

Javarevisited

Blog about Java Program Tutorial Example How to, Unix Linux commands, Interview Questions, FIX Protocol, Tibco RV tutorials, Equities trading system, MySQL

Ads by Google

Java Programming

Java

Java Compiler

Java Tutorial

SATURDAY, OCTOBER 2, 2010

What is Abstraction in java - Java abstraction tutorial and example

what is abstraction ?

something which is not concrete , something which is incomplete.

java has concept of [abstract](#) classes , [abstract method](#) but a variable can not be [abstract](#).

an [abstract class](#) is something which is incomplete and you can not create instance of it for using it.if you want to use it you need to make it complete by extending it.

an [abstract method](#) in java doesn't have body , its just a declaration.

so [when do you use abstraction](#) ? (most important in my view)
when I know something needs to be there but I am not sure how exactly it should [look like](#).

e.g. when I am creating a [class](#) called Vehicle, I know there should be methods like start() and Stop() but don't know start and stop mechanism of every vehicle since they could have different start and stop mechanism e..g some can be started by kick or some can be by pressing buttons .

the same concept apply to interface also , which we will discuss in some other post.

so implementation of those start() and stop() methods should be left to there concrete implementation e.g. Scooter , MotorBike , [Car](#) etc.

In [Java Interface](#) is an another way of providing [abstraction](#), Interfaces are by default [abstract](#) and only contains public static final constant or [abstract methods](#). Its very common [interview question](#) is that where should we use [abstract class](#) and where should we use [Java Interfaces](#) in my view this is important to understand to design better [java application](#), you can go for java interface if you only know the name of methods [your class](#) should have e.g. for [Server](#) it should have start() and stop() method but we don't know how exactly these start and stop method will work. if you know some of the behavior while [designing](#) class and that would remain common across all subclasses add that into [abstract class](#).

in Summary

- 1) Use [abstraction](#) if you know something needs to be in class but implementation of that varies.
- 2) In Java you [can not create instance of abstract class](#) , its [compiler](#) error.
- 3) [abstract](#) is a keyword in java.
- 4) a class automatically becomes [abstract class](#) when any of its method [declared](#) as [abstract](#).
- 5) [abstract method](#) doesn't have method body.
- 6) variable can not be made [abstract](#) , its only behavior or methods which would be [abstract](#).

Please tweet or submit to reddit if your like this article

[Design business cards](#)

[Concrete Driveway](#)

[Tutorial](#)

[Web hosting server](#)

You might like:-

- [Java Enum Tutorial: 10 Examples of Enum in Java](#)
- [10 points about Java Heap Space or Java Heap Memory](#)

Recent Posts

[How to create read only List, Map and Set in Java – unmodifiable example](#)

[CountDownLatch Example in Java - Concurrency Tutorial](#)

[CyclicBarrier Example in Java 5 – Concurrency Tutorial](#)

[When a class is loaded and initialized in JVM - Java](#)

[How to read file line by line in Java - BufferedReader Scanner Example Tutorial](#)

[Difference between get and load in Hibernate](#)

[Autoboxing and Unboxing in Java – Example Tutorial and Corner cases](#)

Drop 3 Dress Sizes

Learn The
Shocking
Truth



About
Britain's
Hottest Diet.

Tip

Follow Us

Follow @javinpaul 658 followers

Javarevisited on

Follow



+387

- [How HashMap works in Java](#)
- [10 Example of find command in Unix and Linux](#)

Posted by Javin Paul at 8:29 PM 

+9 Recommend this on Google

Labels: [core java](#)

Tag Cloud

File Sharing Design business cards Server Web Designs
Web hosting server Web Designers Web hosting services

20 comments:

[Noman Sadiq](#) said...

also add about abstract class can be contain concrete method(method with full definition)

[December 1, 2010 10:55 PM](#)

[javarevisited](#) said...

Thanks Noman, yes you are correct abstract class can contain concrete method.

[December 21, 2010 4:39 AM](#)

Anonymous said...

what is difference between Abstraction and encapsulation , are they similar can we have abstraction along side encapsulation ?

[August 4, 2011 11:36 PM](#)

Anonymous said...

what is abstraction in Java, is that same as interface in java, how different abstract class and interface are ?

[August 11, 2011 8:46 PM](#)

casanova said...

abstraction is achieved wid da help f encapsulation,,,abstraction means hiding complexity,nd showing functionality,,whereas encap. means wrapping or binding methods,objects wid classes,,so here da complexity(i.e.objects,methods) r bind 2gthor to hide,,is done wid encapsu. nd showing juss dere functionality 2 da end user iz abstracton,,

[August 29, 2011 8:39 AM](#)

casanova said...

dere iz a lil diffrence btw. interfaces nd abstraction,a devloper shud uze a abstract class wen he wants 2 acheive 1-99%abstarction,,means wen u knw dat da need f user vl not vary in properties in future,,whereas interface is used wen u've to achieve 100% abstraction ,,,

[August 29, 2011 8:47 AM](#)

Anonymous said...

Can u explain abstraction and encapsulation with simple example?

[September 6, 2011 2:52 AM](#)

[Javin @ polymorphism in java](#) said...

definitely Anonymous, I will try to write example of abstraction as well as encapsulation in java soon.

[September 7, 2011 7:06 AM](#)

[siddu](#) said...

i need exact difference between abstract and interface and exact where we use it ?

[October 13, 2011 5:39 AM](#)

Anonymous said...

@siddu, major difference between abstract class and interface in Java is that, Interface is complete abstract while Abstract Class can contain non-abstract method.Also everything in interface by default public.In terms of using, interface is generally used to represent behavior e.g. Serializable, Runnable, Clonnable and in Java one Class can extend only one class but multiple interface so it make sense to use interface for behavior than using abstract class in Java.

[October 17, 2011 12:58 AM](#)

Anonymous said...

Please explain what is abstract data type?

[November 7, 2011 10:32 PM](#)



Javarevisited on Facebook

Like

782 people like Javarevisited.




Facebook social plugin



Subscribe by email:

By Javin Paul

Subscribe To This Blog Free

 Posts 

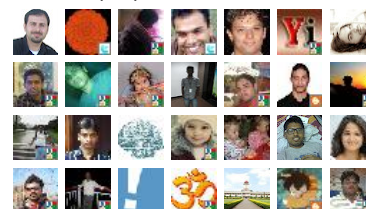
 Comments 

Followers

Join this site

with Google Friend Connect

Members (500) [More »](#)



Already a member? [Sign in](#)

Blog Archive

► 2012 (126)

► 2011 (145)

▼ 2010 (33)

► December (4)

▼ October (29)

List of Tibco RV, EMS Tutorials , Tips from Javare...

Tibco tutorial : Certified Messaging

What are builtin Properties in ANT >> Tutorial Ex...

Top 30 Eclipse Keyboard Shortcuts for Java Program...

How to write build.xml and run build in Apache ANT...

Hot to build project using Apache ANT ? ANT Build...

MySQL Tutorial : mysqldump utility in mysql

MySQL tutorial and commands part 3

MySQL tutorial and commands part 2

MySQL tutorial and commands Part 1

How to use Regular Expression in Unix Linux

Rajiv said...

@Anonymous, There is nothing like abstract data type in my knowledge, though you have abstract class in Java which you may refer abstract data type. What is important is that you can not create instance of abstract class in Java, they are incomplete and require to be implemented by sub classes. Abstract classes can or can not contain abstract methods but if you have any abstract method that class automatically becomes abstract in Java.

November 16, 2011 1:51 AM

Anonymous said...

first of all know the difference between abstract class and abstraction and then post anything. but dont tell abstraction used in abstract classes

November 21, 2011 10:11 PM

Guru said...

Can u explain the difference b/w abstraction and polymorphism?

November 30, 2011 11:19 PM

Ghezal Ahmad Zai said...

why every body explain so complicate, everyone has problem, Encapsulation means declaring attribute and methods inside a class, like

```
class A{
String name;
int number;
public void set(){
.
.
}
}
this is encapsulation.
thanks
```

December 19, 2011 12:09 PM

shaik said...

That's right

March 8, 2012 11:42 PM

Anonymous said...

complicated!!!!!!!!!!!!1

May 16, 2012 9:46 AM

Anonymous said...

Abstraction arises from a reorganization of similarities between certain objects, situations, or processes in the real world, and decision to concentrate upon these similarities and to ignore for the time being the differences.

May 20, 2012 11:16 PM

kiran said...

excellent blog

May 23, 2012 9:26 PM

Anonymous said...

Abstraction is hiding the complexity and showing only the needed information to the outer world(ex. Abstract classes and Interfaces)

July 17, 2012 5:16 AM

Post a Comment

Enter your comment...

Comment as: Google Account

Improving Performance of java application

Networking Basics for FIX Connection in Unix Linux...

How to avoid deadlock in Java Threads

Top 10 Most useful cvs commands in linux/unix

Top 10 basic networking commands in linux/unix

Tibco tutorial : Tibco RV tips and commands

Tibco Tutorial: Fundamentals of Tibco RV messaggi...

TIBCO Tutorial : TIBCO Rendezvous or TIBCO RV me...

What is Abstraction in java - Java abstraction tut...

Fundamentals of Object Oriented Programming in Jav...

What is the difference between Enumeration and Ite...

Difference between HashMap and HashTable? Can we m...

What is the difference between Synchronized Collec...

What is the use of class "java.lang.Class" ? why d...

What is the problem while using "==" in autoboxing...

How do you find length of a Singly Linked list

How to check if a thread holds lock on a particula...

Why String is immutable or final in Java

References

[Java API documentation JDK 6](#)

[Spring framework doc](#)

[Struts](#)

[ANT](#)

[Maven](#)

[JDK 7 API](#)

[MySQL](#)

[Linux](#)

[Eclipse](#)


Copyright by Javin Paul 2012. Powered by [Blogger](#).

[Newer Post](#)

[Home](#)

[Older Post](#)

Subscribe to: [Post Comments \(Atom\)](#)

**DynamicPDF Core Suite for .NET**
Real-time PDF solutions (Generator, Merger & ReportWriter)
www.dynamicpdf.com



[TRY THEM FREE TODAY ▶](#)

[Rollover for more information](#)
[Replay](#)

Searching for java abstraction?