

Ing.Sw. POLIMI

II sem 2024

Menu



- install on win
- Install on Mac
- (Linux notes)

*For *X users, pls read section in "Maven Scenario", steps are very similar for all.*

Maven Scenario

CLI && Swing

A) Use simply "maven-archetype-archetype"

CLI && JAVAFX

2 ways:

B) Start from "maven-archetype-archetype": later You will have to integrate javaFx into maven *

C) start from **IntelliJ template for JavaFX**, commenting out some parts. (Those parts will be used later uncommenting them)

* we will support integration if needed.

More details later...
On BOTH

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- It's free for students
- You got a lot of **enterprise-grade** stuff
- Other tools: Clion... Datagrip, PyCharm..
- From here: <https://www.jetbrains.com/community/education/#students>
- (PLS USE POLIMI mail address !!!)

- We assume in the following you have it.

- If you prefer install a-là IntelliJ, simply follow:

<https://www.jetbrains.com/help/idea/installation-guide.html>

- *This guide will summarise and skip some passes*

- Start from a CLEAN windows 11 install
- NO 32 bits (forever gone..)
- Similar for win10 64 bits
- No support for ARM64 win devices i.e. Surface (ask eventually in LABS), but ***should work*** (we DO install on a VM on Arm64 arch on M2)

Install on win11: test flight check

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- already registered on JetBrains site
- goto: <https://www.jetbrains.com/idea/download/#section=windows>
- download exe
- (if on arm64 **use it**...(in2023 corse it *did* work).)

Download IntelliJ II

Windows macOS Linux

Ultimate

The Leading Java and Kotlin IDE

Download

.exe ▲

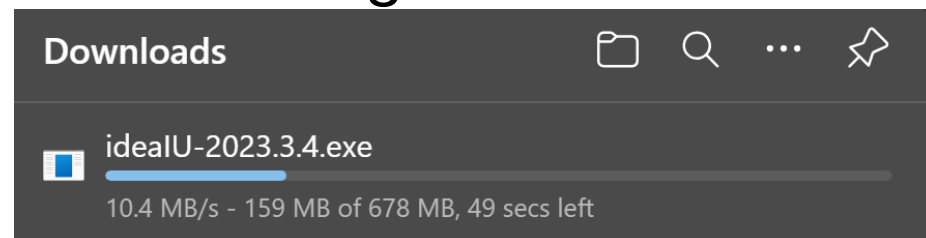
Free 30-day trial

.exe

.zip

.exe (ARM64)

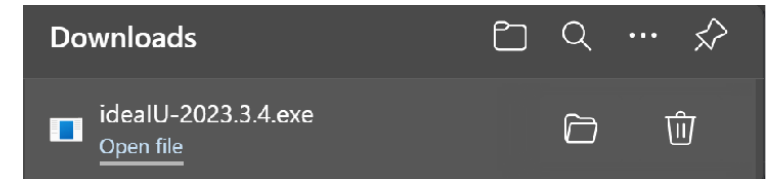
Downloading..



Install on win11

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From browser:



Or open downloads Folder and double click exe..

Install on win11: previous IJ

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If You have ANY previous IJ installed, setup wil ask to remove it:

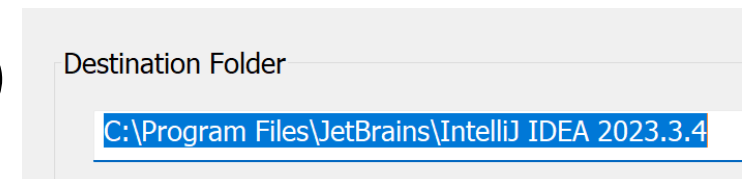
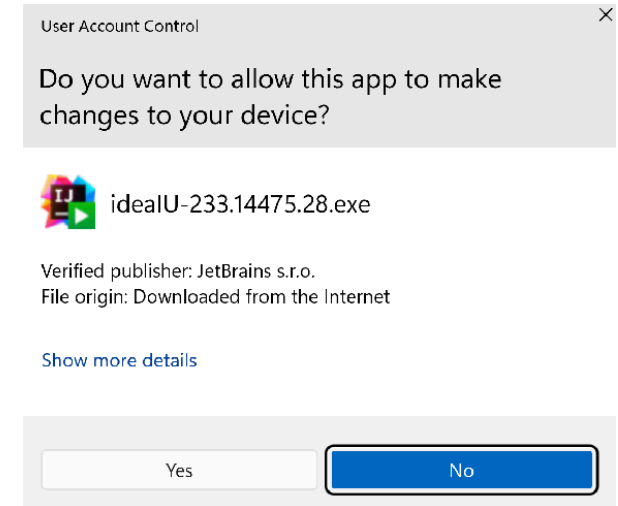
Better to do so!

Of course YES....

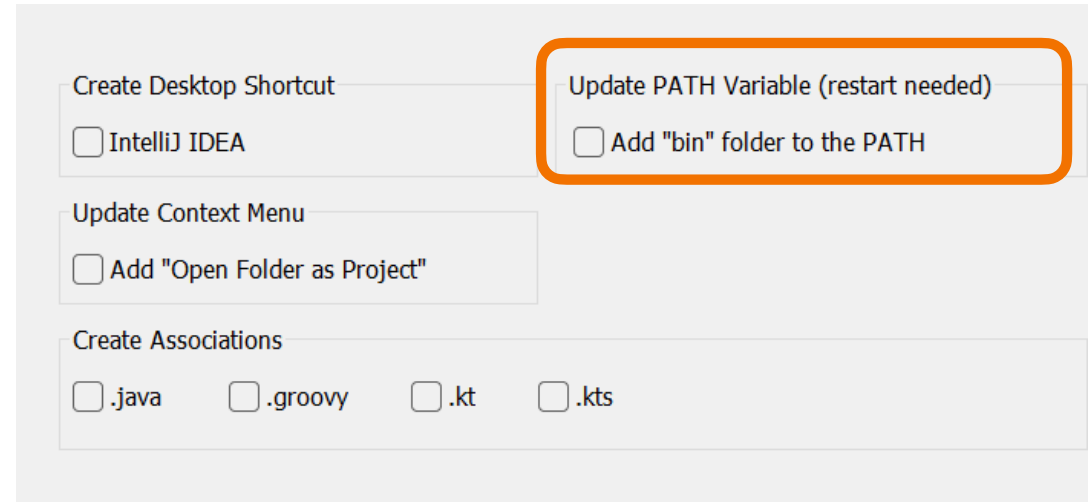
Welcome..

(Choose folder, but suggested folder is fine..)

And go on with defaults...



And here?

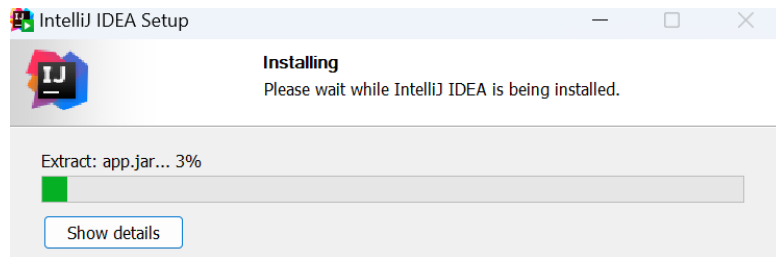


If You think you will compile from cmd line **outside** IJ,
(Or use other cmd line tools) FLAG IT! *

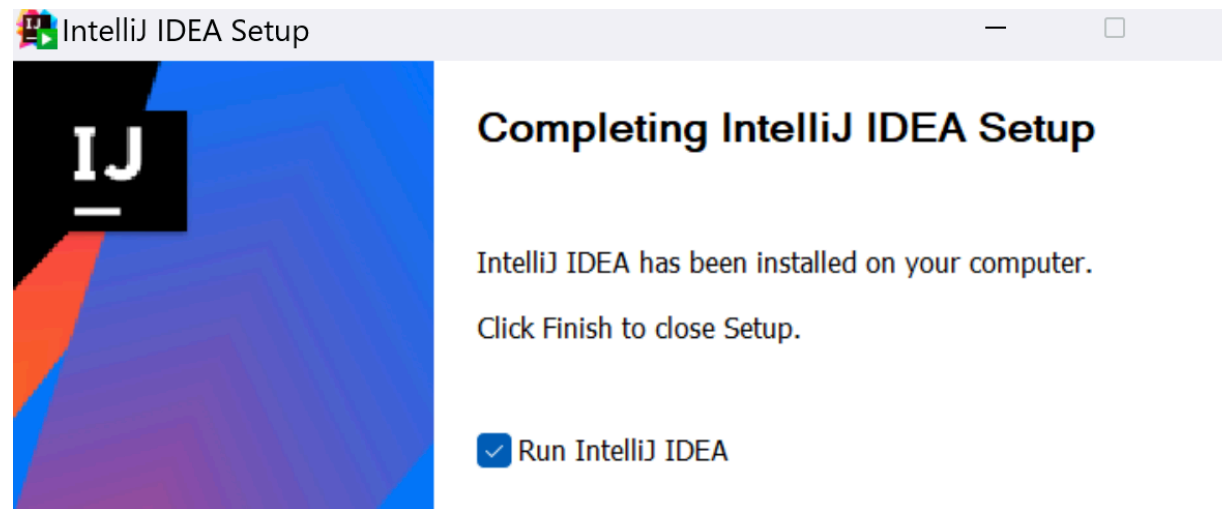
** when de-installing IJ, You will have to manually fix PATH inside win advanced settings*

Install on win11

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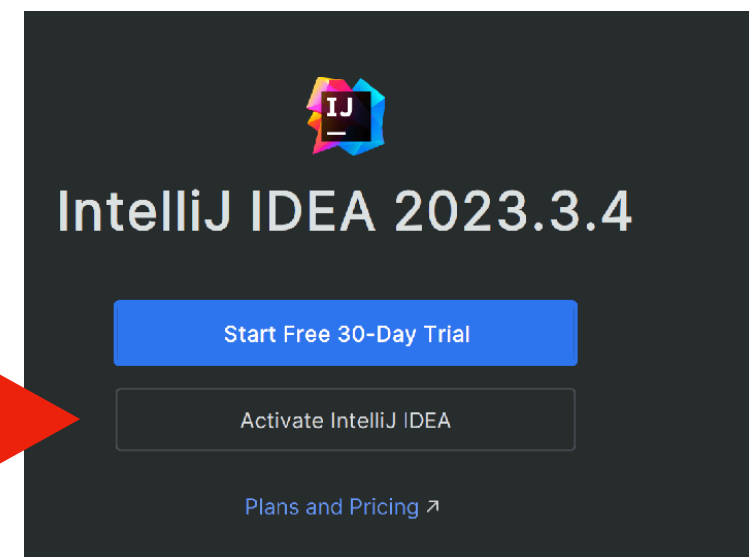
When done:



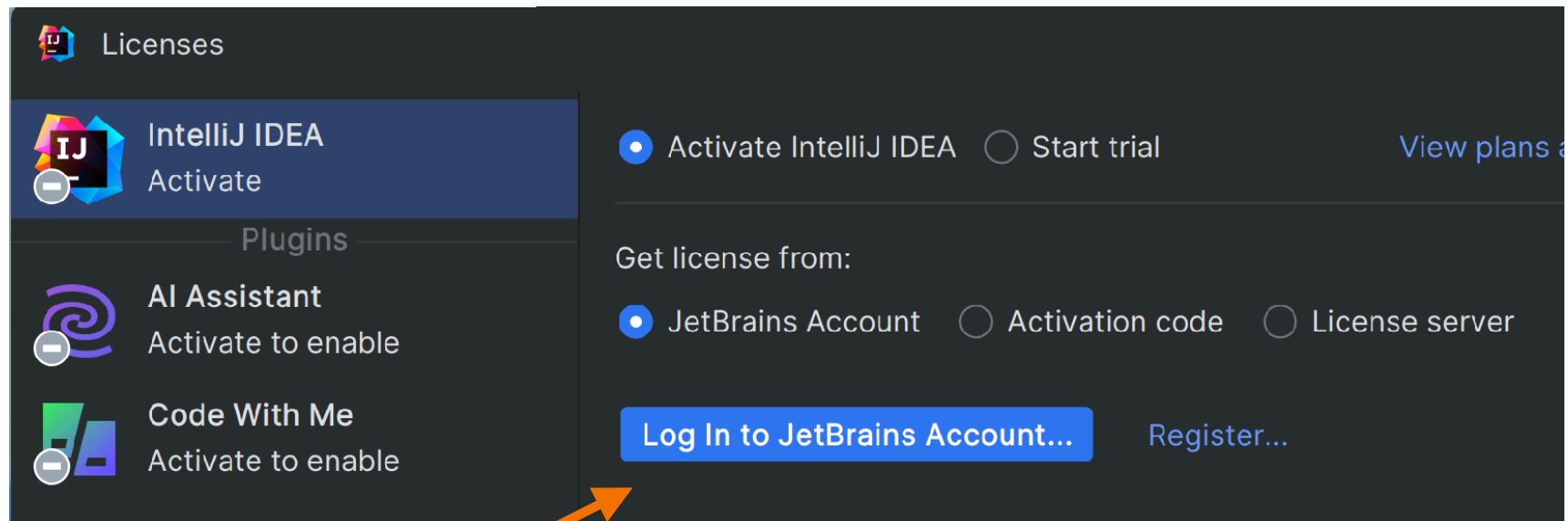
So we can test.

Here we are..

Accept legalese..



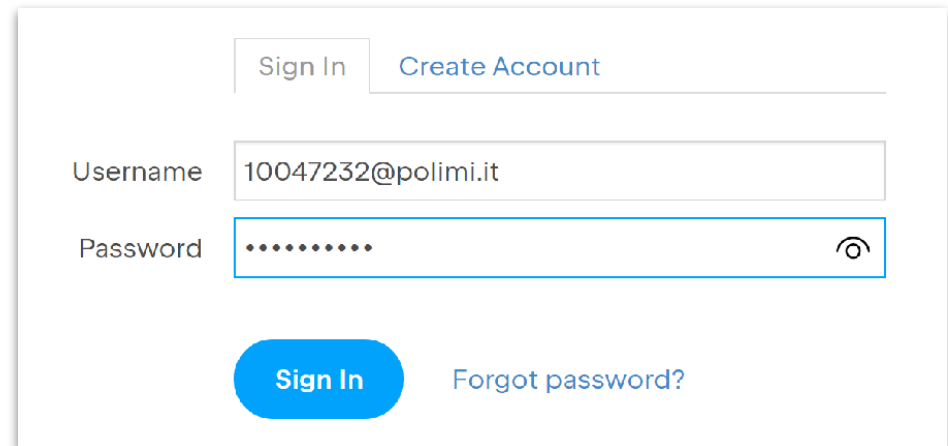
- Some other legal stuff ..
- Finally add your credentials:



- Log In

- Login wil open browser...

- Browser wil ask Polimi credentials..

A screenshot of a web login form for Polimi. At the top, there are two tabs: 'Sign In' (active) and 'Create Account'. Below the tabs, there are two input fields. The 'Username' field contains the text '10047232@polimi.it'. The 'Password' field contains a series of dots and has a toggle icon (an eye) to its right. At the bottom, there is a blue 'Sign In' button and a link that says 'Forgot password?'.

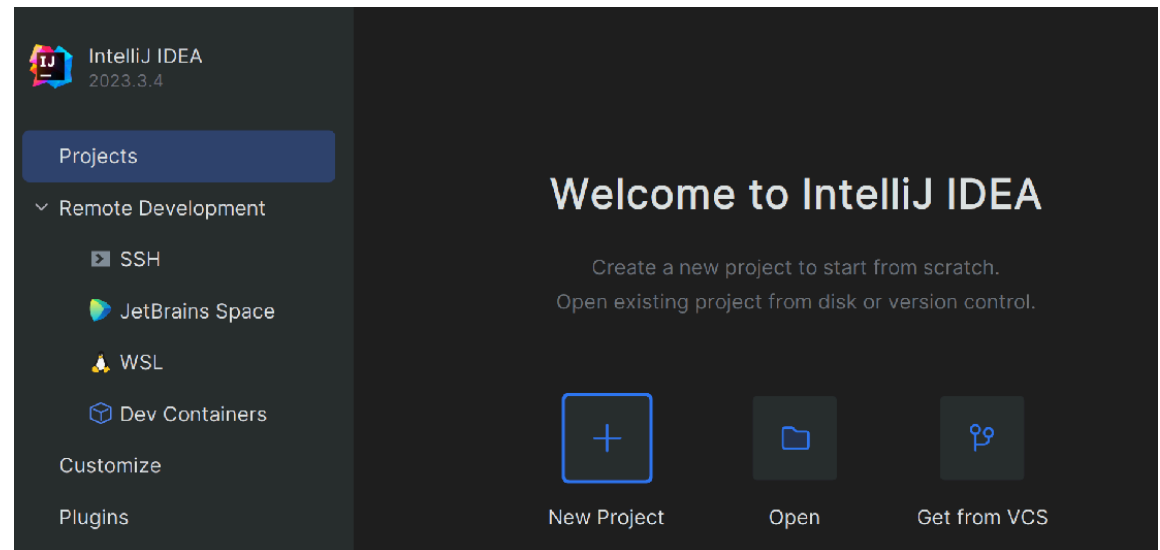
- And will send back to IntelliJ...

- Some warnings from windows firewall: allow it.



- (Eventually close browser..)

Now our first project



(Neither "vcs" nor git for now)

Click "New project" and ...

Wait..

HOW to build an App? (we call it artifact)

There are many ways...

Let's recall some concepts (or skip them...)

In many "serious" languages (C/C++/Java/Kotlin/Rust/Swift..)

You have there concept of build tool / toolchain, i.e. a series of tools that perform various passes to produce final artefact.

in java :

"A Java toolchain is a set of tools to build and run Java projects, which is usually provided by the environment via local JRE or JDK installations. Compile tasks may use `javac` as their compiler, test and exec tasks may use the `java` command while `javadoc` will be used to generate documentation."

(From oracle docs)

*In this Course we **DO USE MAVEN** as toolchain.*



Requirements usually ask for:

- *a CLI app*
- *a GUI app*

For CLI app, you will use java cmd line methods (i.e. Scanner, Reader, println..)

For GUI you can choose between:

- **Swing** (full support from Oracle, no special needs for Maven, a bit old-style)
- **JavaFX** (no more support from Oracle, special settings for Maven, more flexible and modern features)

CLI && Swing

A) Use simply
"maven-archetype-archetype"

CLI && JAVAFX

2 ways:

B) Start from **"maven-archetype-archetype"**: later You wil have to integrate javaFx into maven *

C) start from **IntelliJ template for JavaFX**, commenting out some parts. (Those parts will be used later uncommenting them)

** we will support integration if needed.*

More details
later...
On BOTH

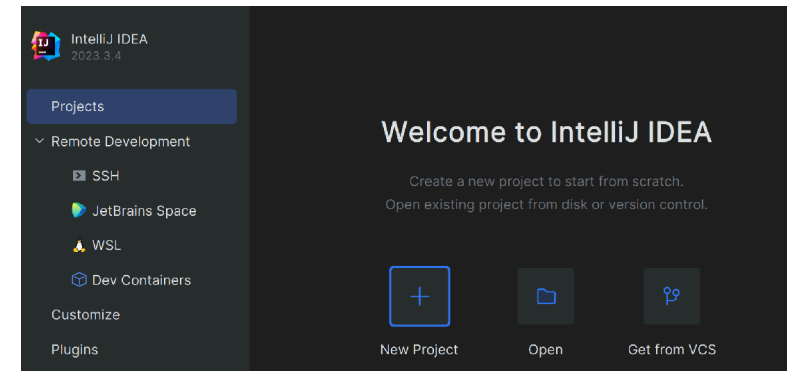
In the following we will show IntelliJ setup for

A+B

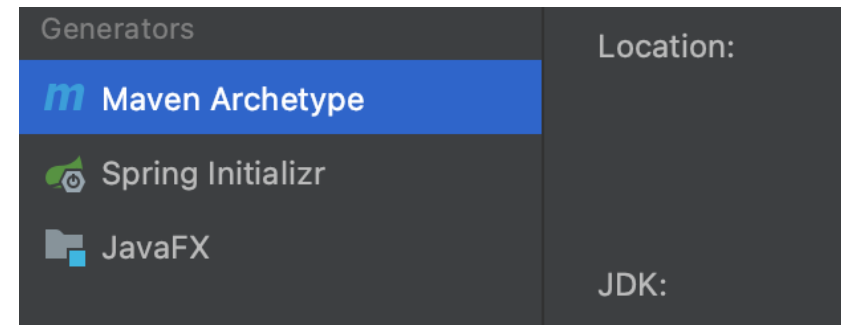
And later for C

*Note: even if You choose C,
pls read following slides as many details can be useful.*

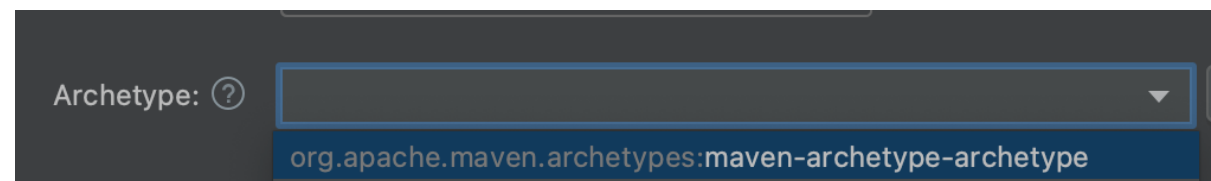
From:



Choose:



And (smart typing "quick...")

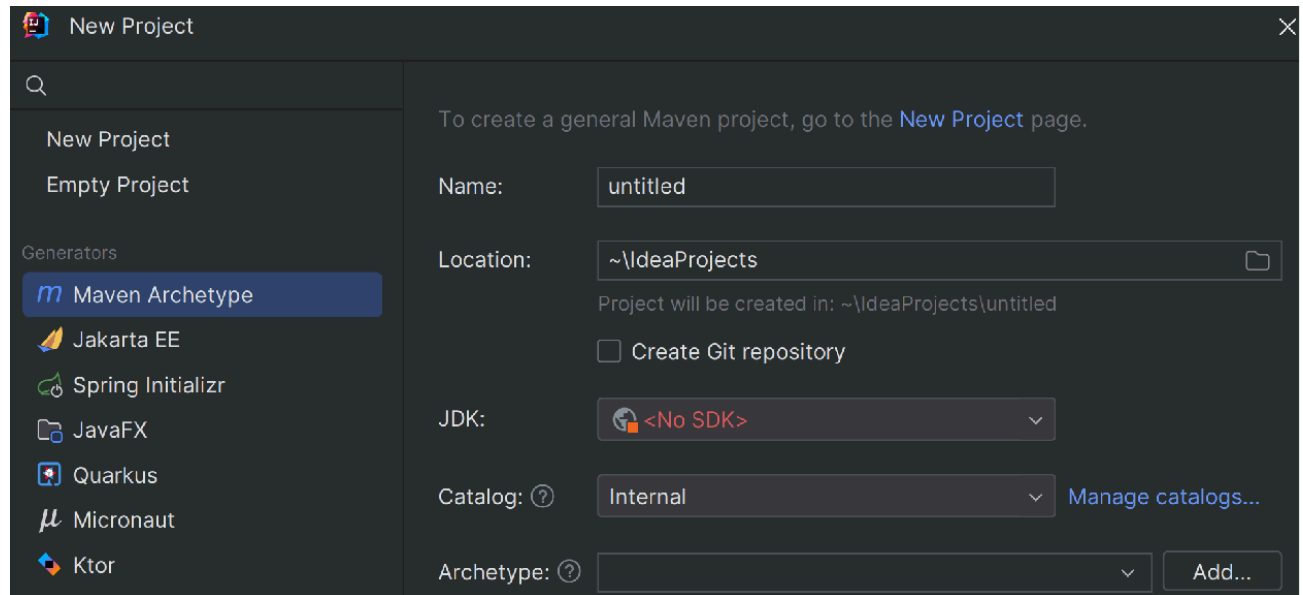


org.apache.maven.archetypes:maven-archetype-archetype

IntelliJ: first run on win11

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You can see some errors: usually Java SDK is missing:



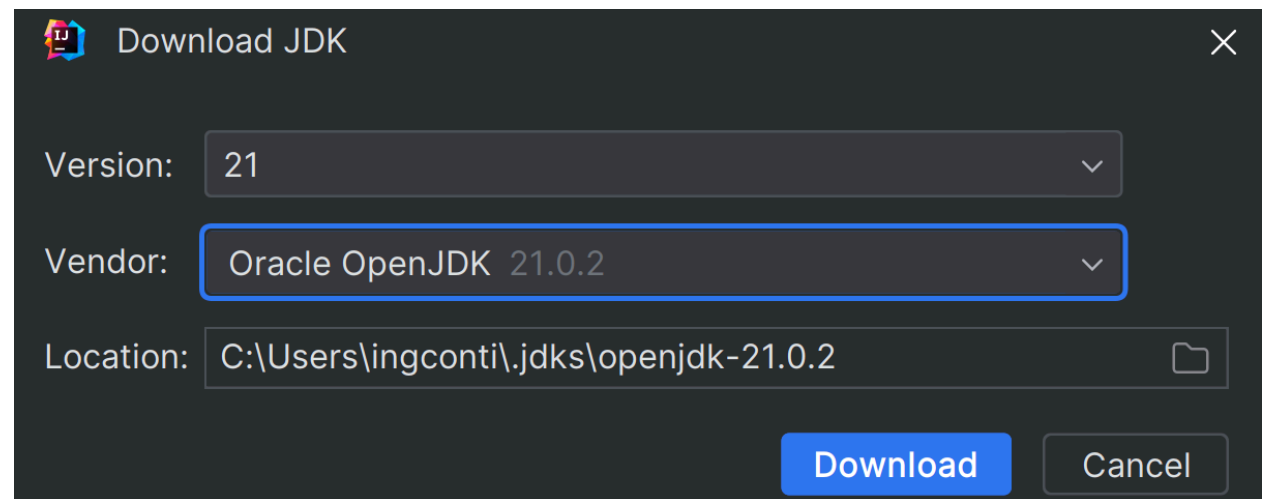
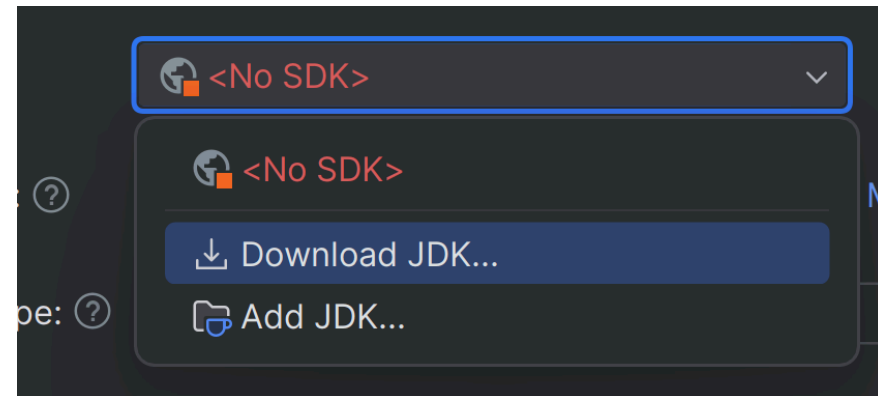
Choose latest JDK

(21.. let IntelliJ download it... it will take a while..)

IntelliJ: first run on win11

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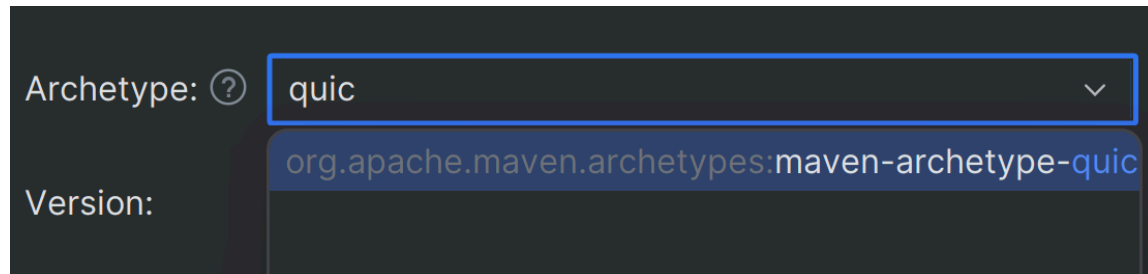
Download..



Now for maven..

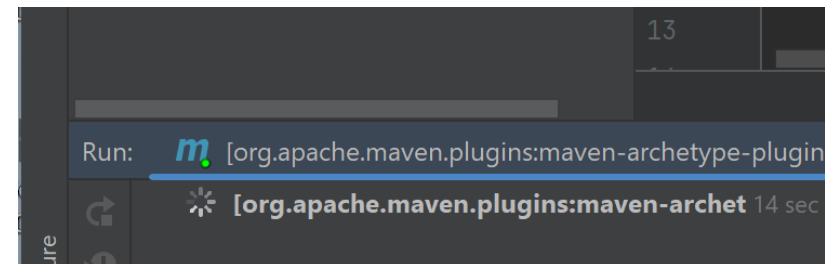
Choose "Quick start":

(Smart type it..)



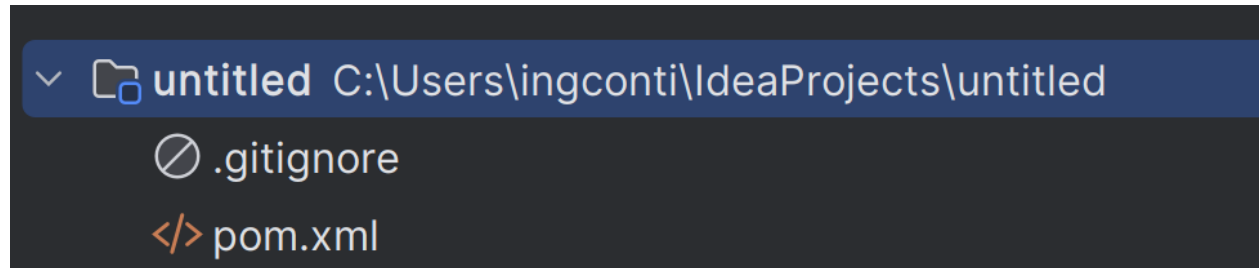
Will download a bunch of files from web ...

(... it will take a while..)



If You see:

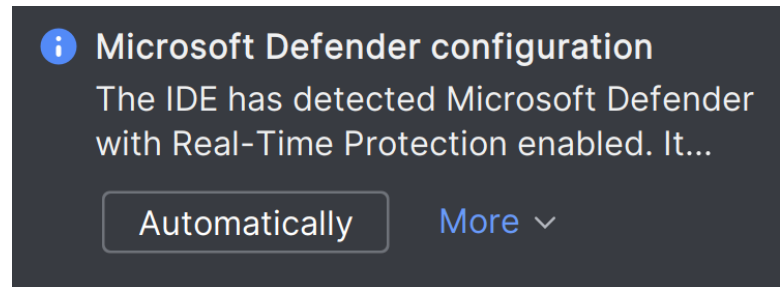
DON'T try to run!



(If so, pls re-run from "new Project")

....

Accept warning for windows defender:
"Automatically"



AND:

YES



elevator.exe

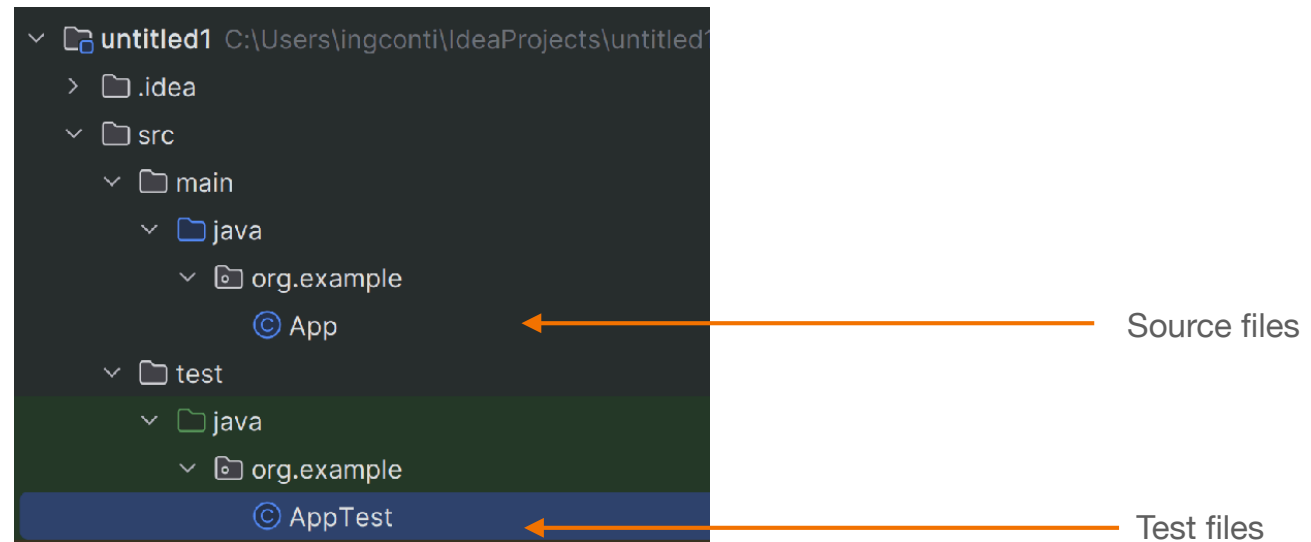
Verified publisher: JetBrains s.r.o.
File origin: Hard drive on this computer

[Show more details](#)

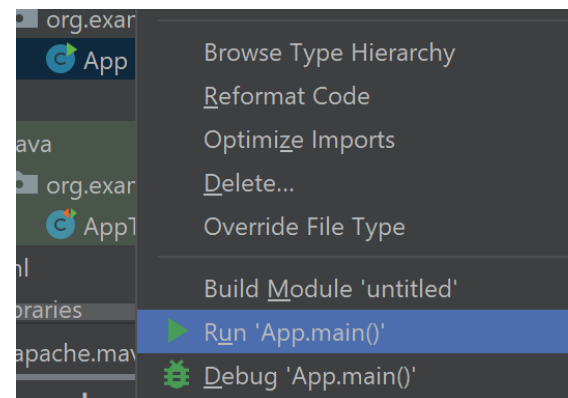
Yes

No

- When done:

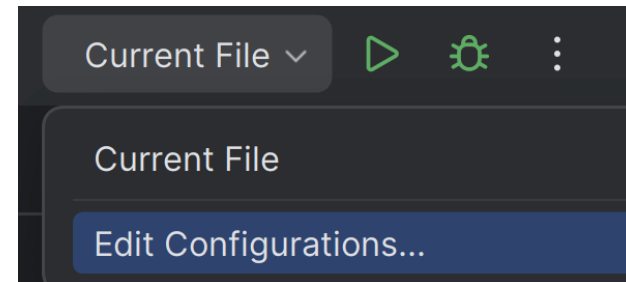


Fast run:
Right click

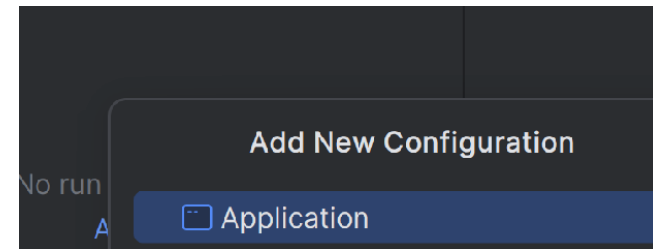


But better to configure a "config"..

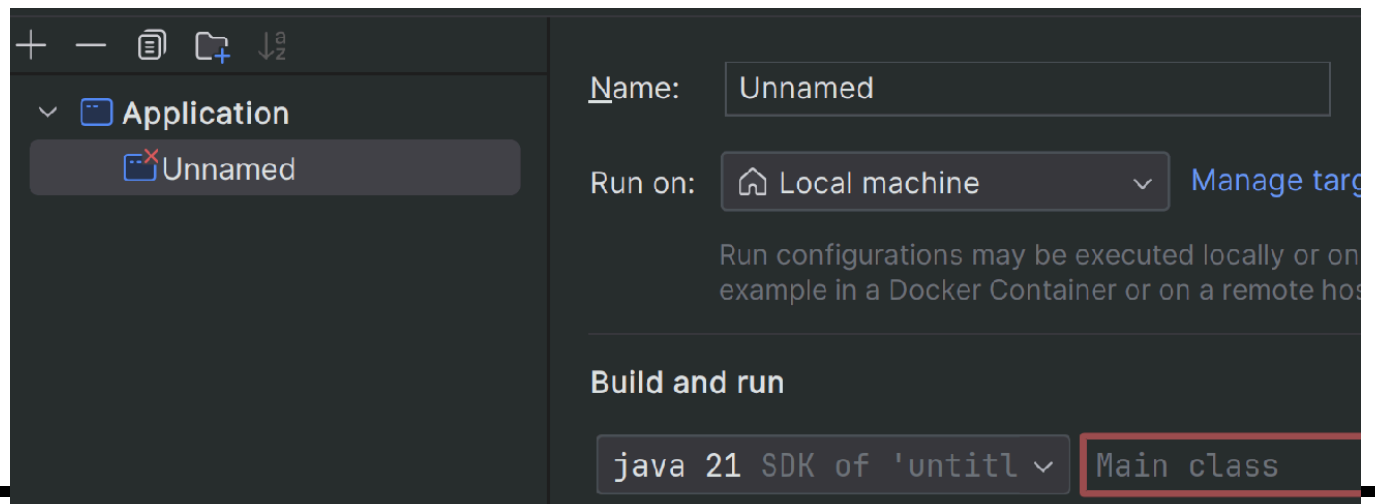
- Edit config



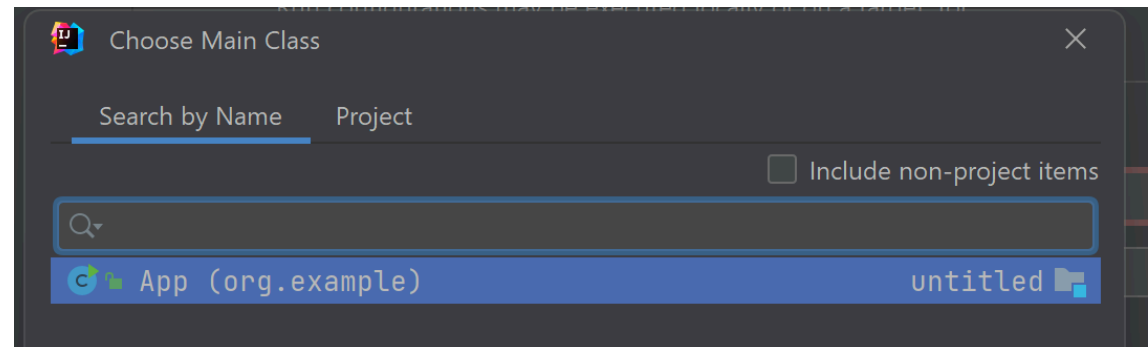
- Add Application



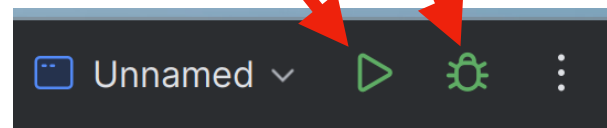
- Eventually rename config, but more important:
CHOOSE main class:



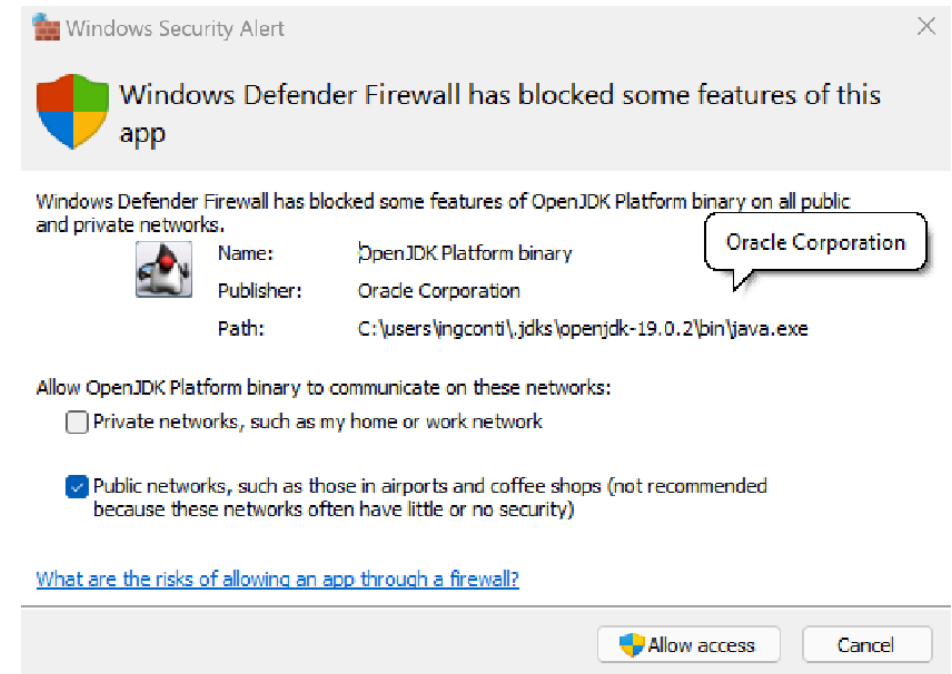
- Main class:



- Confirm.. OK.. now we can run or debug:

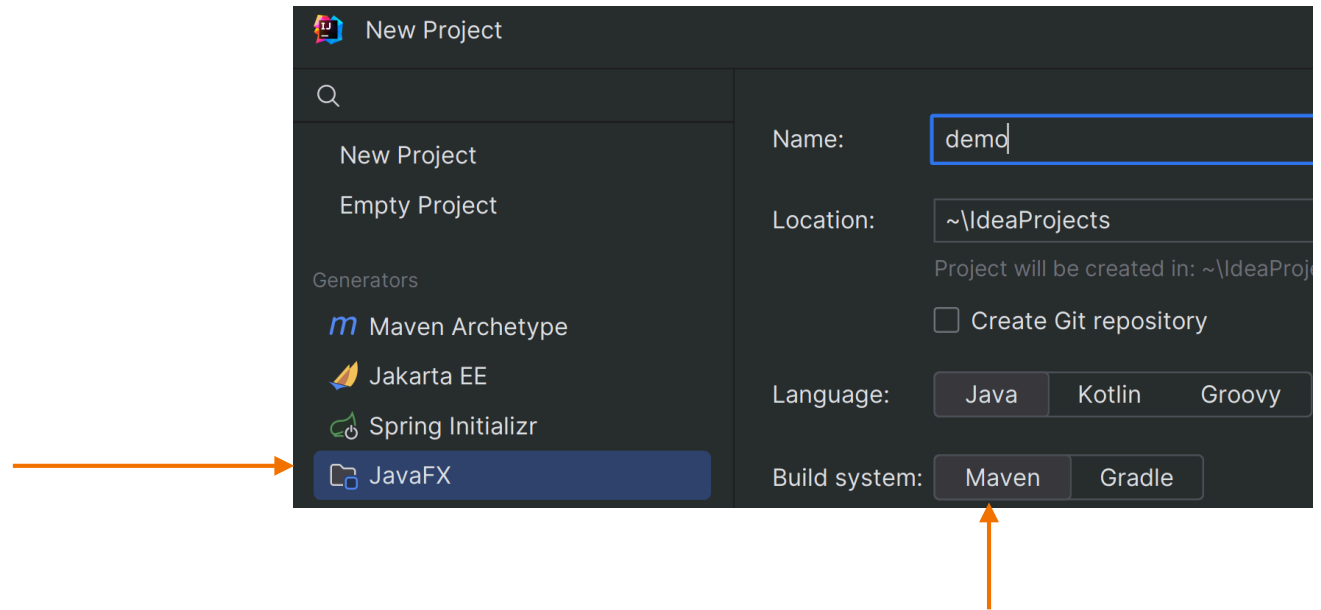


- Done.. may appears firewall:
- Confirm
- Now run again..

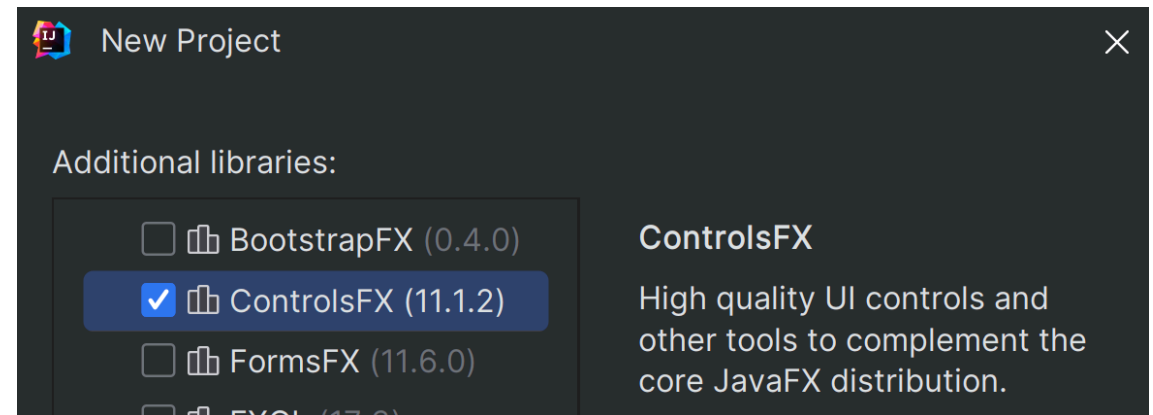


- Done!

From new project:



*You can check others later,
usually:*
- *ControlsFX for Dialogs*



Wait.. a lot of stuff downloading..

As previous ..windows defender... elevator.exe...

Wait again ..

:(

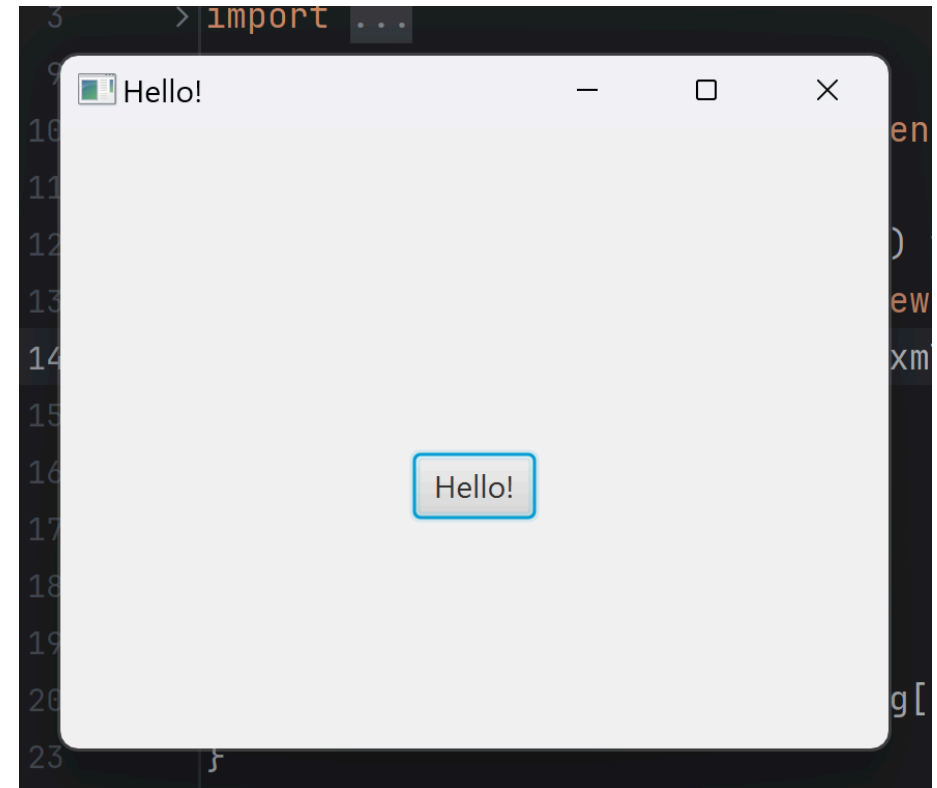
run / config/run:

finally:

```
9  
10 ▶ public class HelloApplication extends Application {  
11     @Override
```

Will appear:

So GUI will be ok.



Now let's simplify to use console:

Comment out the GUI-related parts:

```
public class HelloApplication extends Application {  
    @Override  
    public void start(Stage stage) throws IOException {  
        FXMLLoader fxmlLoader = new FXMLLoader(HelloApp  
        Scene scene = new Scene(fxmlLoader.load(), v: 3  
        stage.setTitle("Hello!");  
        stage.setScene(scene);  
        stage.show();  
    }  
  
    public static void main(String[] args) {  
        launch();  
    }  
}
```

Code will be: (and add `System.out.println("Hello, World!");`)

```
public class HelloApplication /*extends Application*/ {  
    /* @Override  
    public void start(Stage stage) throws IOException {  
        FXMLLoader fxmlLoader = new FXMLLoader(HelloApplication.class);  
        Scene scene = new Scene(fxmlLoader.load(), 320, 240);  
        stage.setTitle("Hello!");  
        stage.setScene(scene);  
        stage.show();  
    } */  
    public static void main(String[] args) {  
        //launch();  
  
        System.out.println("Hello, World!");  
    }  
}
```

When ready with JavaFX, simply uncomment them!



Before starting, pls read slides

about Maven Vs CLI / GUI in win11 section.

Maven Scenario 20

CLI && Swing

A) Use simply "maven-archetype-archetype"

CLI && JAVA FX

2 ways:

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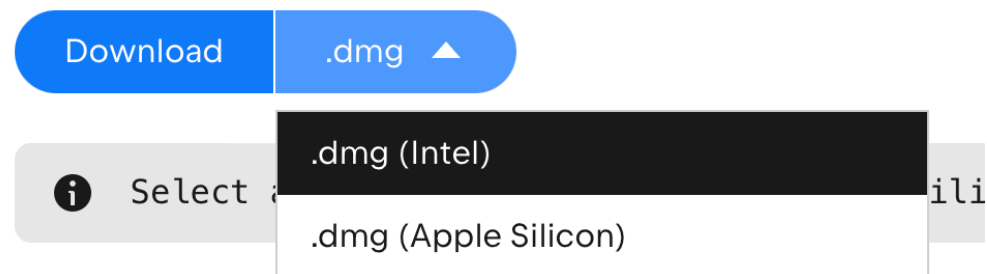
* we will support integration if needed.

More details later...
On BOTH

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Both silicon and intel

<https://www.jetbrains.com/idea/download/#section=mac>

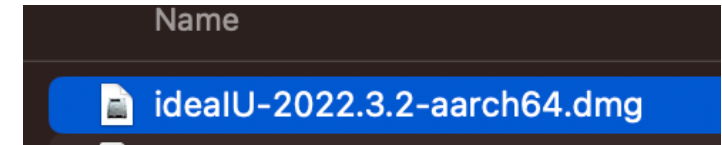


IntelliJ: install on Mac



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- Both silicon and intel in "Downloads" folder:



- Mount disk (double click..) and move App!



IntelliJ IDEA.app

.dragTo()



Applications

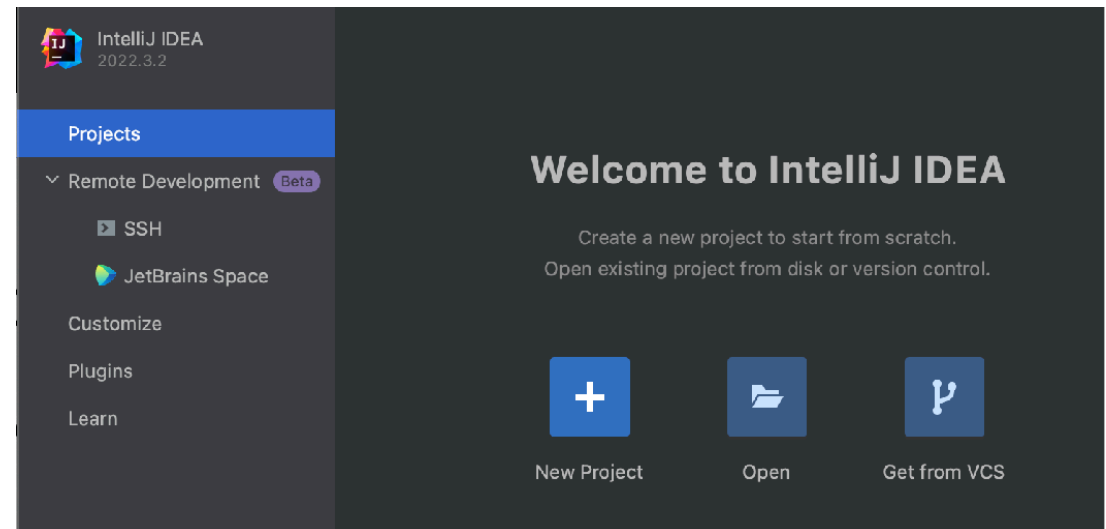
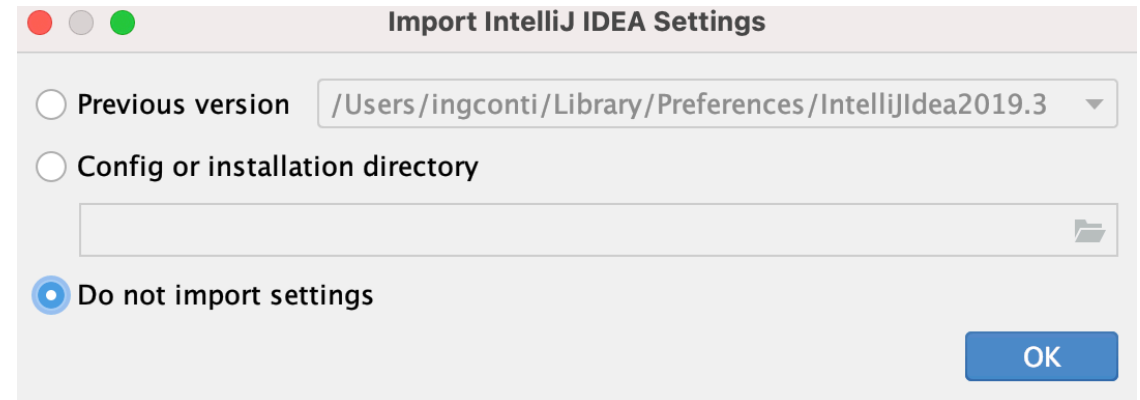


- Step 3....
- There is no other steps!



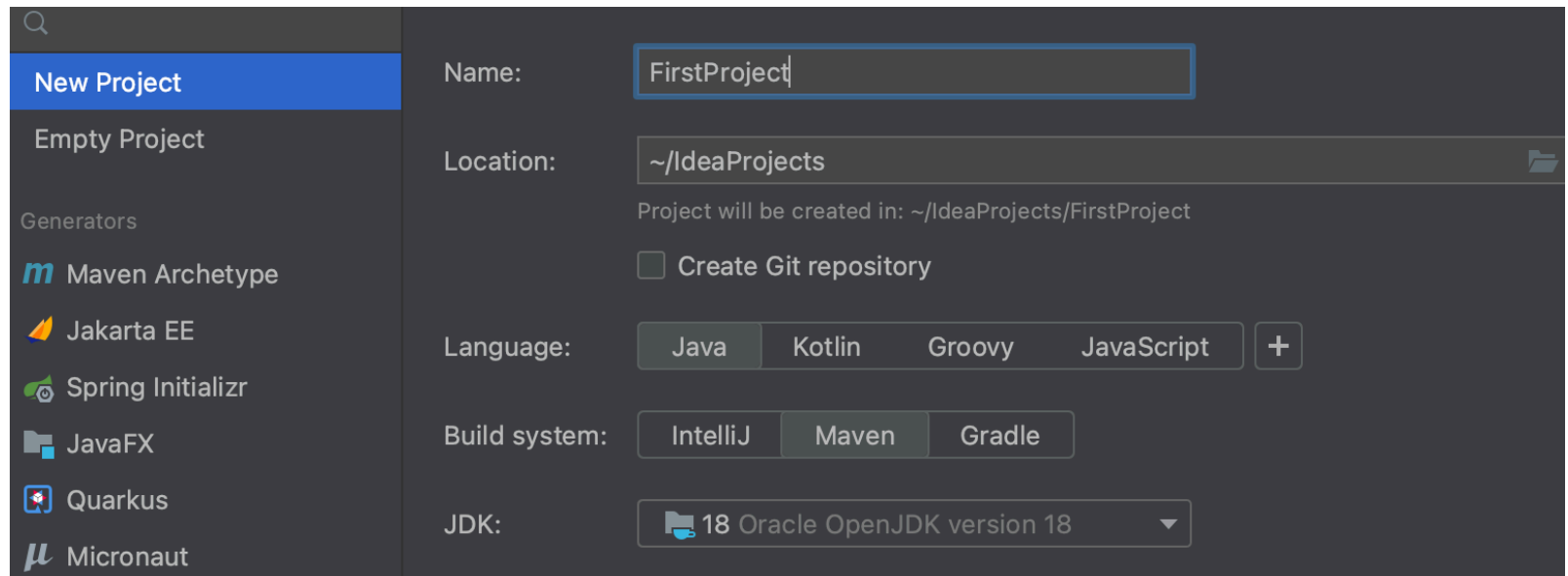


- Open App!
- Will appear:
- Welcome..
- Click "New Project"..





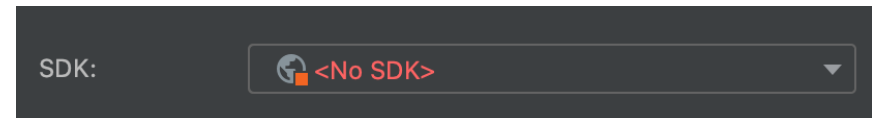
- Click "New Project"..



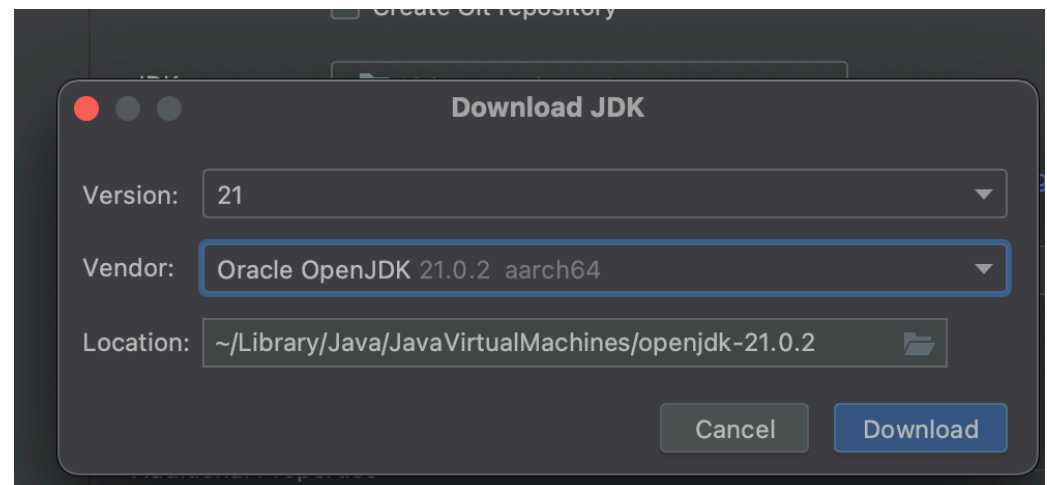
- We will use MAVEN



- JDK... got for 21

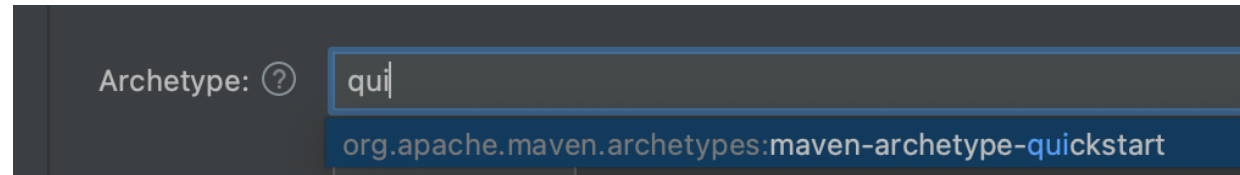


- It will take a lot..





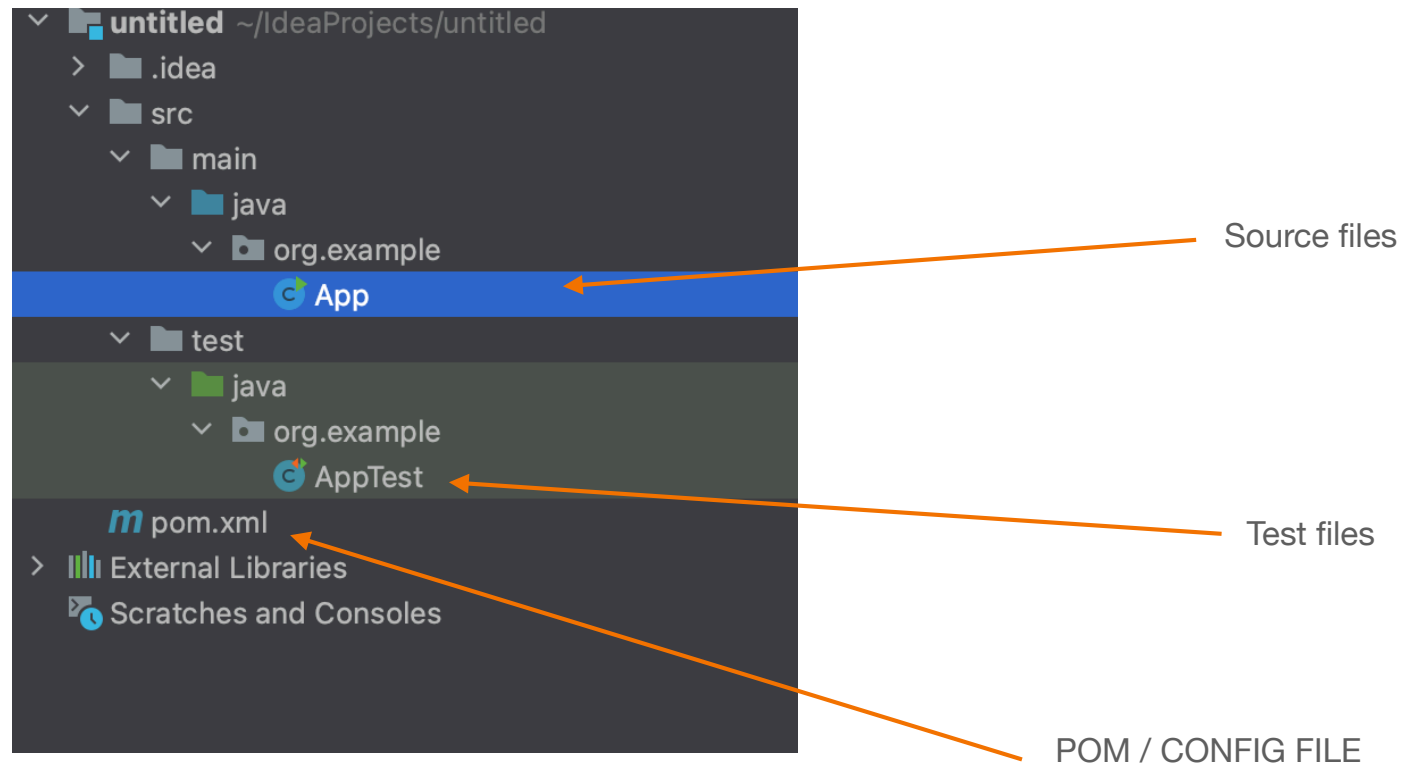
- Arch type: Quick Start
- (Use smart typing..)



- No GIT for now (unless you already created a repo..)



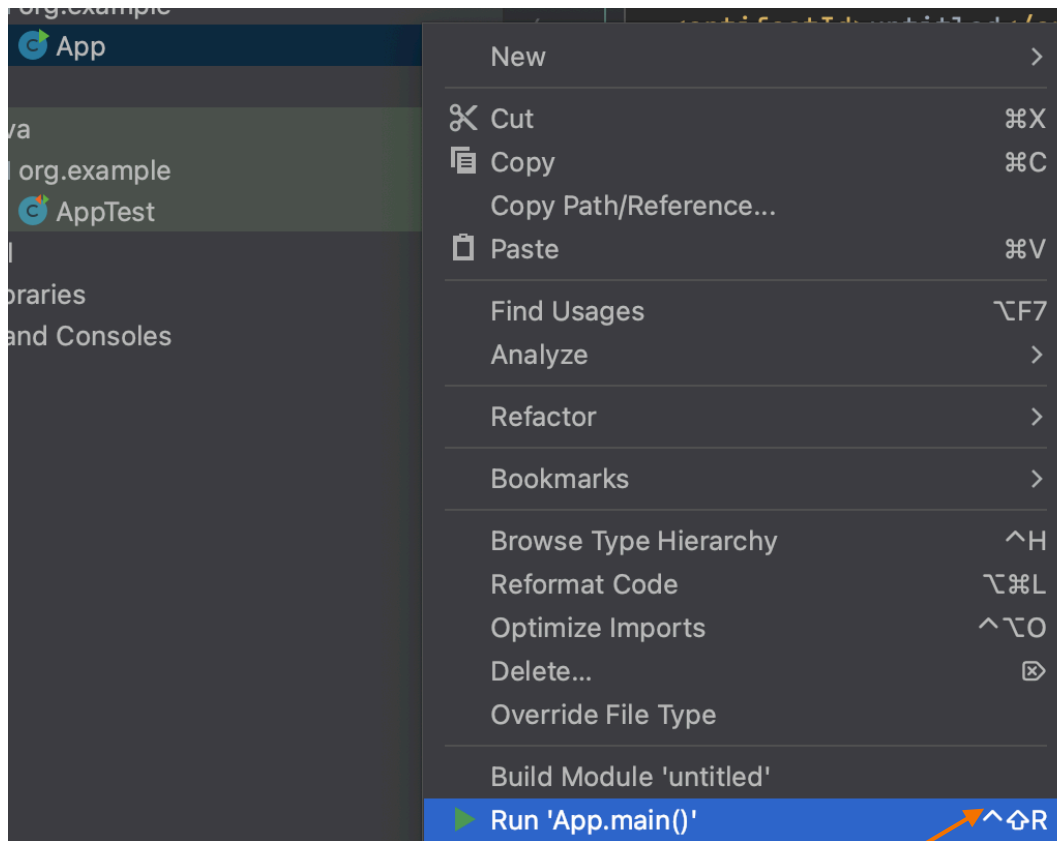
- Lets try out first program:



- Lets go..



- Lets try out first program:

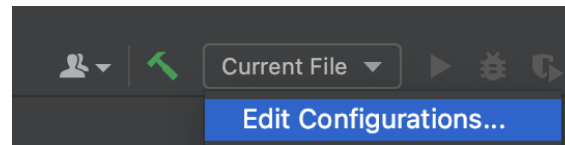


- Lets go..

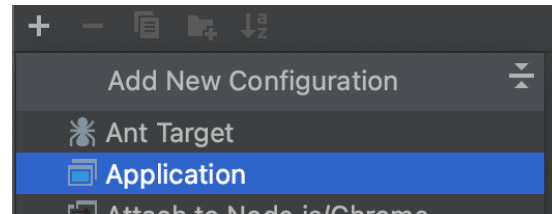


- Or better configure a run set:

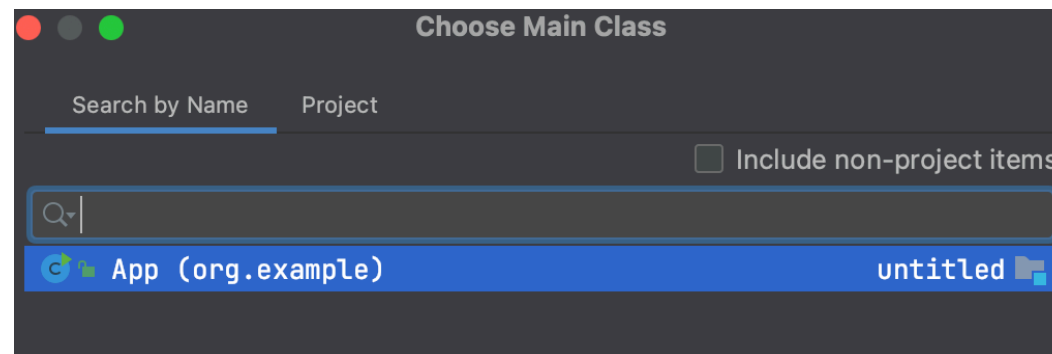
-



- Add an App:



- Choose main class:



-



- Eventually rename
- Click OK
- And RUN!

Note: read about Maven setup" in windows section.

Maven Scenario

CLI && Swing

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CLI && JAVA FX

2 ways:

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More details later...
On BOTH

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ERRORS!

Module untitled SDK ... does not support source version 1.5.

Possible solutions:

- Downgrade Project SDK in settings to 1.5 or compatible. Open project settings.
- Upgrade language version in Maven build file to 19. Update pom.xml and reload the project.

```
ble. Open project settings.  
Update pom.xml and reload the project.
```

GO WITH 2ND...

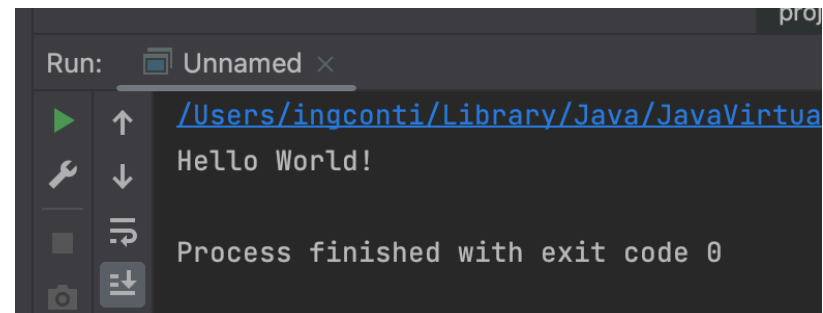
IntelliJ: install on Mac



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A couple of ENTER will fix!

RUN AGAIN..



GOOD!

Usually it works installing JVM from usual *apt install*..

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

Or similar.

For IntelliJ:

<https://www.jetbrains.com/help/idea/installation-guide.html>

Basically follow there guide.

And remember to read about javafx at:

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CLI && Swing

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CLI && JAVAFX


2 ways:

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