ECLIPSE IDE TUTORIAL

CENG211 Programming Fundamentals

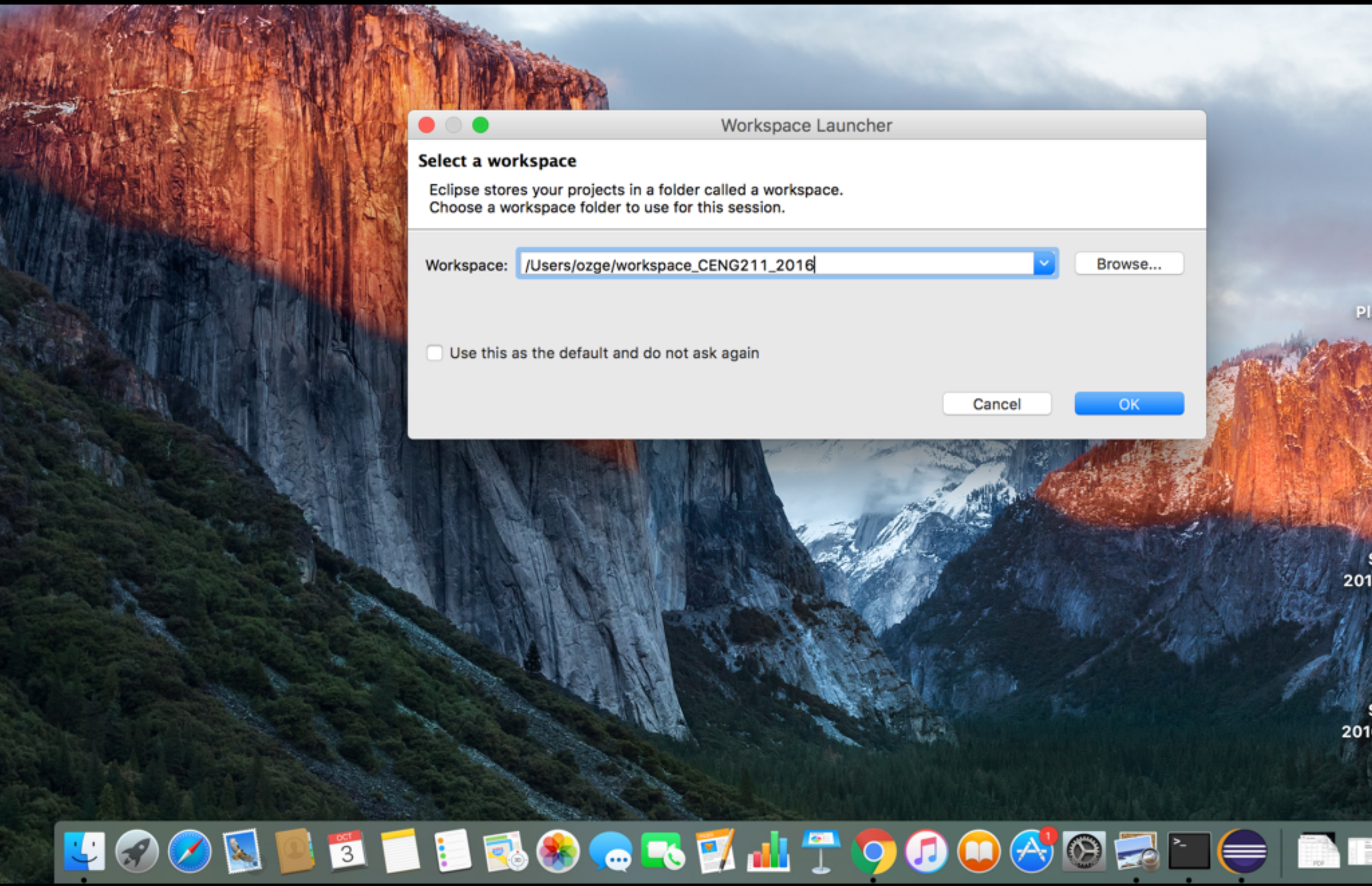
FALL, 2017

What is IDE?

- IDE stands for Integrated Development Environment.
- It is simply a program to write programs in any language.
- It provides tools for running and debugging applications, managing projects.

Installation

- Eclipse IDE download link:
- https://www.eclipse.org/downloads/packages/eclipse-ide-java-ee-developers/oxygen1


Workspace Launcher
Select a workspace
Eclipse stores your projects in a folder called a workspace.
Choose a workspace folder to use for this session.
Workspace:
/Users/ozge/workspace_CENG211_2016
Browse...
Use this as the default and do not ask again
Cancel
OK

Welcome

Eclipse Java EE IDE for Web Developers

Workbench

Review IDE configuration settings
Review the IDE's most fiercely contested preferences

Overview
Get an overview of the features

Create a new Java EE Web Project
Create a new Eclipse project for Java EE Web development

Tutorials
Go through tutorials

Create a new Javascript project
Create a new Eclipse project for Javascript development

Samples
Try out the samples

Checkout projects from Git
Checkout Eclipse projects hosted in a Git repository

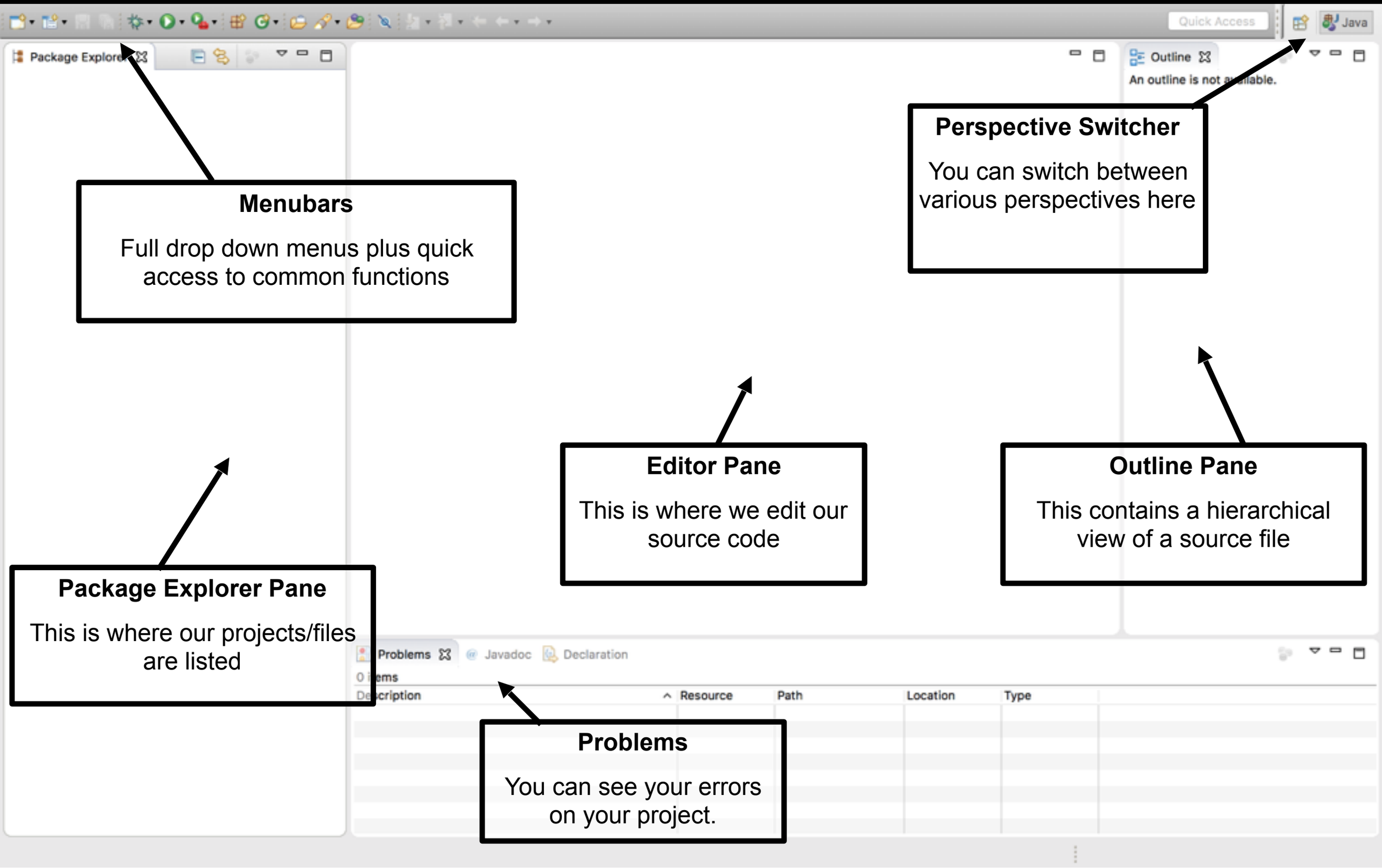
What's New
Find out what is new

Import existing projects
Import existing Eclipse projects from the filesystem or archive

Launch the Eclipse Marketplace
Enhance your IDE with additional plugins and install your Marketplace favorites

Open an existing file
Open a file from the filesystem

Always show Welcome at start up


Quick Access
Java
Package Explorer
Outline
An outline is not available.
Problems
Javadoc
Declaration
0 items
Description
Resource
Path
Location
Type
Menubars
Full drop down menus plus quick access to common functions
Perspective Switcher
You can switch between various perspectives here
Editor Pane
This is where we edit our source code
Outline Pane
This contains a hierarchical view of a source file
Package Explorer Pane
This is where our projects/files are listed
Problems
You can see your errors on your project.

Quick Access | Java

Package Explorer

- New ▶
- Show In ⌥⌘W ▶
- Copy ⌘C
- Copy Qualified Name
- Paste ⌘V
- Delete
- Import...
- Export...
- Refresh F5
- Team ▶

- Java Project
- Project...
- Package
- Class
- Interface
- Enum
- Annotation
- Source Folder
- Java Working Set
- Folder
- File
- Untitled Text File
- JUnit Test Case
- Task
- Example...
- Other... ⌘N

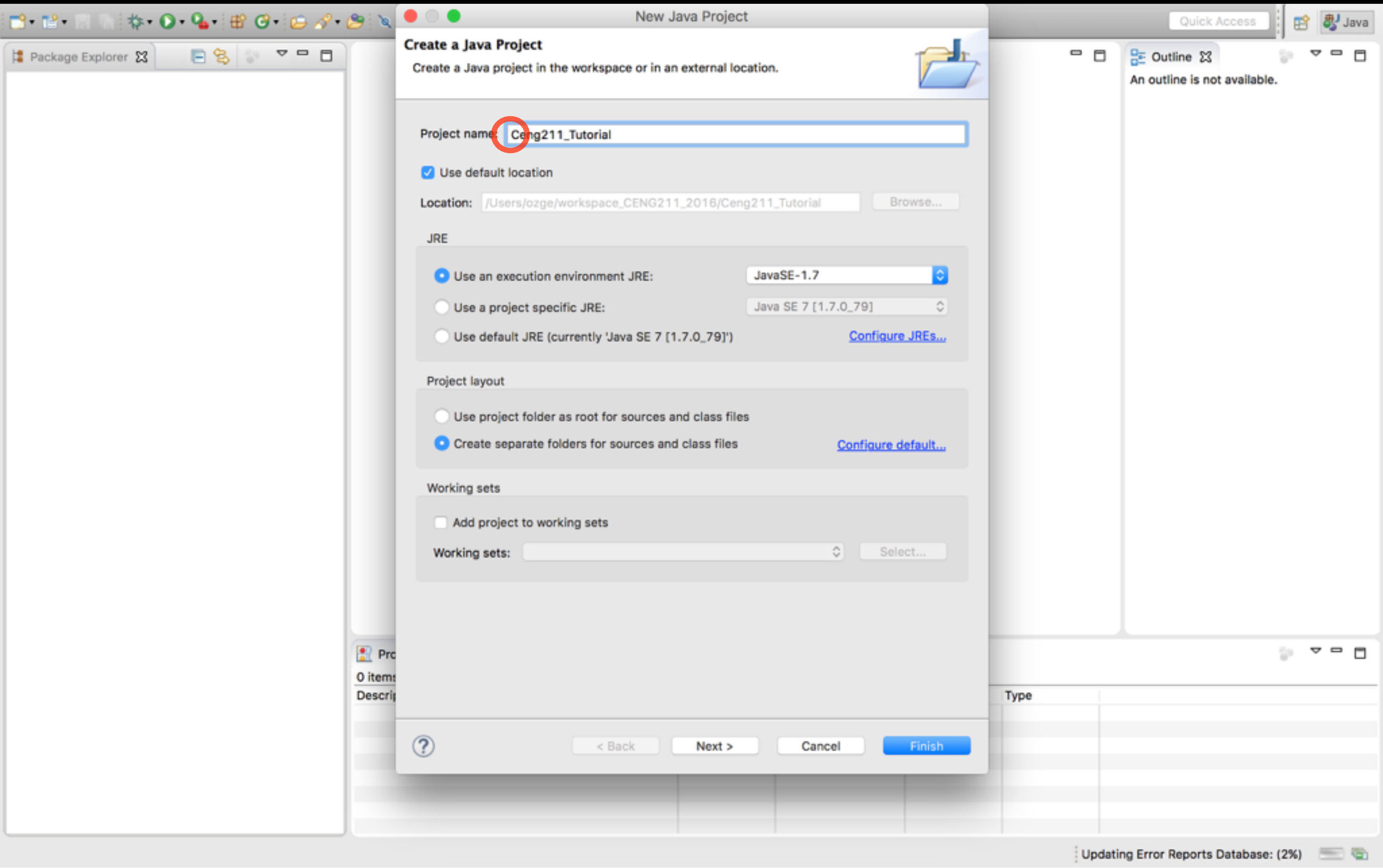
Outline

An outline is not available.

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type


New Java Project
Create a Java Project
Create a Java project in the workspace or in an external location.
Project name: Ceng211_Tutorial
Use default location
Location: /Users/ozge/workspace_CENG211_2016/Ceng211_Tutorial
Browse...
JRE
Use an execution environment JRE: JavaSE-1.7
Use a project specific JRE: Java SE 7 [1.7.0_79]
Use default JRE (currently 'Java SE 7 [1.7.0_79]')
Configure JREs...
Project layout
Use project folder as root for sources and class files
Create separate folders for sources and class files
Configure default...
Working sets
Add project to working sets
Working sets:
Select...
< Back
Next >
Cancel
Finish
Package Explorer
Outline
An outline is not available.
Quick Access
Java
0 items
Type
Updating Error Reports Database: (2%)

Quick Access | Java

Package Explorer

Ceng211_Tutorial

- New ▶
  - Java Project
  - Project...
  - Package
  - Class
  - Interface
  - Enum
  - Annotation
  - Source Folder
  - Java Working Set
  - Folder
  - File
  - Untitled Text File
  - JUnit Test Case
  - Task
  - Example...
  - Other... ⌘N
- Open in New Window
- Open Type Hierarchy F4
- Show In ⌥⌘W ▶
- Copy ⌘C
- Copy Qualified Name
- Paste ⌘V
- Delete
- Remove from Context ⌥⇧⌘↓
- Build Path ▶
- Source ⌥⌘S ▶
- Refactor ⌥⌘T ▶
- Import...
- Export...
- Refresh F5
- Assign Working Sets...
- Run As ▶
- Debug As ▶
- Validate
- Team ▶
- Compare With ▶
- Restore from Local History...
- Maven ▶
- Properties ⌘I

Outline

An outline is not available.

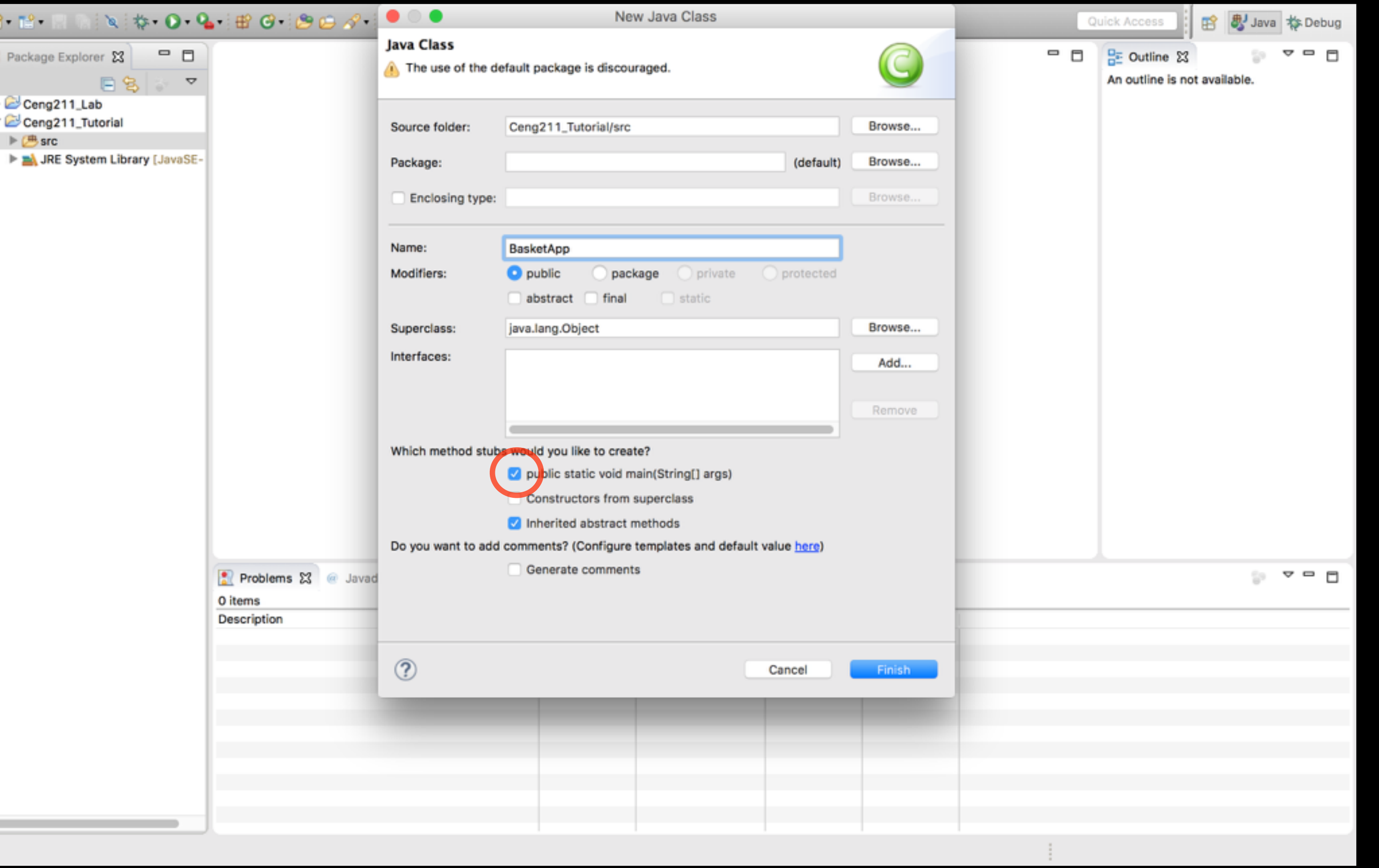
Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

src - Ceng211_Tutorial

Updating Error Reports...tabase: (22%)


New Java Class
Java Class
The use of the default package is discouraged.
Source folder:
Ceng211_Tutorial/src
Browse...
Package:
(default)
Browse...
Enclosing type:
Browse...
Name:
BasketApp
Modifiers:
public
package
private
protected
abstract
final
static
Superclass:
java.lang.Object
Browse...
Interfaces:
Add...
Remove
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
Cancel
Finish
Package Explorer
Ceng211_Lab
Ceng211_Tutorial
src
JRE System Library [JavaSE-
Outline
An outline is not available.
Problems
0 items
Description
Quick Access
Java
Debug

Package Explorer

Ceng211_Lab
Ceng211_Tutorial
src
JRE System Library [JavaSE-

*BasketApp.java

```
1
2  public class BasketApp {
3
4      public static void main(String[] args) {
5          // TODO Auto-generated method stub
6          syso
7      }
8
9  }
10
```

sysout - print to standard out
SyncScopeHelper - org.omg.Messaging
SynthScrollBarUI - javax.swing.plaf.synth
SynthScrollPaneUI - javax.swing.plaf.synth
SynthSeparatorUI - javax.swing.plaf.synth
Not what you're looking for? Discover new exter

```
System.out.println();
```

Press '^Space' to show Template Proposals
Press 'Tab' from proposal table or click for focus

ctrl + space

Outline
BasketApp
main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

Writable | Smart Insert | 6 : 13

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
  - JRE System Library [JavaSE-

*BasketApp.java

```
1  /**
2   *
3   * @author name1 - name2, ID1 - ID2
4   *
5   */
6
7  public class BasketApp {
8
9      public static void main(String[] args) {
10         // TODO Auto-generated method stub
11         System.out.println("Hello World");
12     }
13
14 }
15
```

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

Writable | Smart Insert | 3 : 36

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

Basket.java

```
/**
 *
 * @author name1 - name2, ID1 - ID2
 *
 */

public class Basket {

    private int count;

    public Basket() {
        setCount(0);
    }

    public void setCount(int count) {
        if (count >= 0) {
            this.count = count;
        }
    }

    public int getCount() {
        return count;
    }

    public void addFruit(String fruit) {
        if (fruit != null) {
            count++;
        }
    }
}
```

Outline

- Basket
  - count : int
  - Basket()
  - setCount(int) : void
  - getCount() : int
  - addFruit(String) : void

Problems Javadoc Declaration Console

<terminated> BasketApp [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_79.jdk/Contents/Home/bin/java (Oct 11, 2016, 9:03:59 PM)

```
How many summer fruits in the basket? 3
How many winter fruits in the basket? 2
```

Writable | Smart Insert | 30 : 2

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
- src
  - (default package)
    - Basket.java
    - BasketApp.java
- JRE System Library [JavaSE-

BasketApp.java | Basket.java

```
1  /**
2   *
3   * @author name1 - name2, ID1 - ID2
4   *
5   */
6
7  public class BasketApp {
8
9      public static void main(String[] args) {
10         // TODO Auto-generated method stub
11         Basket summerFruitsBasket = new Basket();
12         Basket winterFruitsBasket = new Basket();
13
14         summerFruitsBasket.addFruit("strawberry");
15         summerFruitsBasket.addFruit("watermelon");
16         summerFruitsBasket.addFruit("grape");
17
18         winterFruitsBasket.addFruit("orange");
19         winterFruitsBasket.addFruit("apple");
20
21         System.out.println("How many summer fruits in the basket? " + summerFruitsBasket.getCount());
22         System.out.println("How many winter fruits in the basket? " + winterFruitsBasket.getCount());
23     }
24
25 }
26
```

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

Writable | Smart Insert | 23 : 6

Package Explorer

Ceng211_Lab
Ceng211_Tutorial

BasketApp.java | Basket.java

```
1 /**
2  *
3  * @author name1 - name2, ID1 - ID2
4  *
```

```
rgs) {
stub
w Basket();
w Basket();

trawberry");
atermelon");
rape");

range");
pple");

ummer fruits in the basket? " + summerFruitsBasket.getCount());
inter fruits in the basket? " + winterFruitsBasket.getCount());
```

Outline

BasketApp
main(String[]) : void

Quick Access | Java | Debug

New ▶
Go Into

Open in New Window
Open Type Hierarchy F4
Show In ⌥⌘W ▶

Copy ⌘C
Copy Qualified Name
Paste ⌘V
Delete ⌦

Remove from Context ⌥⇧⌘↓
Build Path ▶
Source ⌥⌘S ▶
Refactor ⌥⌘T ▶

Import...
Export...

Refresh F5
Assign Working Sets...

Run As ▶
Debug As ▶
Validate
Team ▶
Compare With ▶
Restore from Local History...
Maven ▶

Properties ⌘I

Java Project
Project...

Package
Class
Interface
Enum
Annotation
Source Folder
Java Working Set
Folder
File
Untitled Text File
JUnit Test Case
Task

Example...

Other... ⌘N

Javadoc | Declaration

Description	Resource	Path	Location	Type

- Ceng211_Tutorial

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

BasketApp.java | Basket.java

```
1  /**
2   *
3   * @author name1 - name2, ID1 - ID2
4   *
5   */
6
7  public class Bask
8
9      public static
10         // TODO A
11         Basket su
12         Basket wi
13
14         summerFru
15         summerFru
16         summerFru
17
18         winterFru
19         winterFru
20
21         System.ou                                    Count());
22         System.ou                                    Count());
23     }
24
25 }
26
```

New Java Package

Java Package

⚠ Discouraged package name. By convention, package names usually start with a lowercase letter

Creates folders corresponding to packages.

Source folder: Ceng211_Tutorial/src Browse...

Name: Test

Create package-info.java

Cancel Finish

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

- Ceng211_Tutorial

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

BasketApp.java | Basket.java

```
1  /**
2   *
3   * @author name1 - name2, ID1 - ID2
4   *
5   */
6
7  public class Bask
8
9      public static
10         // TODO A
11         Basket su
12         Basket wi
13
14         summerFru
15         summerFru
16         summerFru
17
18         winterFru
19         winterFru
20
21         System.ou                                    Count());
22         System.ou                                    Count());
23     }
24
25 }
26
```

New Java Package

Java Package

Create a new Java package.

Creates folders corresponding to packages.

Source folder: Ceng211_Tutorial/src — Browse...

Name: test

Create package-info.java

Cancel | Finish

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

- Ceng211_Tutorial

Quick Access | Java | Debug

Package Explorer

Ceng211_Lab

Ceng21

src

JRE

BasketApp.java | Basket.java

```
1 /**
2  *
3  * @author name1 - name2, ID1 - ID2
```

```
BasketApp {

atic void main(String[] args) {
O Auto-generated method stub
t summerFruitsBasket = new Basket();
t winterFruitsBasket = new Basket();

rFruitsBasket.addFruit("strawberry");
rFruitsBasket.addFruit("watermelon");
rFruitsBasket.addFruit("grape");

rFruitsBasket.addFruit("orange");
rFruitsBasket.addFruit("apple");

m.out.println("How many summer fruits in the basket? " + summerFruitsBasket.getCount());
m.out.println("How many winter fruits in the basket? " + winterFruitsBasket.getCount());
```

Outline

BasketApp

main(String[]) : void

New ▶
Go Into

Open in New Window
Open Type Hierarchy F4
Show In ⌥⌘W ▶

Copy ⌘C
Copy Qualified Name
Paste ⌘V
Delete ⌦

Remove from Context ⌥⇧⌘↓
Build Path ▶
Source ⌥⌘S ▶
Refactor ⌥⌘T ▶

Import...
Export...

Refresh F5
Close Project
Close Unrelated Projects
Assign Working Sets...

Run As ▶
Debug As ▶
Validate
Team ▶
Compare With ▶
Restore from Local History...
Configure ▶

Properties ⌘I

avadoc | Declaration

Resource	Path	Location	Type

g211_Tutorial

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

BasketApp.java | Basket.java

```
1  /**
2   *
3   * @author name1
4   *
5   */
6
7  public class Bask
8
9      public static
10         // TODO A
11         Basket su
12         Basket wi
13
14         summerFru
15         summerFru
16         summerFru
17
18         winterFru
19         winterFru
20
21         System.ou                                    Count());
22         System.ou                                    Count());
23     }
24
25 }
26
```

Export

Select

Export resources to an archive file on the local file system.

Select an export destination:

type filter text

- General
  - Ant Buildfiles
  - Archive File
  - File System
  - Preferences
- Install
- Java
- Run/Debug
- Tasks
- Team
- XML
- Other

< Back | Next > | Cancel | Finish

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaration

0 items

Description	Resource	Path	Location	Type

g211_Tutorial

Eclipse

Tue 20:53

Java - Ceng211_Tutorial/src/BasketApp.java - Eclipse - /Users/ozge/workspace_CENG211_2016

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

Basket.java | Bask

```
1  /**
2   *
3   * @author name1
4   *
5   */
6
7  public class Bask
8
9      public static
10         // TODO A
11         Basket su
12         Basket wi
13
14         summerFru
15         summerFru
16         summerFru
17
18         winterFru
19         winterFru
20
21         System.ou
22         System.ou
23     }
24
25 }
26
```

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc

0 items

Description | Resource | Path | Location | Type

g211_Tutorial

Export

Archive file

Export resources to an archive file on the local file system.

Save As: ID1_ID2_HW1

Tags:

Where: Desktop

.zip;.tar.gz;*.tar;*.tgz

Cancel | Save

Filter Types... | Select All | Deselect All

To archive file: /Users/ozge/Desktop/ID1_ID2_HW1.zip | Browse...

Options

- Save in zip format
- Save in tar format
- Compress the contents of the file
- Create directory structure for files
- Create only selected directories

< Back | Next > | Cancel | Finish

Eclipse File Edit Source Refactor Navigate Search Project Run Window Help Tue 20:53

Debug - Ceng211_Tutorial/src/BasketApp.java - Eclipse - /Users/ozge/workspace_CENG211_2016

Quick Access | Java | Debug

Debug

- BasketApp [Java Application]
  - BasketApp at localhost:52300
    - Thread [main] (Suspended)
      - BasketApp.main(String[]) line: 18
  - /Library/Java/JavaVirtualMachines/jdk1.7.0_79.jdk/Contents/Home/bin/java (Oct 11, 2016, 8:53:26 PM)

Variables | **Breakpoints**

Name	Value
args	String[0] (id=15)
summerFruitsBasket	Basket (id=16)
count	3
winterFruitsBasket	Basket (id=19)
count	0

Basket.java | BasketApp.java

```
9   public static void main(String[] args) {
10      // TODO Auto-generated method stub
11      Basket summerFruitsBasket = new Basket();
12      Basket winterFruitsBasket = new Basket();
13
14      summerFruitsBasket.addFruit("strawberry");
15      summerFruitsBasket.addFruit("watermelon");
16      summerFruitsBasket.addFruit("grape");
17
18      winterFruitsBasket.addFruit("orange");
19      winterFruitsBasket.addFruit("apple");
20
21      System.out.println("How many summer fruits in the basket? " + summerFruitsBasket.getCount());
22      System.out.println("How many winter fruits in the basket? " + winterFruitsBasket.getCount());
```

Outline

- BasketApp
  - main(String[]) : void

Console | Tasks

BasketApp [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_79.jdk/Contents/Home/bin/java (Oct 11, 2016, 8:53:26 PM)

Eclipse File Edit Source Refactor Navigate Search Project Run Window Help

Tue 20:54

Java - Ceng211_T /ozge/workspace_CENG211_2016

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

Basket.java | BasketApp.java

```
1  /**
2   *
3   * @author name1 - name2, ID1
4   *
5   */
6
7  public class BasketApp {
8
9      public static void main(St
10         // TODO Auto-generated
11         Basket summerFruitsBas
12         Basket winterFruitsBas
13
14         summerFruitsBasket.add
15         summerFruitsBasket.add
16         summerFruitsBasket.add
17
18         winterFruitsBasket.add
19         winterFruitsBasket.add
20
21         System.out.println("Ho
22         System.out.println("Ho
23     }
24
25 }
26
```

Outline

- BasketApp
  - main(String[]) : void

Problems | Javadoc | Declaratic

0 items

Description

Smart Insert 18 : 36

Undo ⌘Z
Revert File
Save ⌘S

Open Declaration F3
Open Type Hierarchy F4
Open Call Hierarchy ^⌥H
Show in Breadcrumb ⌥⌘B
Quick Outline ⌘O
Quick Type Hierarchy ⌘T
Open With ▶
Show In ⌥⌘W ▶

Cut ⌘X
Copy ⌘C
Copy Qualified Name
Paste ⌘V

Quick Fix ⌘1
Source ⌥⌘S ▶
Refactor ⌥⌘T ▶
Surround With ⌥⌘Z ▶
Local History ▶

References ▶
Declarations ▶

Add to Snippets...

Run As ▶
Debug As ▶
Validate
Create Snippet...
Team ▶
Compare With ▶
Replace With ▶

Preferences...

Remove from Context ⌥⇧⌘↓

Rename... ⌥⌘R
Move... ⌥⌘V

Change Method Signature... ⌥⌘C
Inline... ⌥⌘I

Extract Interface...
Extract Superclass...
Use Supertype Where Possible...
Pull Up...
Push Down...

Extract Class...
Introduce Parameter Object...

Introduce Indirection...

Eclipse File Edit Source Refactor Navigate Search Project Run Window Help

Tue 20:54

Java - Ceng21 ers/ozge/workspace_CENG211_2016

Quick Access | Java | Debug

Package Explorer

- Ceng211_Lab
- Ceng211_Tutorial
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
  - JRE System Library [JavaSE-

Basket.java | BasketApp.java

```
1  /**
2   *
3   * @author name1 - name2, 
4   *
5   */
6
7  public class BasketApp {
8
9      public static void mai
10         // TODO Auto-gener
11         Basket summerFruit
12         Basket winterFruit
13
14         summerFruitsBasket
15         summerFruitsBasket
16         summerFruitsBasket
17
18         winterFruitsBasket
19         winterFruitsBasket
20
21         System.out.println(
22         System.out.println(
23     }
24
25 }
26
```

Problems | Javadoc | Decla

0 items

Description

Outline

- BasketApp
  - main(String[]) : void

Undo ⌘Z
Revert File
Save ⌘S

Open Declaration F3
Open Type Hierarchy F4
Open Call Hierarchy ^⌥H
Show in Breadcrumb ⌥⌘B
Quick Outline ⌘O
Quick Type Hierarchy ⌘T
Open With ▶
Show In ⌥⌘W ▶

Cut ⌘X
Copy ⌘C
Copy Qualified Name
Paste ⌘V

Quick Fix ⌘1
Source ⌥⌘S ▶
Refactor ⌥⌘T ▶
Surround With ⌥⌘Z ▶
Local History ▶

References ▶
Declarations ▶

Add to Snippets...

Run As ▶
Debug As ▶
Validate
Create Snippet...
Team ▶
Compare With ▶
Replace With ▶

Preferences...

Remove from Context ⌥⇧⌘↓

Toggle Comment ⌘/
Add Block Comment ^⌘/
Remove Block Comment ^⌘\
Generate Element Comment ⌥⌘J

Correct Indentation ⌘I
Format ⇧⌘F
Format Element

Add Import ⇧⌘M
Organize Imports ⇧⌘O
Sort Members...
Clean Up...

Override/Implement Methods...
Generate Getters and Setters...
Generate Delegate Methods...
Generate hashCode() and equals()...
Generate toString()...
Generate Constructor using Fields...
Generate Constructors from Superclass...

Externalize Strings...

File Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer

CENG211_Tutorial
JRE System Library [JavaSE-1.8]
src
(default package)
Basket.java
BasketApp.java

New Java Package

Java Package

Create a new Java package.

Creates folders corresponding to packages.

Source folder: CENG211_Tutorial/src Browse...

Name: test

Create package-info.java

Finish Cancel

Task List

Find All Activ...

Connect Mylyn

Connect to your task and ALM

Outline

BasketApp
main(String[]) : voic

<terminated> BasketApp [Java Application] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Oct 2, 2017, 3:02:46 PM)

```
How many summer fruits in the basket? 3
How many winter fruits in the basket? 2
```

src - CENG211_Tutorial

Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer

CENG211_Tutorial

JRE Sy

src

(d

te

BasketApp.java

Basket.java

```
1
2 blic class BasketApp {
```

Task List

Find All Activ...

Connect Mylyn

Connect to your task and ALM

Outline

BasketApp

main(String[]) : voic

```
in the basket? "+ summ
in the basket? "+ wint
```

New

Open in New Window

Open Type Hierarchy F4

Show In Alt+Shift+W

Copy Ctrl+C

Copy Qualified Name

Paste Ctrl+V

Delete Delete

Remove from Context Ctrl+Alt+Shift+Down

Build Path

Source Alt+Shift+S

Refactor Alt+Shift+T

Import...

Export...

Refresh F5

Assign Working Sets...

Coverage As

Run As

Debug As

Validate

Restore from Local History...

Team

Compare With

Properties Alt+Enter

Java Project

Project...

Package

Class

Interface

Enum

Annotation

Source Folder

Java Working Set

Folder

File

Untitled Text File

Task

JUnit Test Case

Example...

Other... Ctrl+N

Declaration Console

plication] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Oct 2, 2017, 3:02:46 PM)

```
the basket? 3
the basket? 2
```

t - CENG211_T

File Edit Source Refactor Navigate S

Package Explorer

- CENG211_Tutorial
  - JRE System Library [JavaSE-1.8]
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
    - test

JUnit Test Case

Select the name of the new JUnit test case. You have the options to specify the class under test and on the next page, to select methods to be tested.

New JUnit 3 test New JUnit 4 test

Source folder: CENG211_Tutorial/src Browse...

Package: test Browse...

Name: TestBasket

Superclass: java.lang.Object Browse...

Which method stubs would you like to create?

- setUpBeforeClass()
- tearDownAfterClass()
- setUp()
- tearDown()
- constructor

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

- Generate comments

Class under test: Browse...

< Back Next > Finish Cancel

Quick Access

Task List

Find All Activ...

Connect Mylyn

Connect to your task and ALM

Outline

BasketApp

main(String[]) : voic

t 2, 2017, 3:02:46 PM)

How many winter fruits in the basket? 2

test - CENG211_Tutorial/src

File Edit Source Refactor Navigate S

Package Explorer

CENG211_Tutorial
JRE System Library [JavaSE-1.8]
src
(default package)
Basket.java
BasketApp.java
test

JUnit Test Case

Select the name of the new JUnit test case. You have the options to specify the class under test and on the next page, to select methods to be tested.

New JUnit Test Case

JUnit 4 is not on the build path. Do you want to add it?

Not now
Open the build path property page
Perform the following action:

Add JUnit 4 library to the build path

OK Cancel

Class under test: Browse...

< Back Next > Finish Cancel

Quick Access

Task List

Find All Activ...

Connect Mylyn

Connect to your task and ALM

Outline

BasketApp
main(String[]) : voic

t 2, 2017, 3:02:46 PM)

How many winter fruits in the basket? 2

test - CENG211_Tutorial/src

File Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer

- CENG211_Tutorial
  - JRE System Library [JavaSE-1.8]
  - src
    - (default package)
      - Basket.java
      - BasketApp.java
    - test
      - TestBasket.java
  - JUnit 4

BasketApp.java | Basket.java | TestBasket.java

```
1  package test;
2
3  import static org.junit.Assert.*;
10
11 public class TestBasket {
12
13     @BeforeClass
14     public static void setUpBeforeClass() throws Exception {
15     }
16
17     @AfterClass
18     public static void tearDownAfterClass() throws Exception {
19     }
20
21     @Before
22     public void setUp() throws Exception {
23     }
24
25     @After
26     public void tearDown() throws Exception {
27     }
28
29     @Test
30     public void test() {
31         fail("Not yet implemented");
32     }
33
34 }
```

Task List

Find | All | Activ...

Connect Mylyn

Connect to your task and ALM

Outline

- test
- TestBasket
  - setUpBeforeClass() :
  - tearDownAfterClass
  - setUp() : void
  - tearDown() : void
  - test() : void

Problems | Javadoc | Declaration | Console

<terminated> BasketApp [Java Application] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Oct 2, 2017, 3:02:46 PM)

```
How many summer fruits in the basket? 3
How many winter fruits in the basket? 2
```

Writable | Smart Insert | 1 : 1

File Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer

CENG211_Tutorial
JRE System Library
src
(default packag
Basket.java
BasketApp.j
ceng211
Basket.java
BasketApp.j
test
TestBasket.j
JUnit 4

```
AfterClass() throws Exception {


Exception {
 = new Basket();
 = new Basket();

.addFruit("Strawberry");
.addFruit("Watermelon");
.addFruit("Grape");

.addFruit("Orange");
.addFruit("Apple");


ws Exception {


mmerFruitsBasket.getCount(), 0);
nterFruitsBasket.getCount(), 0);
```

Task List

Find All Activ...

Connect Mylyn
Connect to your task and ALM

Outline

summerFruitsBa
winterFruitsBask
setUpBeforeClas
tearDownAfterCl
setUp() : void
tearDown() : voic
test() : void

2017, 3:02:46 PM)

? 3
? 2

New
Open F3
Open With
Open Type Hierarchy F4
Show In Alt+Shift+W
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Delete Delete
Remove from Context Ctrl+Alt+Shift+Down
Build Path
Source Alt+Shift+S
Refactor Alt+Shift+T
Import...
Export...
References
Declarations
Refresh F5
Assign Working Sets...
Coverage As
Run As
Debug As
Validate
Restore from Local History...
Team
Compare With
Replace With
Properties Alt+Enter

1 JUnit Test Alt+Shift+X, T
Run Configurations...

est.TestBasket.java - CENG211_

File Edit Source Refactor Navigate Search Project Run Window Help

Quick Access

Package Explorer | JUnit

Finished after 0.015 seconds

Runs: 1/1 Errors: 0 Failures: 0

test.TestBasket [Runner: JUnit 4] (0.000 s)

Failure Trace

BasketApp.java | TestBasket.java

```
22    @AfterClass
23    public static void tearDownAfterClass() throws Exception {
24    }
25
26    @Before
27    public void setUp() throws Exception {
28        this.summerFruitsBasket = new Basket();
29        this.winterFruitsBasket = new Basket();
30
31        this.summerFruitsBasket.addFruit("Strawberry");
32        this.summerFruitsBasket.addFruit("Watermelon");
33        this.summerFruitsBasket.addFruit("Grape");
34
35        this.winterFruitsBasket.addFruit("Orange");
36        this.winterFruitsBasket.addFruit("Apple");
37    }
38
39    @After
40    public void tearDown() throws Exception {
41    }
42
43    @Test
44    public void test() {
45        assertEquals(3, this.summerFruitsBasket.getCount(), 0);
46        assertEquals(2, this.winterFruitsBasket.getCount(), 0);
47
48    }
49
```

Task List

Find All Act...

Connect Mylyn

Connect to your task and A

Outline

summerFruits

winterFruitsBa

setUpBeforeCl

tearDownAfte

setUp() : void

tearDown() : v

test() : void

Problems Javadoc Declaration Console

<terminated> TestBasket [JUnit] C:\Program Files\Java\jre1.8.0_111\bin\javaw.exe (Oct 2, 2017, 3:20:32 PM)