THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

Install Java & jGRASP on Mac, Windows & Linux

CSCI 1111 Lab 0

August 26, 2019





- Mac
- Windows
- Linux



Install Java on Mac



• Go to the link below to download Java JDK:

http://www.oracle.com/technetwork/java/jav ase/downloads/jdk10-downloads-4416644.html

Java SE Development Kit 10 Downloads

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

See also:

- Java Developer Newsletter: From your Oracle account, select Subscriptions, expand Technology, and subscribe to Java.
- Java Developer Day hands-on workshops (free) and other events
- Java Magazine

JDK 10.0.2 checksum

Java SE Development Kit 10.0.2

You must accept the Oracle Binary Code License Agreement for Java SE to download this contracted by the contract of the section of the secti

Accept License Agreement	0	Decline License Agreemer	nt
Accept License Agreement		Decime Electrise Agreeme	

-	
File Size	Download
306 MB	jdk-10.0.2_linux-x64_bin.rpm
338.43 MB	idk-10.0.2 linux-x64 bin.tar.gz
395.46 MB	jdk-10.0.2_osx-x64_bin.dmg
207.07 MB	idk-10.0.2_solaris-sparcv9_bin.tar.gz
390.25 MB	jdk-10.0.2_windows-x64_bin.exe
	File Size 306 MB 338.43 MB 395.46 MB 207.07 MB 390.25 MB

• Open the downloaded dmg package and double click the JDK.pkg:





Install Java on Mac





Open a terminal and input the command below to check your Java version:



• Go to the link below to download Java JDK:

http://www.oracle.com/technetwork/java/jav ase/downloads/jdk10-downloads-4416644.html

Java SE Development Kit 10.0.2 You must accept the Oracle Binary Code License Agreement for Java SE to download this software. O Accept License Agreement Image: Colspan="2">O Decline License Agreement							
Product / File	Description	File Size	Download				
Linux	-	306 MB	jdk-10.0.2_linux-x64_bin.rpm				
Linux		338.43 MB	jdk-10.0.2_linux-x64_bin.tar.gz				
macOS		395.46 MB	➡jdk-10.0.2 osx-x64 bin.dmg				
Solaris SPARC		207.07 MB	➡jdk-10.0.2 solaris-sparcv9 bin.tar.gz				
Windows		390.25 MB	■jdk-10.0.2_windows-x64_bin.exe				

• Double click the downloaded package, wait for few seconds you will see this window, then click "Next"





• Use the default value, then click "Next"

帰 Java(TM) → Development Kit 10.0.2 (64-bit) - Custom Setup ×					
Java"					
Select optional features to install from the list below. You can installation by using the Add/Remove Programs utility in the C	n change your choice of features after Control Panel				
	Feature Description				
Development Tools Source Code Public JRE	Java(TM) SE Development Kit 10.0.2 (64-bit), including the JavaFX SDK, a private JRE, and the Java Mission Control tools suite. This will require 420MB on your hard drive.				
Install to: C:\Program Files\Java\jdk-10.0.2\	Change				
< Back	Next > Cancel				

• Use the default path, then click "Next"





• Installing



• Finished!



Click Next Steps to access tutorials, API documentation, developer guides, release notes and more to help you get started with the JDK.

Next Steps

Close

GW

 Press "Win +R" and input "cmd" to open a terminal

💷 Run	×
Ð	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	cmd ~
	OK Cancel <u>B</u> rowse

• You will find that "javac" doesn't work, we need to add javac path to system environment.

C:\Windows\system32\cmd.exe

Microsoft Windows [Version 10.0.17134.1] (c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Lab>javac -version 'javac' is not recognized as an internal or external command, operable program or batch file.

C:\Users\Lab≻java -version java version "10.0.2" 2018-07-17 Java(TM) SE Runtime Environment 18.3 (build 10.0.2+13) Java HotSpot(TM) 64-Bit Server VM 18.3 (build 10.0.2+13, mixed mode)

•

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命 Best match



Edit the system environment variables Control panel

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P

Settings

Edit environment variables for your account

Search suggestions

P environment - See web results

Click the "Windows" icon and input "environment", you will see the setting as shown on the left. Then click

- **"Environment**
- Variables"

System Properties	×
Computer Name Hardware Advanced System Protection Remote	
You must be logged on as an Administrator to make most of these changes. Performance Visual effects, processor scheduling, memory usage, and virtual memory Settings	
User Profiles Desktop settings related to your sign-in Settings	
Startup and Recovery	
System startup, system failure, and debugging information Settings	
Environment Variables]
OK Cancel Apply	



/ariable	Value
DneDrive	C:\Users\Lab\OneDrive
Path	C:\Users\Lab\AppData\Local\Microsoft\WindowsApps;
TEMP	C:\Users\Lab\AppData\Local\Temp
ſMP	C:\Users\Lab\AppData\Local\Temp



Double click "Path"

Click "New" and input the path:

C:\Program Files\Java\jdk-10.0.2\bin

If you changed the path during the JDK installation, you need to input the changed path

Run the terminal again and check the "javac" and "java"

```
Command Prompt
```

```
Microsoft Windows [Version 10.0.17134.1]
(c) 2018 Microsoft Corporation. All rights reserved.
C:\Users\Lab>javac -version
javac 10.0.2
C:\Users\Lab>java -version
java version "10.0.2" 2018-07-17
Java(TM) SE Runtime Environment 18.3 (build 10.0.2+13)
Java HotSpot(TM) 64-Bit Server VM 18.3 (build 10.0.2+13, mixed mode)
C:\Users\Lab>
```

Or you can follow this video to install JDK on Windowns: https://www.youtube.com/watch?v=Wp6uS7CmivE

Install Java on Linux

Use Ubuntu18.04 as an example:

• Open a terminal and input the commands:

sudo add-apt-repository ppa:linuxuprising/java

wings([sudo]

nde	wings@wings: ~ 🕒 🖻 😣
nus.	File Edit View Search Terminal Help
ing/iava	w ings@wings:~ \$ sudo add-apt-repository ppa:linuxuprising/java [sudo] password for wings: Oracle Java 10 installer
	Java binaries are not hosted in this PPA due to licensing. The packages in this PPA download and install Oracle Java 10 (JDK 10), so a working Internet connecti on is required.
	The packages in this PPA are based on the WebUpd8 Oracle Java PPA packages: http s://launchpad.net/~webupd8team/+archive/ubuntu/java
	Created for users of https://www.linuxuprising.com/
ui pas : ~ \$	sudo ant-net undate
passwor	d for wings:

sudo apt-get update

Err:5 http://downloads.skewed.de/apt/DISTRIBUTION DISTRIBUTION Release 404 Not Found [IP: 74.50.54.68 80] Get:6 http://us.archive.ubuntu.com/ubuntu bionic-updates InRelease [88.7 kB] Hit:7 http://dl.google.com/linux/chrome/deb stable Release

Ign:2 http://downloads.skewed.de/apt/DISTRIBUTION DISTRIBUTION InRelease

Get:4 http://security.ubuntu.com/ubuntu bionic-security InRelease [83.2 kB]

ign:1 http://dl.google.com/linux/chrome/deb stable InRelease

Hit:3 http://us.archive.ubuntu.com/ubuntu bionic InRelease



Install Java on Linux



sudo apt-get install oracle-java10-installer

Input "Y" and press Enter to continue

Press Enter to continue

wings@wings:~\$ sudo apt-get install oracle-java10-installer Reading package lists... Done Building dependency tree Reading state information... Done he following packages were automatically installed and are no longer required: ca-certificates-java fonts-dejavu-extra libatk-wrapper-java libatk-wrapper-java-jni linux-headers-4.15.0-30 linux-headers-4.15.0-30-generic linux-image-4.15.0-30-generic linux-modules-4.15.0-30-generic linux-modules-extra-4.15.0-30-generic Ise 'sudo apt autoremove' to remove them. he following additional packages will be installed: gsfonts-x11 oracle-java10-set-default uggested packages: visualvm ttf-baekmuk | ttf-unfonts | ttf-unfonts-core ttf-kochi-gothic | ttf-sazanami-gothic ttf-kochi-mincho | ttf-sazanami-mincho ttf-arphic-uming The following NEW packages will be installed: he following packages will be upgraded: oracle-java10-installer upgraded, 2 newly installed, 0 to remove and 205 not upgraded. not fully installed or removed. leed to get 0 B/39.0 kB of archives. After this operation, 229 kB of additional disk space will be used. o you want to continue? [Y/n]

Configuring oracle-java10-installer

Oracle Binary Code License Agreement for the Java SE Platform Products and JavaFX $% \left({{\mathcal{T}_{{\mathcal{T}}}} \right)$

You MUST agree to the license available in http://java.com/license if you want to use Oracle JDK.



8/24/18



Select "Yes" and press Enter to continue

Install finished!

8/24/18

Configuring oracle-java10-installer

In order to install this package, you must accept the license terms, the "Oracle Binary Code License Agreement for the Java SE Platform Products and JavaFX ". Not accepting will cancel the installation.

Do you accept the Oracle Binary Code license terms?

<Yes>

<No>

wings@wings: ~	
File Edit View Search Terminal Help	
-9-oracle/lib/jexec found, but continuing anyway as you request update-binfmts: warning: current package is oracle-java9, but binary for ady installed by openjdk-11 Oracle JDK 10 installed	rmat alre
#####Important#######	
To set Oracle jdk10 as default, install the "oracle-java10-set-default"	package.
Selecting previously unselected package oracle-java10-set-default.	
Processing triggers for desktop-file-utils (0.23-1ubuntu3)	
(Reading database 255439 files and directories currently installed.)
Preparing to unpack/oracle-java10-set-default_10.0.2-1~linuxuprising	g+2_amd64
.deb	
Unpacking oracle-java10-set-default (10.0.2-1~linuxuprising+2)	
Selecting previously unselected package gsfonts-x11.	
Preparing to unpack/gsfonts-x11_0.25_all.deb	
Unpacking gsfonts-x11 (0.25)	
Setting up gsfonts-x11 (0.25)	
Processing triggers for mime-support (3.60ubuntu1)	
Setting up oracle-java10-set-default (10.0.2-1~linuxuprising+2)	
Processing triggers for shared-mime-info (1.9-2)	
Processing triggers for gnome-menus (3.13.3-11ubuntu1)	
Processing triggers for hicolor-icon-theme (0.17-2)	
Processing triggers for fontconfig (2.12.6-0ubuntu2)	

Install Java on Linux

Check your Java version:

wings@wings:~\$ javac -version
javac 10.0.2
wings@wings:~\$ java -version
java version "10.0.2" 2018-07-17
Java(TM) SE Runtime Environment 18.3 (build 10.0.2+13)
Java HotSpot(TM) 64-Bit Server VM 18.3 (build 10.0.2+13, mixed mode)
wings@wings:~\$

Reference:

https://stackoverflow.com/questions/49507160/how-to-install-jdk-10-under-ubuntu



Install jGRASP

- Mac
- Windows
- Linux
- Hello World



- Before installing jGRASP, to check the Java version in your computer(requires Java 1.6 or higher).
- Go to the link: https://spider.eng.auburn.edu/user-cgi/grasp/grasp.pl?;dl=download_jgrasp.html
- Select the package of your platform(download the 2nd pkg):

jGRASP 2.0.5_01 (August 16, 2018) - requires Java 1.6 or higher
jGRASP exe Windows (Vista or Higher): self-extracting executable (5,893,448 bytes).
jGRASP pkg Mac OS X: pkg install file (requires admin access to install) (6,899,475 bytes).
jGRASP zip Linux, UNIX, and other systems: zip file (7,142,797 bytes).

• Double click the package, click "Continue".

k "Continue".	 Installat Installat Summa



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Install jGRASP on Mac





Install jGRASP on Windows

- Go to the link: https://spider.eng.auburn.edu/user-cgi/grasp/grasp.pl?;dl=download_jgrasp.html
- Select the package of your platform(download the 1st exe):

jGRASP 2.0.5_01 (August 16, 2018) - requires Java 1.6 or higher

jGRASP exe Windows (Vista or Higher): self-extracting executable (5,893,448 bytes).

jGRASP pkg Mac OS X: pkg install file (requires admin access to install) (6,899,475 bytes).

jGRASP zip Linux, UNIX, and other systems: zip file (7,142,797 bytes).

jGRASP 2.0.5_01 Setup	– 🗆 X		뎶, jGRASP 2.0.5_01 Setup	– 🗆 X	🚚 jGRASP 2.0.5_01 Setup		- 🗆 X
	Welcome to the jGRASP 2.0.5_01 Setup Wizard		License Agreement Please review the license terms before installing jGRASP.	G	Choose Components Choose which features of jGF	ASP you want to install.	G
	This program will install jGRASP. It is recommended that you quit all applications before installion. You must quit iGRASP if it is running.	, i	Press Page Down to see the rest of the agreement. Check the components you want to install IGRASP(TM) License		ant to install and uncheck the con	nponents you don't want to	
	Click Next to continue.		Software License for jGRASP Version 2.0.5_01 Copyright 1999-2018 Auburn University		Select the type of install: Or, select the optional	Standard ~	Description
			Section 1. License Grant		components you wish to install:	Desktop Shortcut Admin Items	Position your mouse over a component to see its description.
凤			Auburn University grants to you a non-exclusive and non-transferable license to use jGRASP and the associated documentation provided in jgrasp/help, collectively "jGRASP", jGRASP may be installed for use on one or more	¥			
			If you accept the terms of the agreement, click I Agree to continue agreement to install jGRASP.	e. You must accept the	Space required: 10.7MB		
			jGRASP		jGRASP		
	Next > Cancel		< Back 1	I Agree Cancel		< Back	Next > Cancel



Install jGRASP on Windows



□ jGRASP 2.0.5_01 Setup - □ × Choose Instal \cocation Choose the folder in which to install jGRASP.	igrASP 2.0.5,01 Setup - □ × Choose Start Menu Folder Choose a Start Menu folder for the jGRASP shortcuts.	圓 jGRJ Choo Choo	دمان المعالم المعالي المعالم معالم م معالم معالم معالم معالم معالم معالم معالم معالم معالم معالم	- • ×
Setup will install jGRASP in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.	Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder. igrasp Accessibility Accessories Administrative Tools	Choo Exte	vose the filename extensions for files that you want to oper rension Current Association Extension Curr .java [None] ☑.jav [Nor .m [None] ☑.c [Nor	n with jGRASP by default. ent Association le] le]
Destination Folder C:\Program Files (x86)\jGRASP Browse Space required: 10.7MB Space available: 45.9GB	Java Java Development Kit Maintenance StartUp System Tools Windows PowerShell		.h [None] .cpp [Non .hpp [None] .cxx [Non .hxx [None] .ccc [Non .ada [None] .adb [Non .ads [None] .vhdl [Nor .vhd Disc Image File .xml XML	ie] ie] ie] Document
jGRASP	Do not create shortcuts JGRASP Kext > Cancel Cancel Concel C	jGRÅSP	P < Back	Install Cancel



Install jGRASP on Linux

- Go to the link: https://spider.eng.auburn.edu/user-cgi/grasp/grasp.pl?;dl=download_jgrasp.html
- Select the package of your platform(download the 3rd zip):

jGRASP 2.0.5_01 (August 16, 2018) - requires Java 1.6 or higher

jGRASP exe Windows (Vista or Higher): self-extracting executable (5,893,448 bytes).

jGRASP pkg Mac OS X: pkg install file (requires admin access to install) (6,899,475 bytes).

jGRASP zip Linux, UNIX, and other systems: zip file (7,142,797 bytes).

• install the lsb-core module with the command: **sudo apt-get install lsb-core**

wings@wings:~/Downloads/jgrasp205_01/jgrasp\$ sudo apt-get install lsb-core

- Extract the .zip file you just downloaded to some permanent location. ~/jgrasp, ~/opt/jgrasp, or /usr/local/jgrasp would all be reasonable locations, but anything will do. cd into that directory
- run java -jar jgrasp.jar
- If all goes well, you should see this:







Hello World!



• Open the jGrasp and create a new file



• Input the code in the figure below

Hello World!



• Save the code, make sure the file name has the same name as the class name:

<pre>class hello_world { public static void main(String args[]) {</pre>	
Save "/Users/zhangchengcarl/Desktop/CSCI1111/hello_world.java" As	idow Help
Users/zhangchengcarl/Desktop Look In: Desktop	
AI_PPT Mac_backup CSCI1111 PPT deep_learning SDU Workstation solution Java File Name: hello_world.java Files of Type: Java Files	<pre>class hello_world { public static void main(String args[]) { System.out.println("Hello World!"); } }L</pre>
Save	

You will see the result if there were no bugs in the code:

• Click the red button to debug and run your code:

Run I/O

-jCRASP exec: java hello_world

----jGRASP: operation complete.

Interactions

jGRASP Messages

Hello World!

essages [

Thank You!