

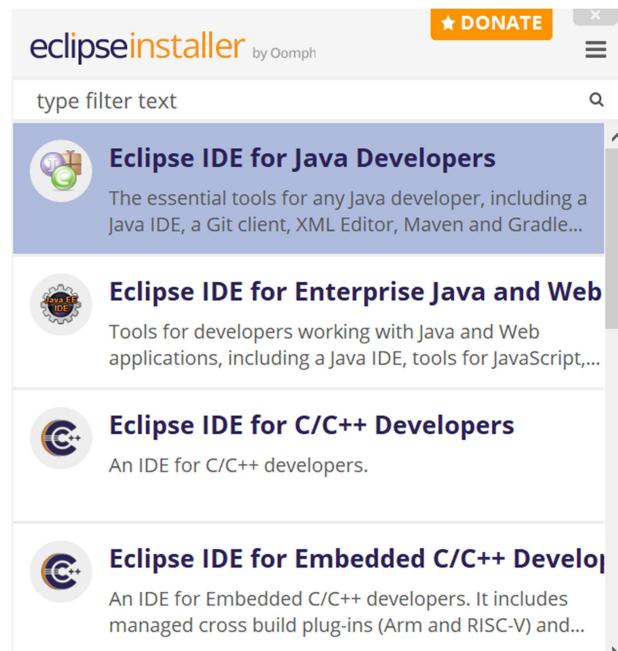


Lab 1: Setting Development Environment

CLO: 1, 2

Follow the below mentioned steps to set up development environment.

- 1) Download the recommended IDE: Eclipse IDE for Java Developers
 - a) Download Link: (<https://www.eclipse.org/downloads/>)
- 2) Run the eclipse installer and select the highlighted option



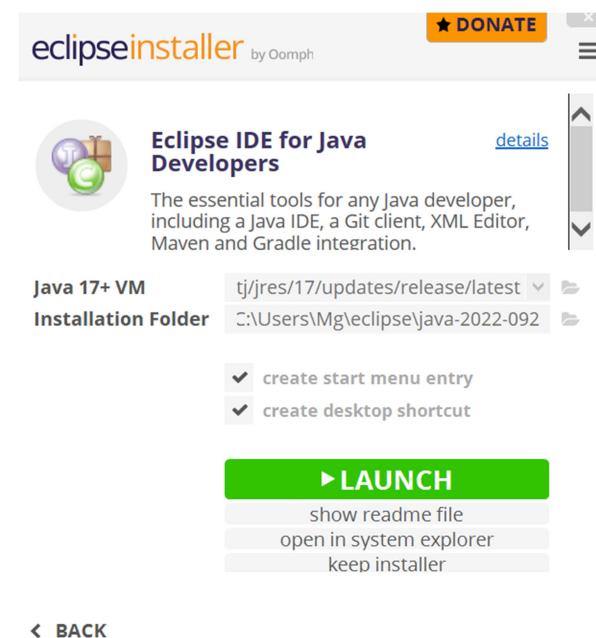
- 3) Select installation folder and install the package



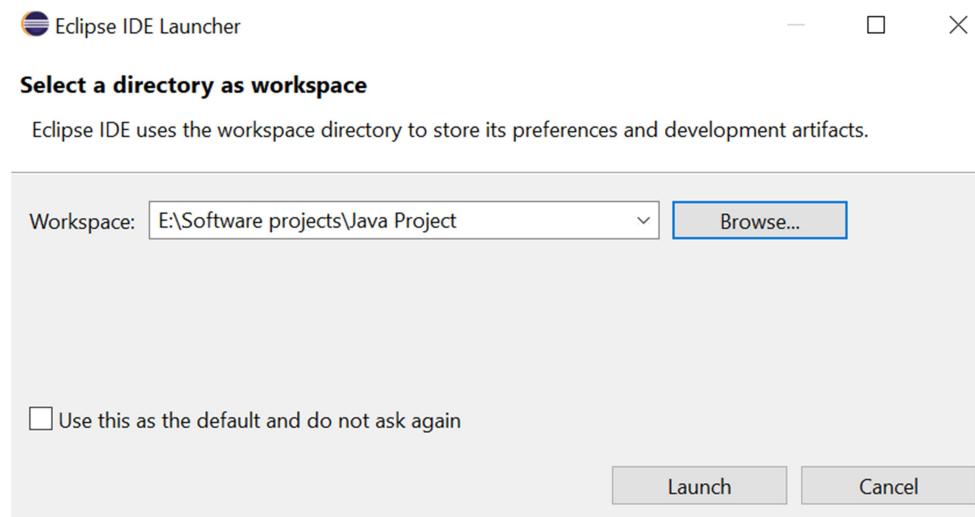


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4) Launch



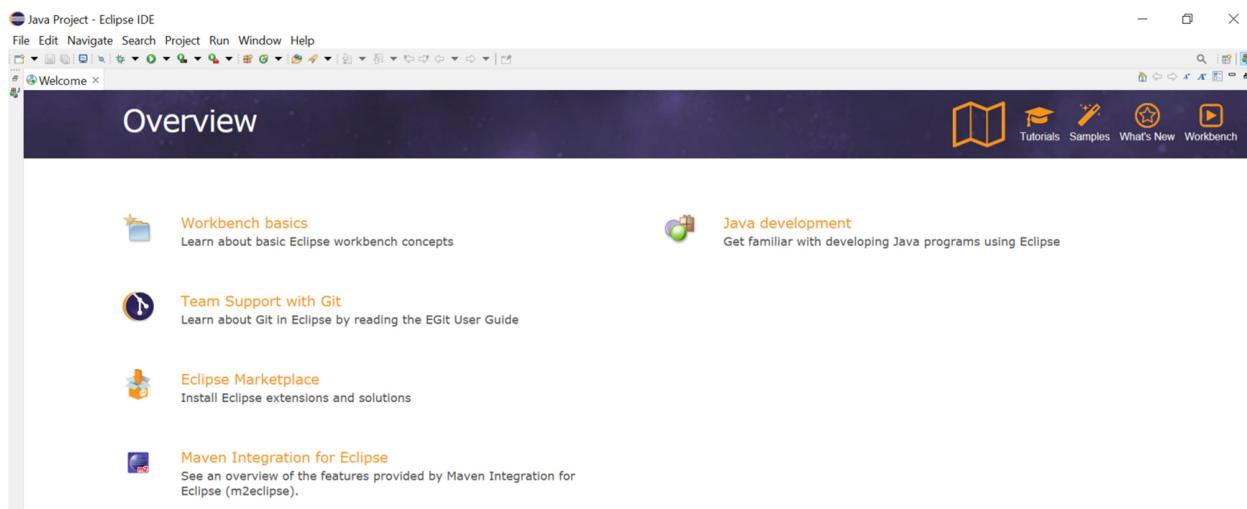
5) Select directory as a workspace and launch the workspace



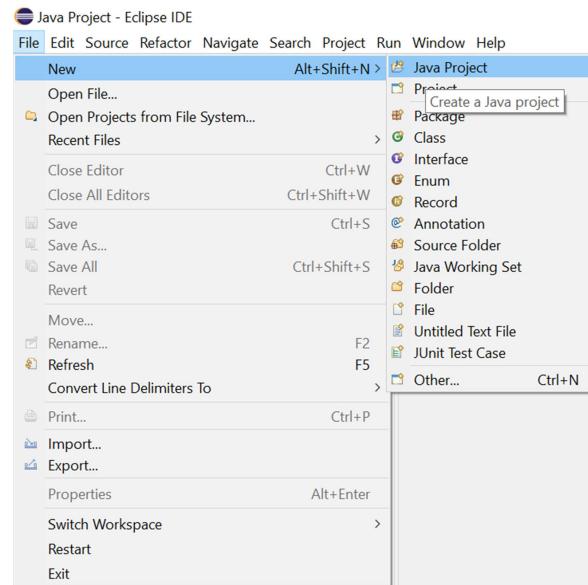
6) This is the welcome window, you can explore different options.



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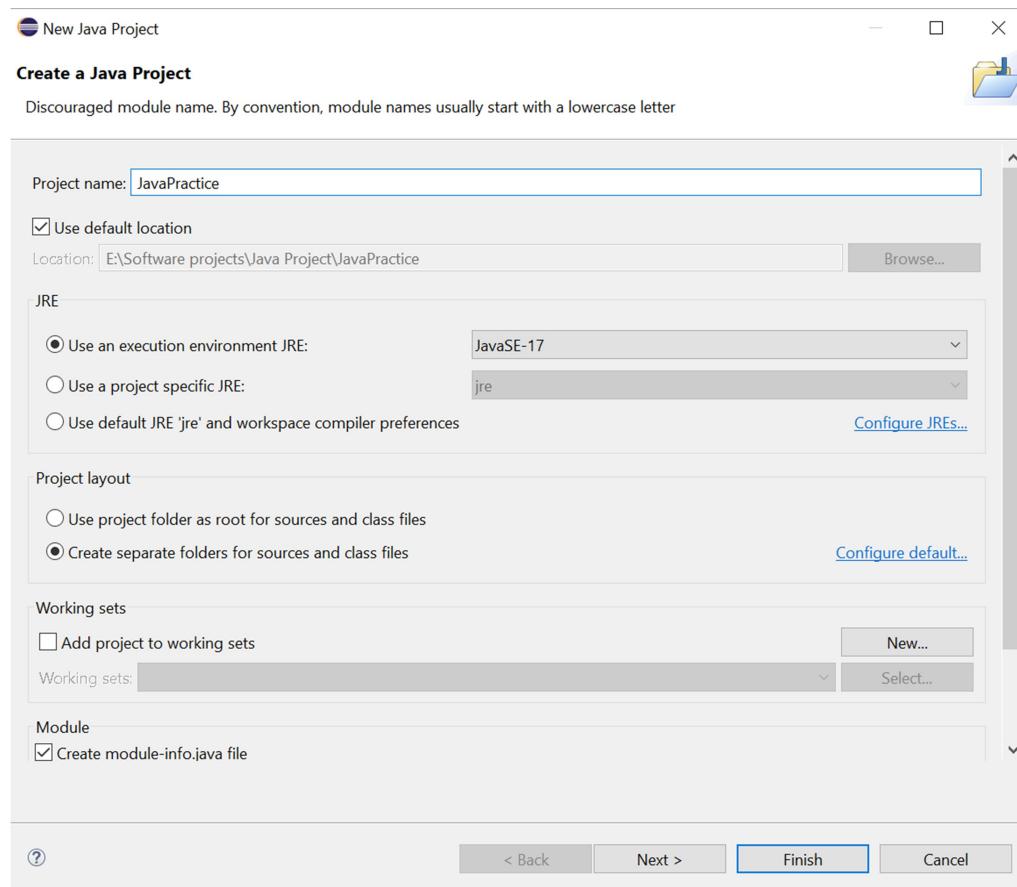
7) Navigate to File -> New -> Java Project



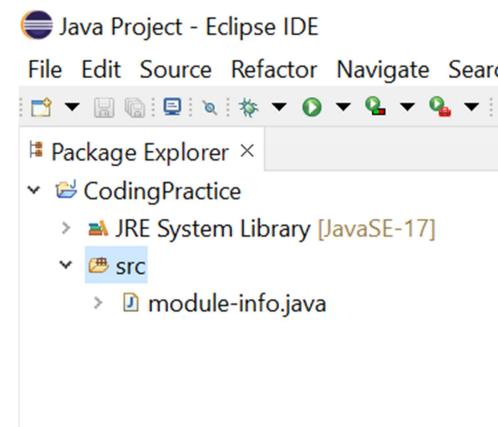
8) Name the project and keep other options selected by default. Select Next button in case you want to change some settings or Finish Button to create the project.



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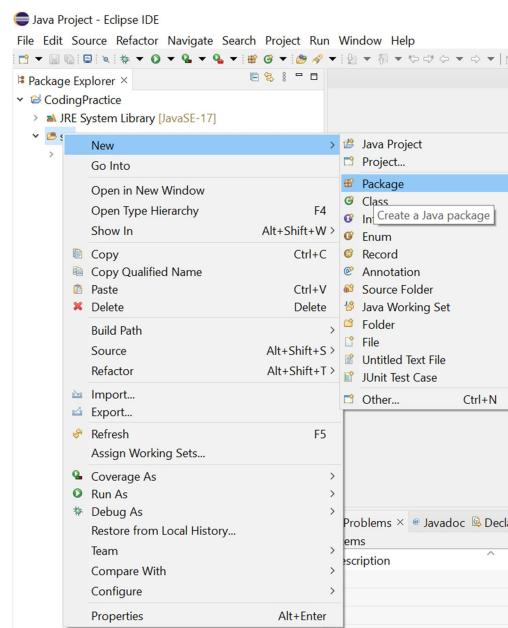
9) On the left hand side, there is Package Explorer Window.



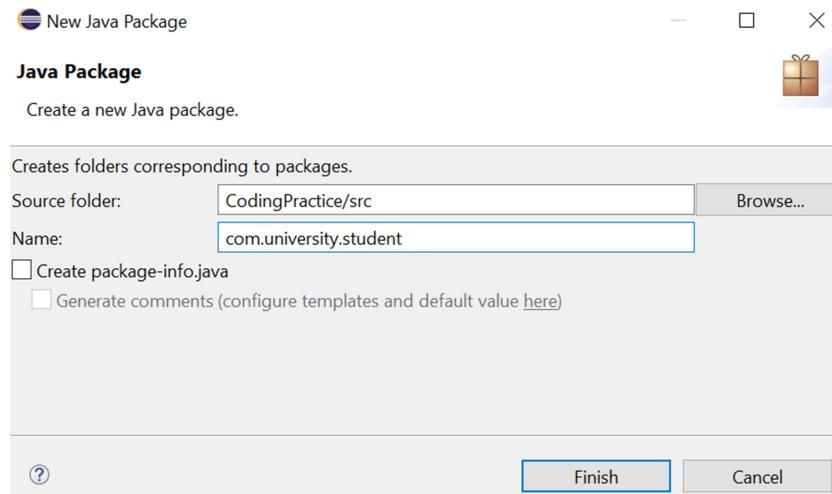
10) Create new package as pictured. Creating packages is a standard development practice. A package in Java is used to group related classes. We use packages to avoid name conflicts, and to write a better maintainable code. It is helpful in implementing data encapsulation. There are two types of packages “Built-in” and “user-defined” packages.



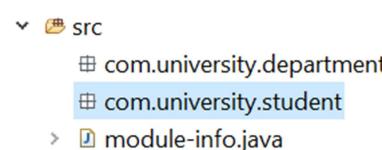
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11) Name the package



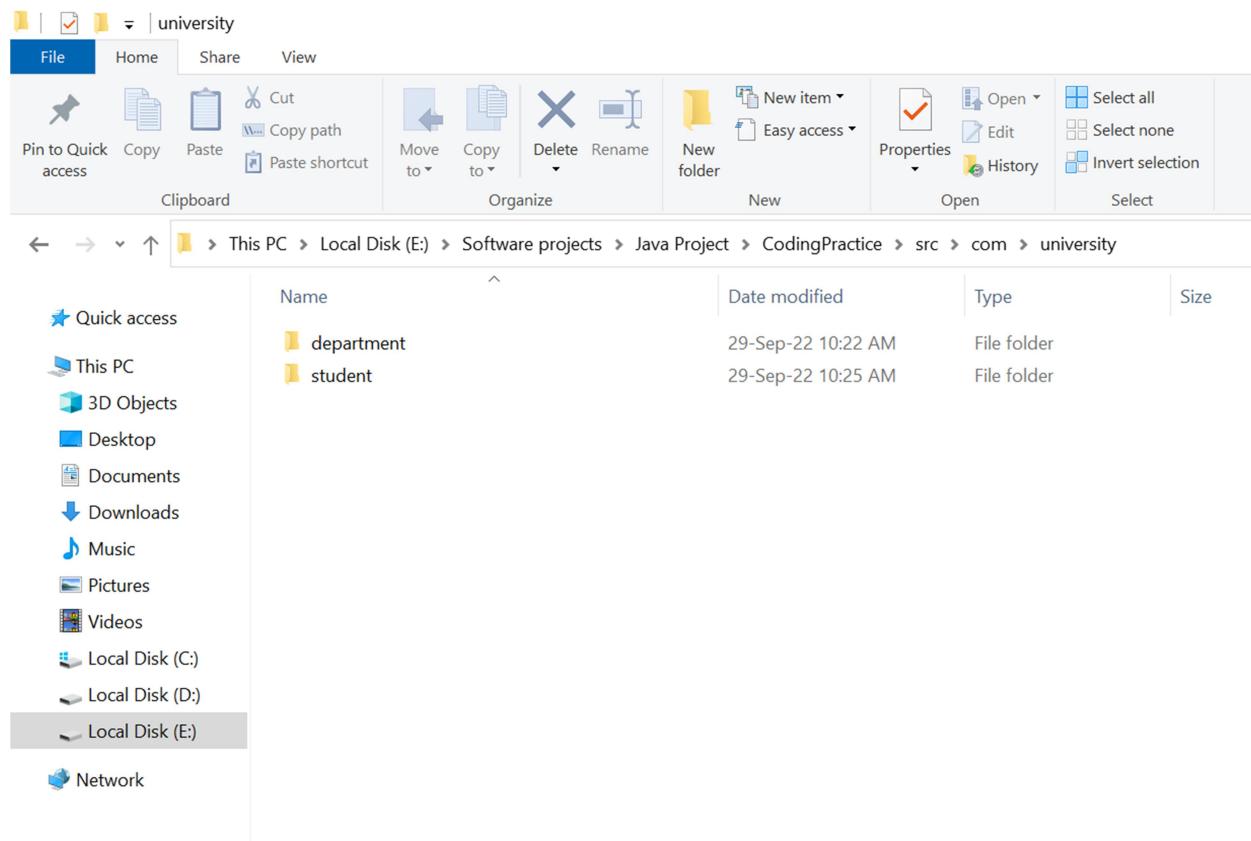
12) Have a look at the package explorer window



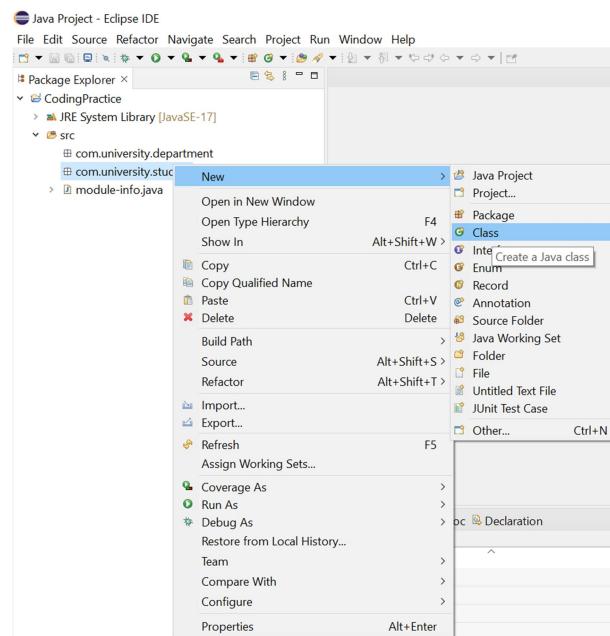


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13) Navigate the project location. You will see the packages defined as a directory created for saving the similar code.



14) Now, create a class to start practice.





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15) Carefully select the options according to coding requirement. The below sample serves as an example for beginners.

New Java Class

Java Class

Create a new Java class.

Source folder: CodingPractice/src

Package: com.university.student

Enclosing type:

Name: Student

Modifiers:

public package private protected
 abstract final static
 none sealed non-sealed final

Superclass: java.lang.Object

Interfaces:

Which method stubs would you like to create?

public static void main(String[] args)
 Constructors from superclass
 Inherited abstract methods

Do you want to add comments? (Configure templates and default value [here](#))

Generate comments



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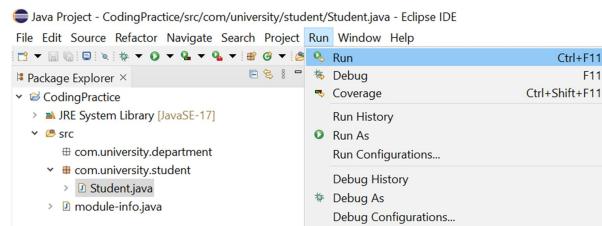
16) Here is the generated class.

```
1  /**
2  *
3  */
4 package com.university.student;
5
6 /**
7 * @author Alina Munir
8 *
9 */
10 public class Student {
11
12 /**
13 * @param args
14 */
15 public static void main(String[] args) {
16     // TODO Auto-generated method stub
17
18 }
19
20 }
21
```

17) Let's output a statement

```
public static void main(String[] args) {
    // TODO Auto-generated method stub
    System.out.println("Let's Code");
}
```

18) Run the Code



19) The output is in Console window.



The screenshot shows the Eclipse IDE interface with the following details:
- Title bar: Problems, Javadoc, Declaration, Console (Console is selected).
- Left sidebar: Let's Code.
- Central area: <terminated> Student [Java Application] C:\Users\Mg\p2\pool\plugins\org.eclipse.jdt.core\hotspot\jre\full\win32\x86_64_17.0.4.v20220903-1038\jre\bin\javaw.exe (Sep 29, 2022)
The central workspace is empty, indicating no code has been written yet.

You are ready to practice programming fundamentals and OOP concepts using JAVA programming language.

Task

1. Practice creating multiple projects, classes to get hands on. Explore multiple options as well.
2. Submit Semester Project Description. See the sample description

At the beginning of each term, students may request a course catalogue containing a list of course offerings needed for the term. Information about each course, such as instructor, department, and prerequisites are included to help students make informed decisions.

The new system will allow students to select four course offerings for the coming term. In addition, each student will indicate two alternative choices in case a course offering becomes filled or is canceled. No course offering will have more than forty students or fewer than ten students. A course offering with fewer than ten students will be canceled. Once the registration process is completed for a student, the registration system sends information to the billing system so the student can be billed for the term.

Instructors must be able to access the online system to indicate which courses they will be teaching, and to see which students signed up for their course offerings.

For each term, there is a period of time that students can change their schedule. Students must be able to access the system during this time to add or drop courses.