Lab 6: Classes and Objects

Setup :

1. Clone your repository
2. Create a source folder named “lab6” in the lab folder
3. Open IntelliJ Project as described in previous exercises
4. Create your classes in this folder

Exercise 1 : Create a Point Class

1. Create a class named Point
2. Declare two integer typed instance vairables named “xCoord” and “yCoord”
3. Implement a Constructor which also initializes the instance variables

Exercise 2 : Create a Rectangle Class

1. Create a class named Rectangle
2. Declare two integer typed instance vairables named “sideA” and “sideB”
3. Declare a Point typed instance variable named “topLeft”
4. Implement a Constructor which also initializes the instance variables
5. Implement a method named “area()” which returns the area of the rectangle
6. Implement a method named “perimeter()” which returns the perimeter of the rectangle
7. Implement a method named “corners()” which returns the four corners of the rectangle.

Exercise 3 : Create a Main Class and Test Rectangle class

1. Create a Main class which has a main method
2. Inside the main method declare a local variable having type Rectangle
3. Create an instance of Rectangle and assign it to the variable.
4. Print the area and perimeter of the instance
5. Print the corners of the rectangle

Exercise 4 : Create a Circle class

1. Create a class named Circle
2. Declare an integer typed instance vairable named “radius”
3. Declare a Point typed instance variable named “center”
4. Implement a method named “area()” which returns the area of the circle
5. Implement a method named “perimeter()” which returns the perimeter of the circle
6. Implement a method named “intersect” which accepts a parameter Circle and returns true if this circle intersects with the given circle

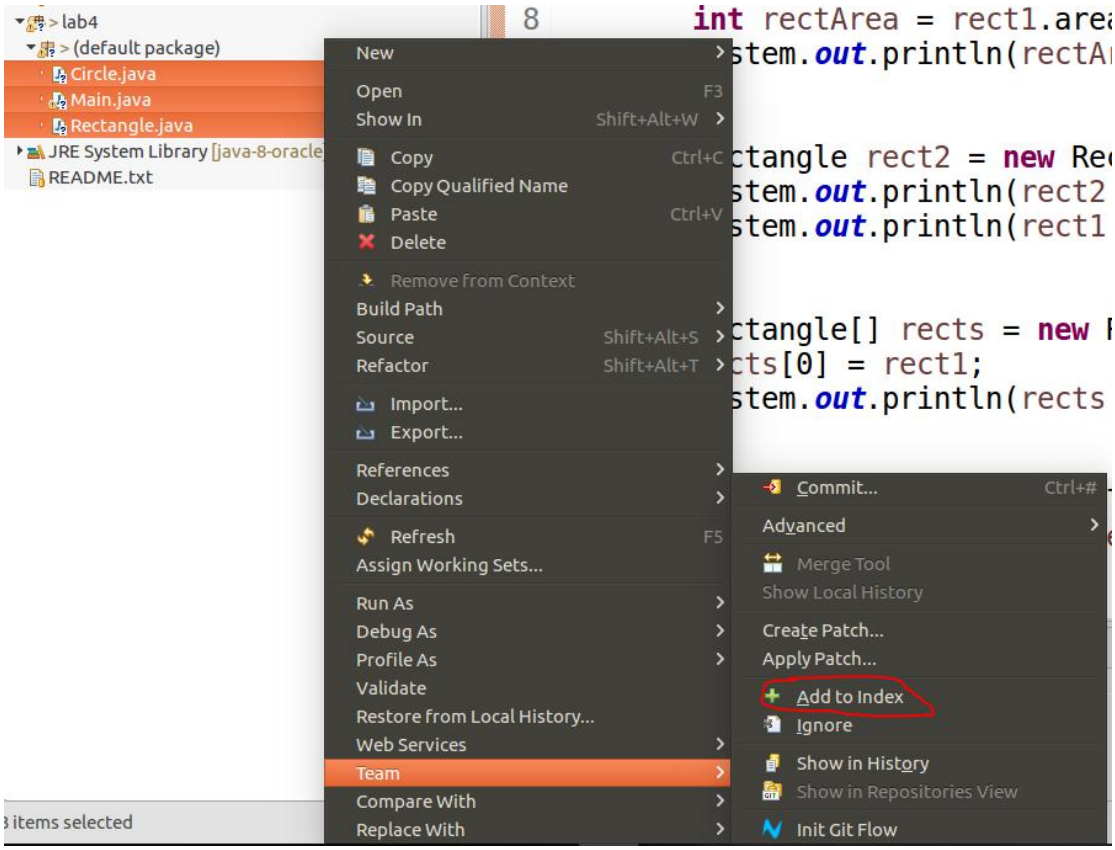
Exercise 5 : Test Circle class in the Main class

1. Inside the main method declare a local variable having type Circle
2. Create an instance of Circle and assign it to the variable.
3. Assign 10 to radius property of the instance.
4. Print the area and perimeter of the instance.
5. Create another circle and check whether these two circles intersect or not

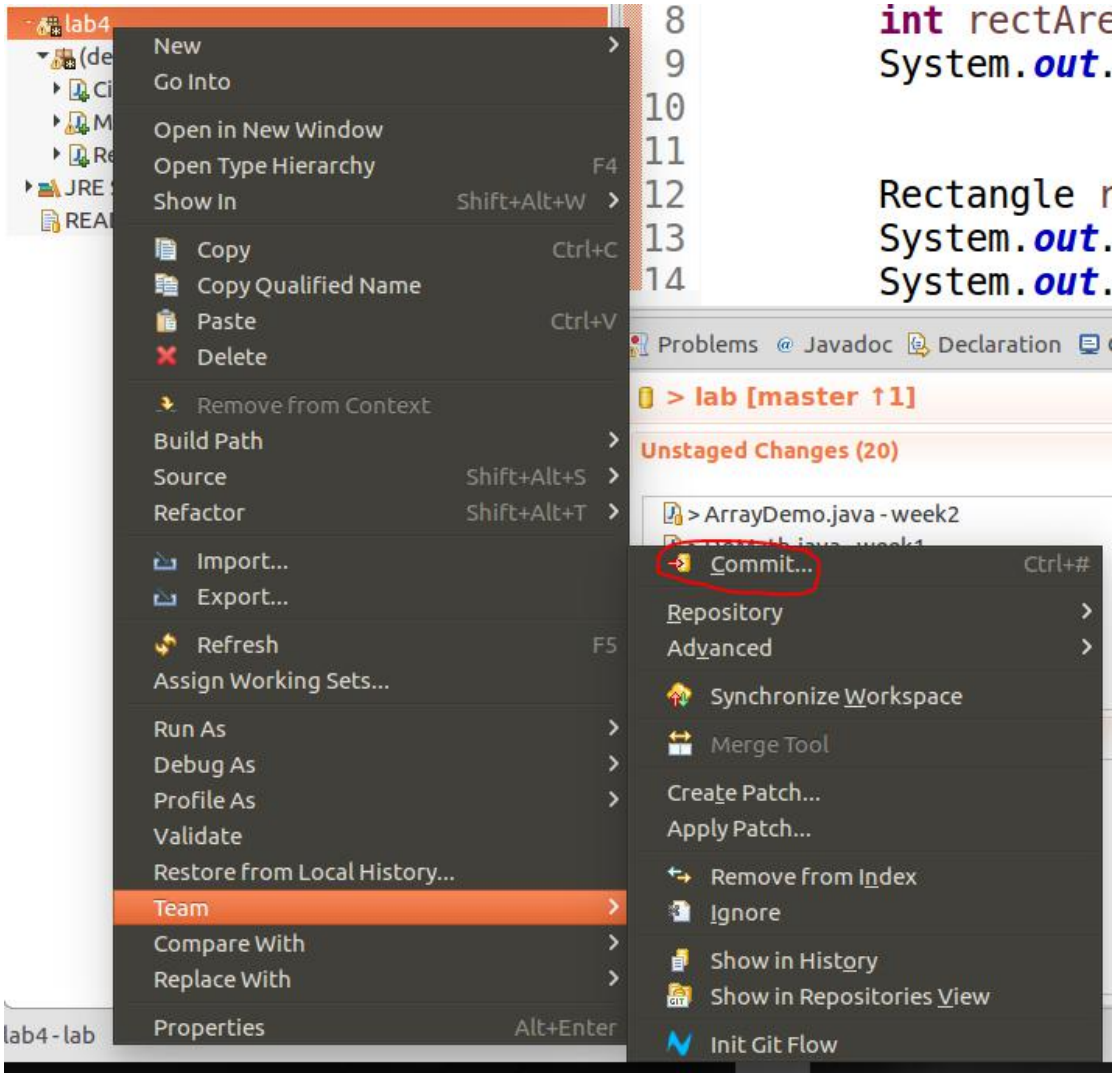
Submit :

Once create a git project in Eclipse you can submit your files to git server using Eclipse user interface.

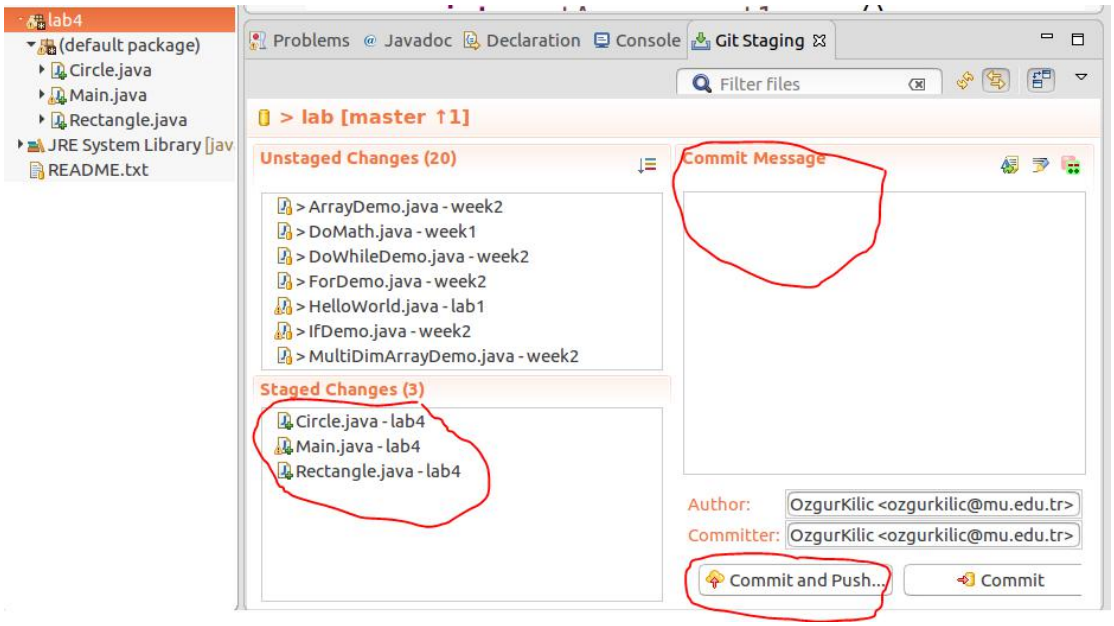
1. **Adding files:** Right click the files to be added, expand the “Team” menu and click the “Add to Index” menu item as shown below.



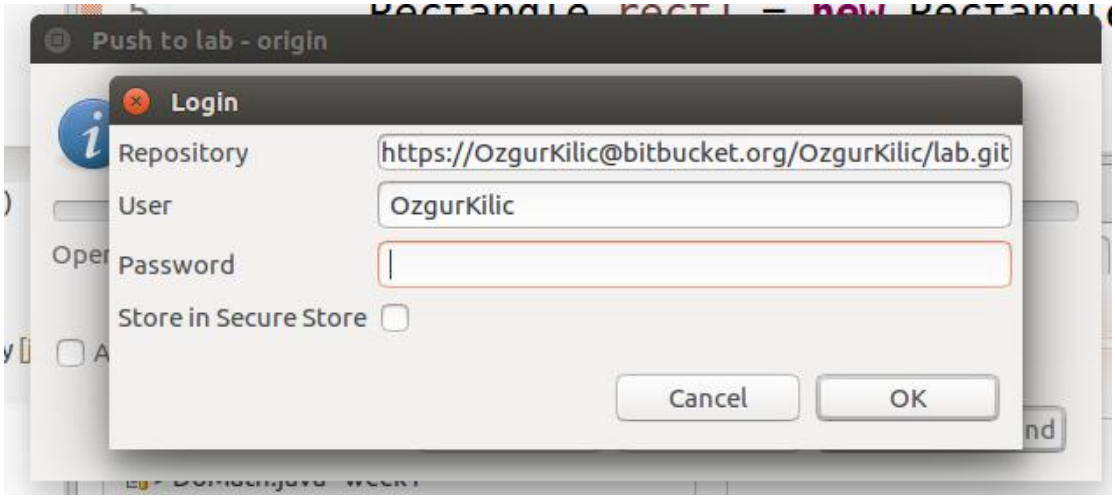
2. **Open Commit Page:** Right click the folder to be comitted, expand the “Team” menu and click the “Commit” menu item as shown below.



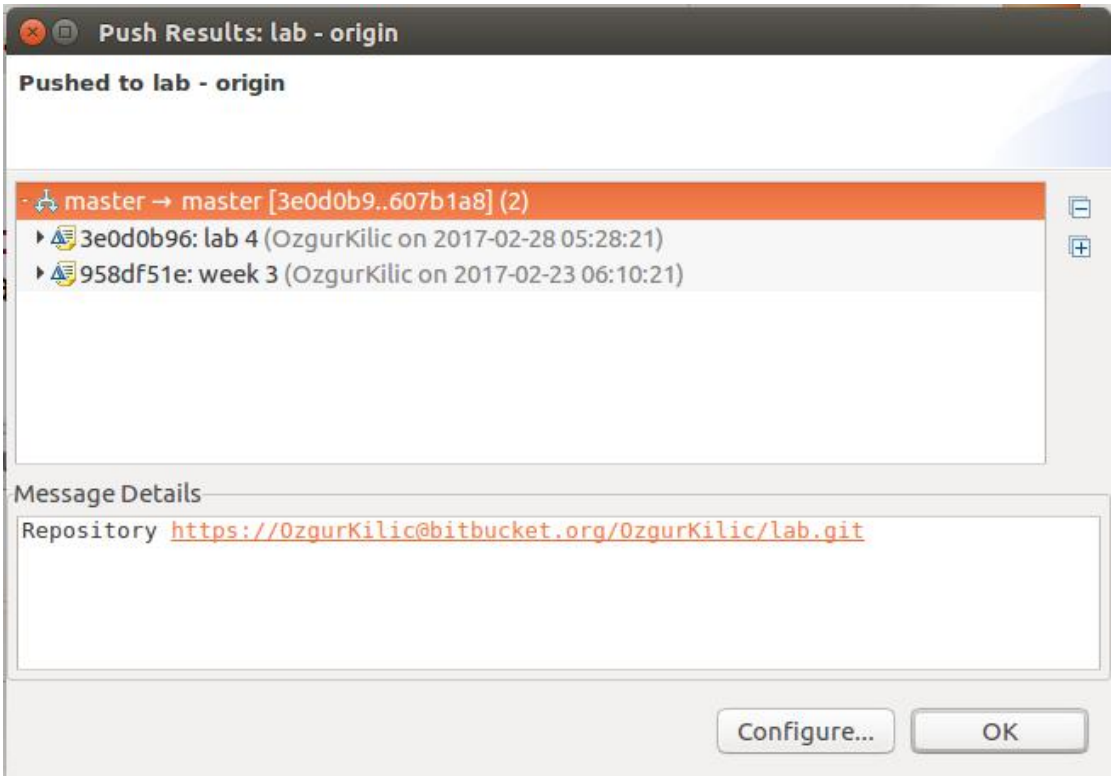
3. **Commit and Push:** Git Staging page appears on the screen. “Staged Changes” section containd the files that will be committed. Check whether intended files are listed.Next you should type some text to “Commit Message” section. Finally, you should click the “Commit and Push” button.



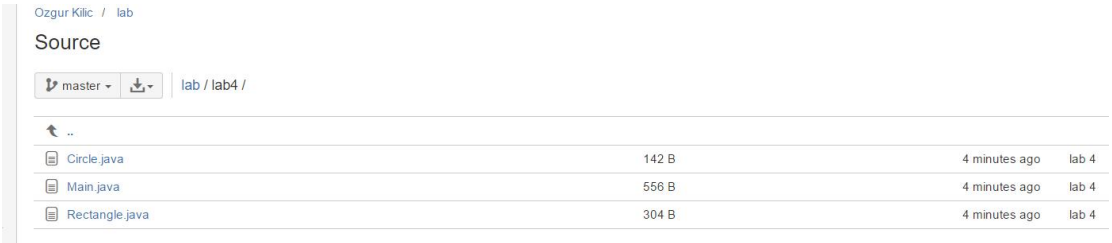
4. **Git password:** A dialog requests your password. Enter your password and click OK.



5. **Push Results:** Click Ok.



6. **Bitbucket:** Open browser and check whether you code is successfully submitted to the destination repository.



NOTE: Your lab will **not be graded** if

- Your account name does not have the format described in lab1.pdf
- Your repository name is not lab
- Your files have compilation errors
- You haven't complete the steps described in exercises
- Your added/modified files are not submitted to Bitbucket.
  - You have to add commit and push files as described in lab1.pdf