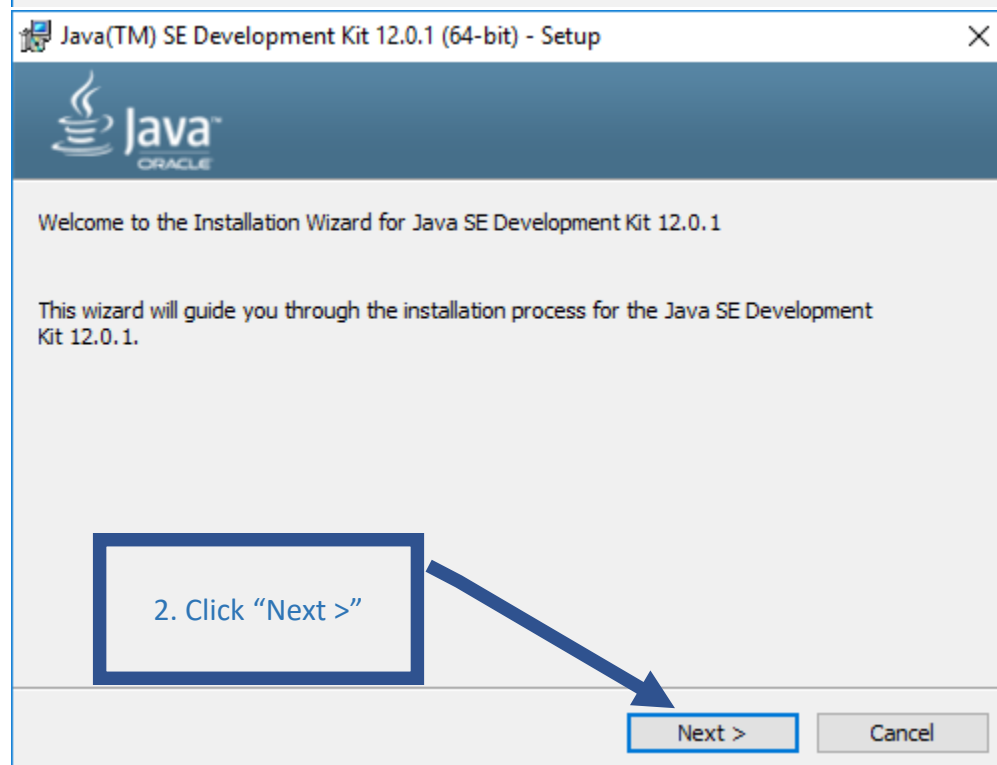
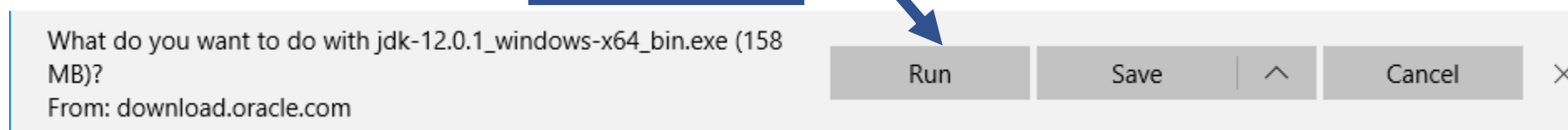
☐ Accept License Agreement ☒ Decline License Agreement

Product / File Description	File Size	Download
Linux	154.7 MB	<a href="#">jdk-12.0.1_linux-x64_bin.deb</a>
Linux	162.54 MB	<a href="#">jdk-12.0.1_linux-x64_bin.rpm</a>
Linux	181.18 MB	<a href="#">jdk-12.0.1_linux-x64_bin.tar.gz</a>
macOS	173.4 MB	<a href="#">jdk-12.0.1_osx-x64_bin.dmg</a>
macOS	173.7 MB	<a href="#">jdk-12.0.1_osx-x64_bin.tar.gz</a>
Windows	158.49 MB	<a href="#">jdk-12.0.1_windows-x64_bin.exe</a>
Windows	179.45 MB	<a href="#">jdk-12.0.1_windows-x64_bin.zip</a>

# Oracle JDK 12.0.1 Installation (2/3)

- Run the installer

1. Click "Run"





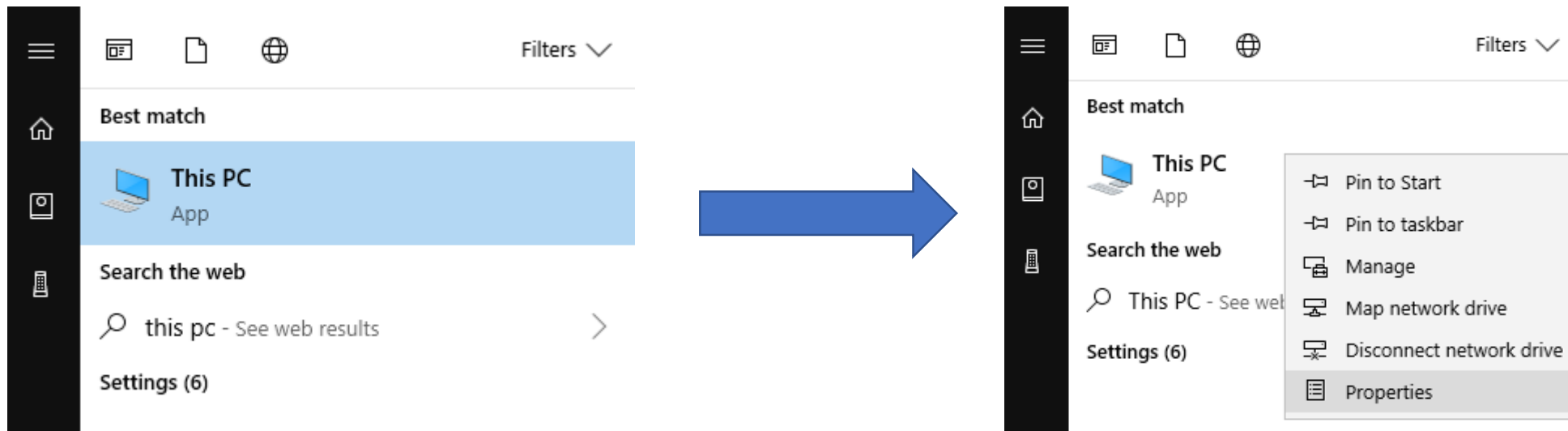
# Oracle JDK 12.0.1 Installation (3/3)

- Complete the installation



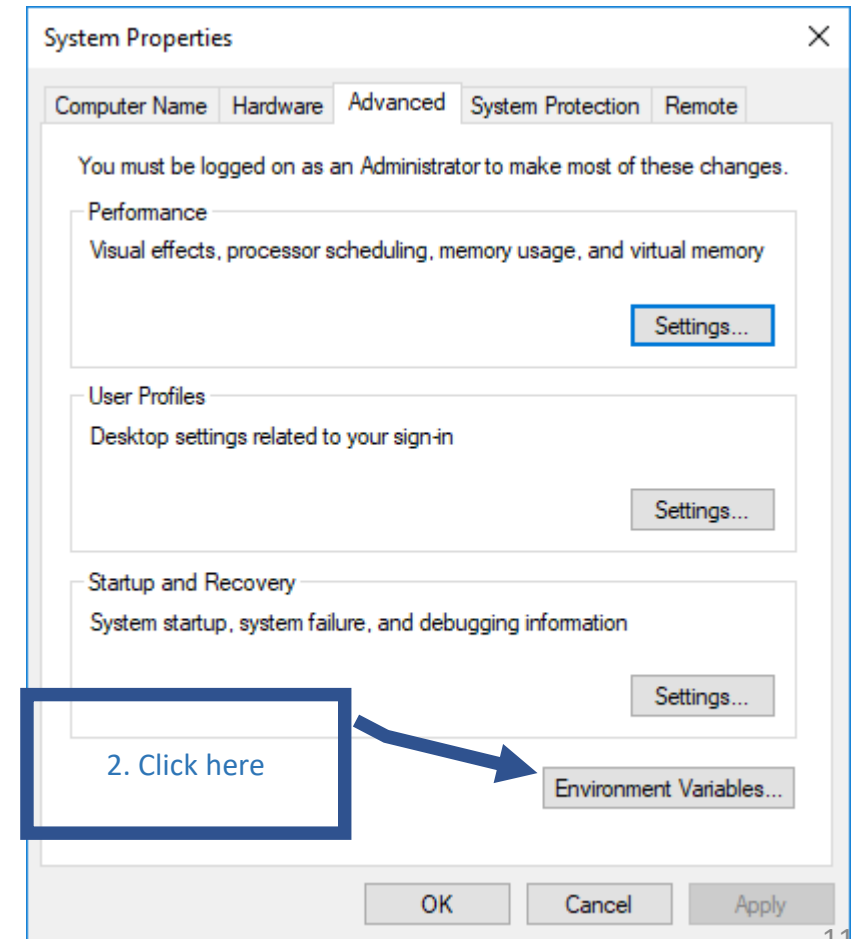
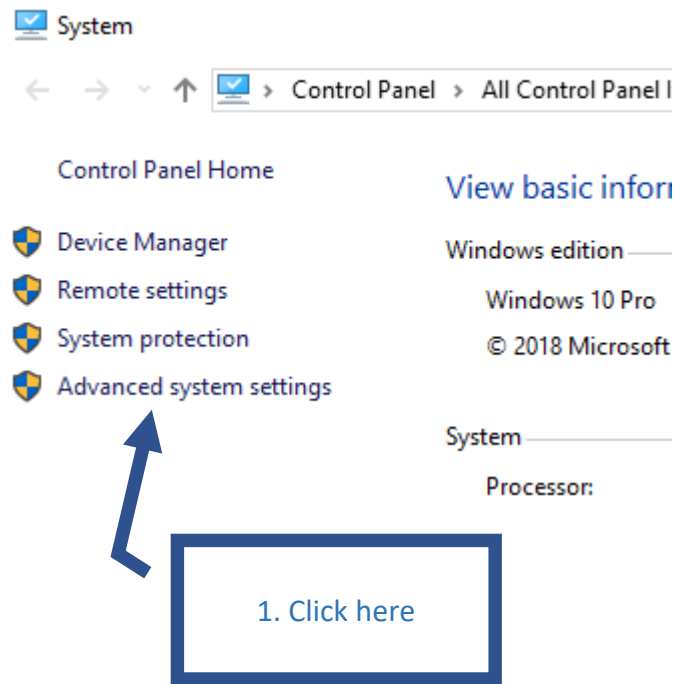
# Configure Windows System Environment (1/4)

- Windows start button → type: “This PC”
- Right click on “This PC”, click on “Properties”



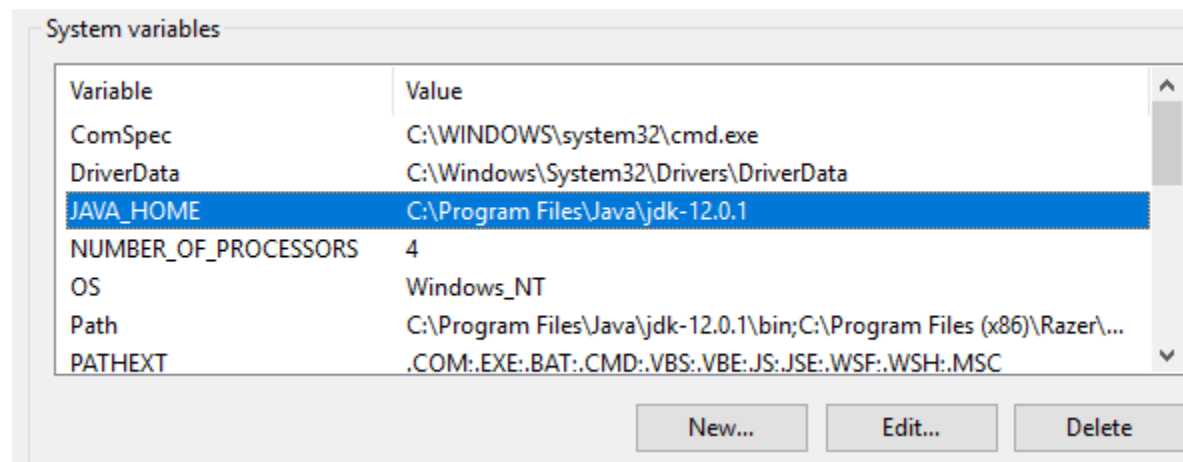
# Configure Windows System Environment (2/4)

- Click on “Advanced system settings”
- Click on “Environment Variables...”



# Configure Windows System Environment (3/4)

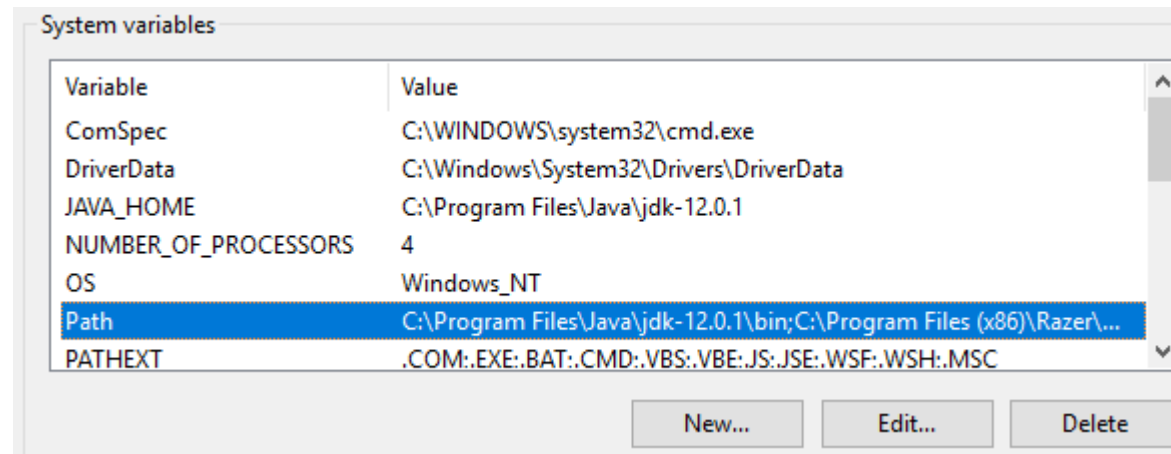
- Check if there is a variable called “**JAVA\_HOME**” in System variables section with the value “**C:\Program Files\Java\jdk-12.0.1**”, as per image below



- If your “JAVA\_HOME” does not exist or have a different value, you can modify accordingly by clicking either “New...” or “Edit...”

# Configure Windows System Environment (4/4)

- Check if there is a variable called “**Path**” in System variables section with the value beginning with “**C:\Program Files\Java\jdk-12.0.1\bin;**”, as per image below



- If your “PATH” does not exist or have a different value, you can modify accordingly by clicking either “New...” or “Edit...”

# Verify JDK Installation

- Launch the Windows command prompt:

- Click on the Windows start button
- Type “cmd” and press “Enter”
- Type “java –version” and press “Enter”
- You should see your installed JDK version below

```
java version "12.0.1" 2019-04-16  
Java(TM) SE Runtime Environment (build 12.0.1+12)  
Java HotSpot(TM) 64-Bit Server VM (build 12.0.1+12, mixed mode, sharing)
```

- Type “echo %JAVA\_HOME%” and press “Enter”, you should see below:

```
C:\Program Files\Java\jdk-12.0.1
```

- Type “echo %PATH%” and press “Enter”, you will see your system path beginning with: C:\Program Files\Java\jdk-12.0.1\bin; ...

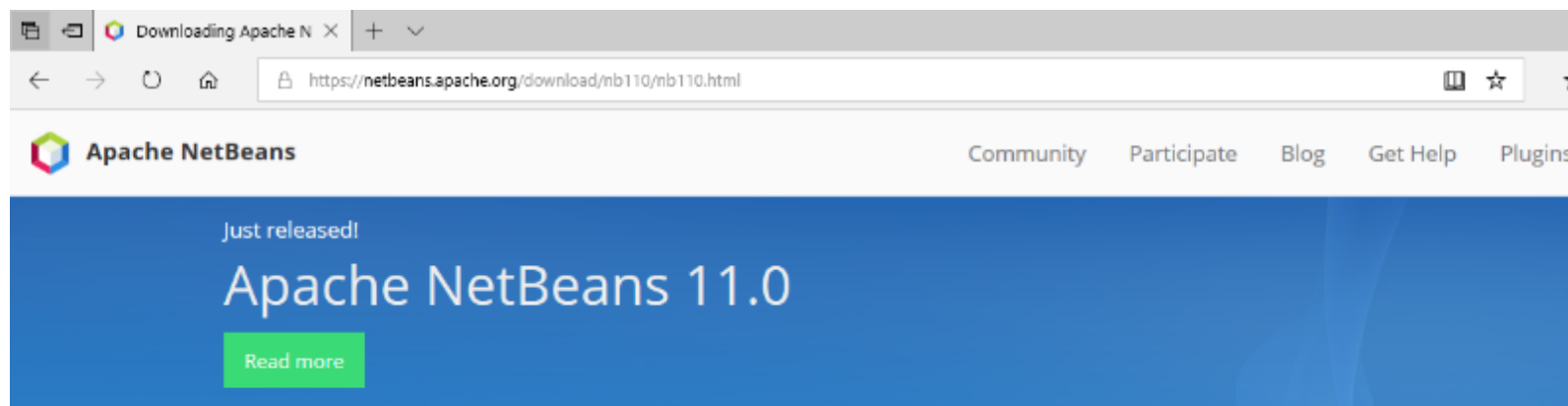
# Integrated Development Environment (IDE)

- Apache Netbeans: <https://netbeans.apache.org/>
- Latest version: 11.0 (4 April 2019)
- Download page:  
<https://netbeans.apache.org/download/nb110/nb110.html>
- Download link:  
<https://www.apache.org/dyn/closer.cgi/incubator/netbeans/incubating-netbeans/incubating-11.0/incubating-netbeans-11.0-bin.zip>



# Apache Netbeans 11 Installation (1/3)

- Go to URL: <https://netbeans.apache.org/download/nb110/nb110.html>
- Click on the binaries link to download the file and save it to your computer



## Downloading Apache NetBeans (incubating) 11.0

Apache NetBeans (incubating) 11.0 was announced on April the 4th, 2019. See [Apache NetBeans 11.0 Features](#) for a full list of features.

Apache NetBeans 11.0 is available for download from your closest Apache mirror. For this release no official installers are provided, please just download the binaries and unzip them.

- Source: [incubating-netbeans-11.0-source.zip](#) (SHA-512, PGP ASC)
- Binaries: [incubating-netbeans-11.0-bin.zip](#) (SHA-512, PGP ASC)
- Javadoc for this release is available at <https://bits.netbeans.org/11.0/javadoc>

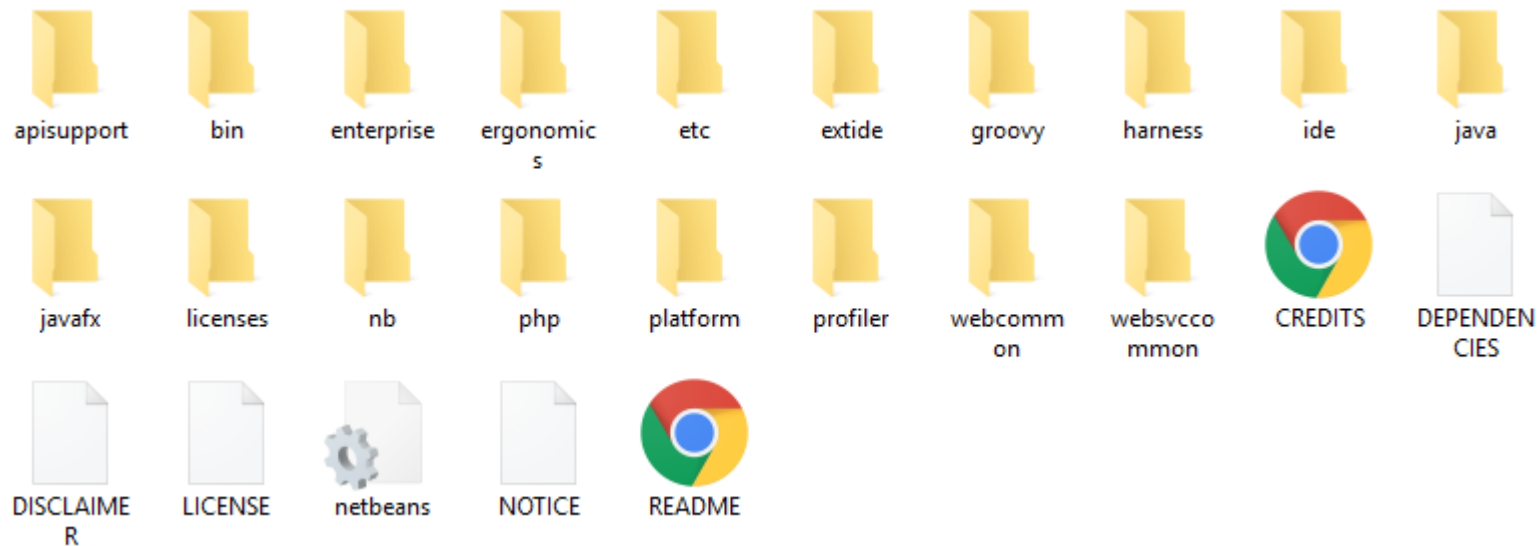
[Building from source](#)[Community approval](#)[Release schedule](#)[Earlier releases](#)

1. Click here
2. Save



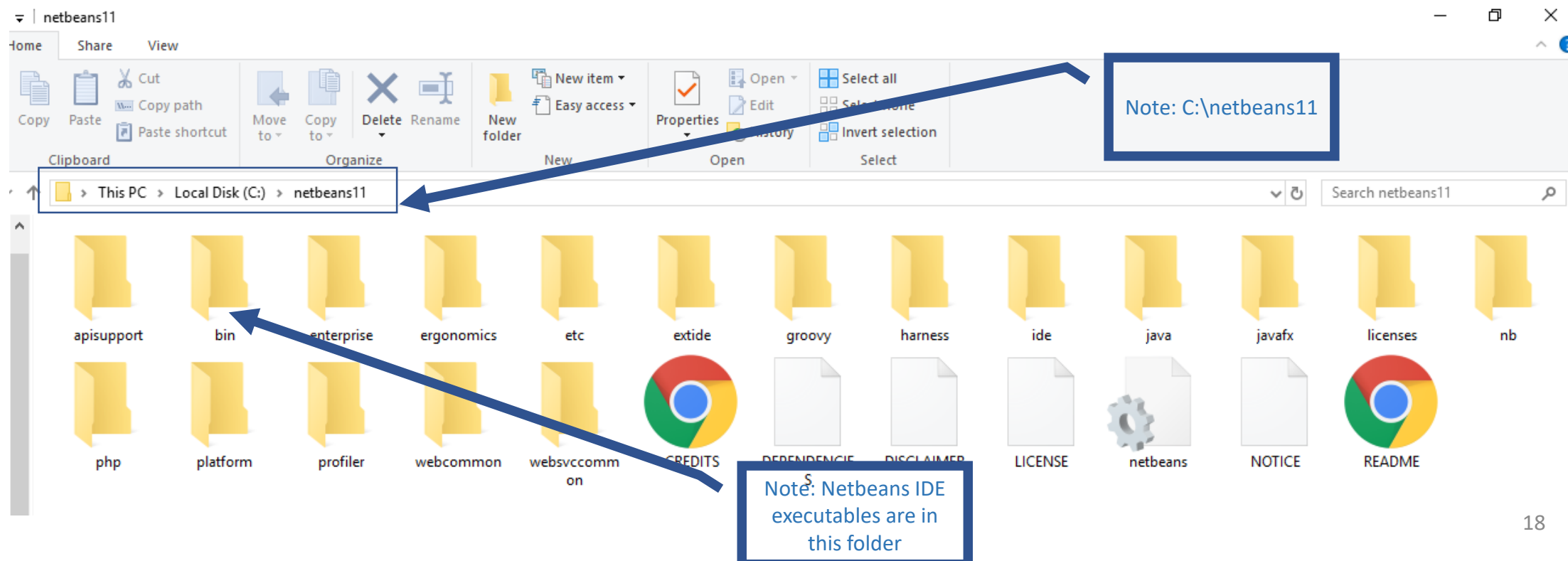
# Apache Netbeans 11 Installation (2/3)

- Right click on the saved file “incubating-netbeans-11.0-bin.zip”, extract/unzip all files to “incubating-netbeans-11.0-bin” folder.
- Upon complete extraction, you will see a sub-folder called “netbeans”. You will see the content of the “netbeans” folder as below:



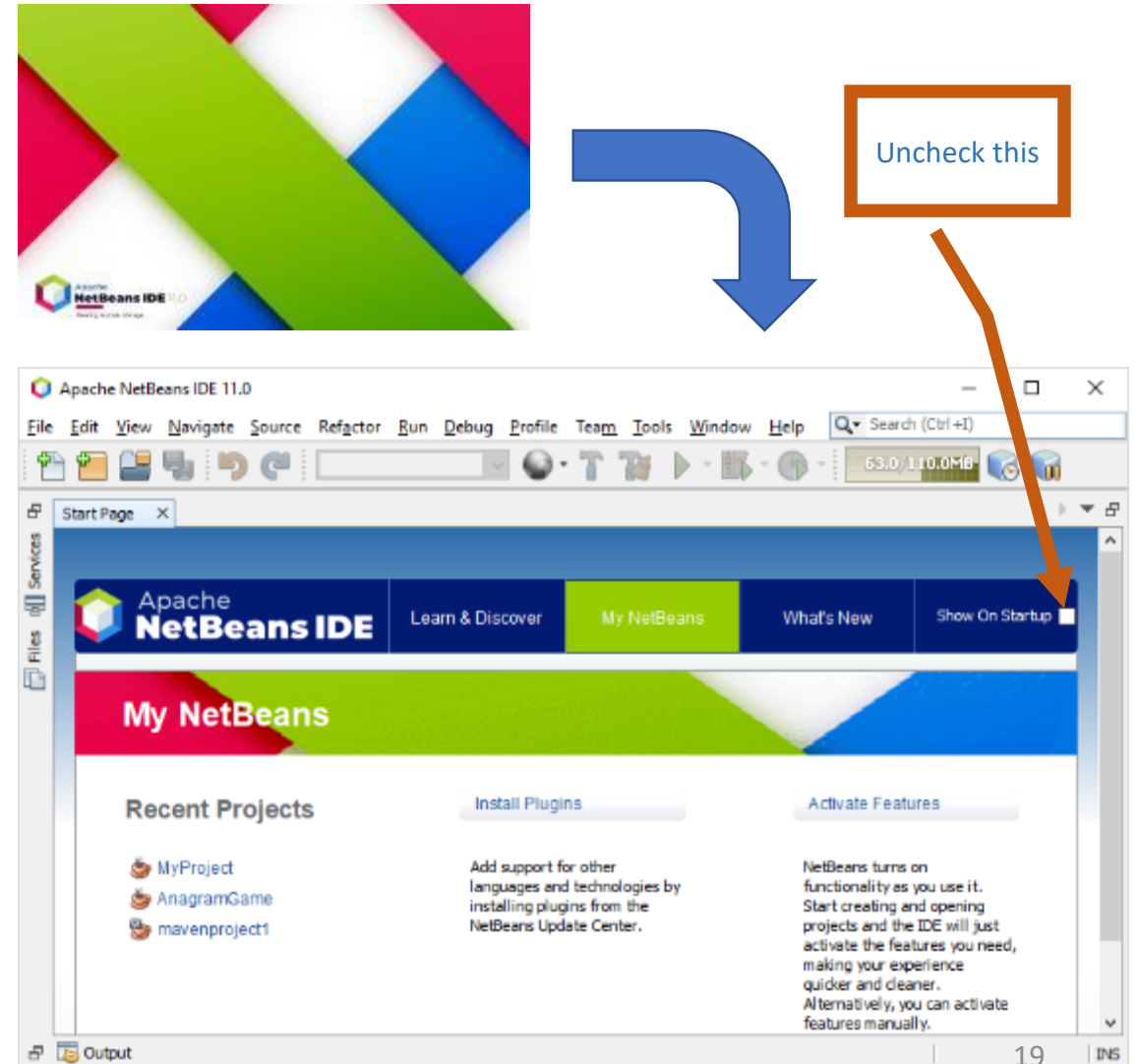
# Apache Netbeans 11 Installation (3/3)

- Copy the “netbeans” folder and its entire content to “C:\” and rename the folder to “netbeans11”.
- Your Apache Netbeans is now in “C:\netbeans11”.



# Verify Apache Netbeans Installation

- In Windows Explorer, go to “C:\netbeans11\bin”
- You will see 3 files below:
  - netbeans – bash script file for Linux and Unix OS
  - netbeans.exe – executable file for 32-bit Windows OS
  - netbeans64.exe – executable file for 64-bit Windows OS
- If you are working on a 64-bit Windows 10, double click on “netbeans64.exe” and you will see a splash screen and subsequently the Start Page.



# Finished

- Your Java Development Environment setup is completed