**Java Package**

Package are used in Java, in-order to avoid name conflicts and to control access of class, interface and enumeration etc. A package can be defined as a group of similar types of classes, interface, enumeration and sub-package. Using package it becomes easier to locate the related classes.

**Package are categorized into two forms**

* Built-in Package:-Existing Java package for example java.lang, java.util etc.
* User-defined-package:- Java package created by user to categorized classes and interface

**Creating a package**

Creating a package in java is quite easy. Simply include a package command followed by name of the package as the first statement in java source file.

package mypack;

public class employee

{

...statement;

}

The above statement create a package called **mypack**.

Java uses file system directory to store package. For example the .class for any classes you to define to be part of **mypack** package must be stored in a directory called mypack

**Example of package creation**

package mypack;

class Book

{

String bookname;

String author;

Book(String b, String c)

{

this.bookname = b;

this.author = c;

}

public void show()

{

System.out.println(bookname+" "+ author);

}

}

class test

{

public static void main(String[] args)

{

Book bk = new Book("java","Herbert");

bk.show();

}

}

**To run this program :**

* create a directory under your current working development directory(i.e. JDK directory), name it as **mypack**.
* compile the source file
* Put the class file into the directory you have created.
* Execute the program from development directory.

**NOTE :** Development directory is the directory where your JDK is install.

**Uses of java package**

Package is a way to organize files in java, it is used when a project consists of multiple modules. It also helps resolve naming conflicts. Package's access level also allows you to protect data from being used by the non-authorized classes.

**import keyword**

**import** keyword is used to import built-in and user-defined packages into your java source file. So that your class can refer to a class that is in another package by directly using its name.

There are 3 different ways to refer to class that is present in different package

1. **Using fully qualified name** (But this is not a good practice.)

*Example :*

class MyDate extends java.util.Date

{

//statement;

}

1. **import the only class you want to use.**

*Example :*

import java.util.Date;

class MyDate extends Date

{

//statement.

}

1. **import all the classes from the particular package**

*Example :*

import java.util.\*;

class MyDate extends Date

{

//statement;

}

**import statement is kept after the package statement.**

*Example :*

***package*** mypack;

***import*** java.util.\*;

But if you are not creating any package then **import** statement will be the first statement of your java source file.

**Static import**

*static import* is a feature that expands the capabilities of **import** keyword. It is used to import **static** member of a class. We all know that static member are referred in association with its class name outside the class. Using **static import**, it is possible to refer to the static member directly without its class name. There are two general form of static import statement.

* The first form of **static import** statement, import only a single static member of a class

**Syntax**

**import static *package.class-name.static-member-name;***

**Example**

import static java.lang.Math.sqrt; //importing static method **sqrt** of **Math** class

* The second form of **static import** statement,imports all the static member of a class

**Syntax**

**import static *package.class-type-name.\*;***

**Example**

import static java.lang.Math.\*; //importing all static member of **Math** class

**Example without using static import**

public class Test

{

public static void main(String[] args)

{

System.out.println(**Math.sqrt(144)**);

}

}

**Output :**

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**Example using static import**

**import static java.lang.Math.\*;**

public class Test

{

public static void main(String[] args)

{

System.out.println(**sqrt(144)**);

}

}

**Output :**

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