

Unit 6: Java Beans

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What is Java Bean?

A **Java Bean** is a Java class that should follow the following conventions:

1. It should have a **no-arg constructor**.
2. It should be **Serializable**.
3. It should provide methods to **set** and **get** the values of the **properties**, known as **getter and setter methods**.



Why use JavaBean?

It is a reusable software component.

A bean encapsulates many objects into one object so that we can access this object from multiple places. Moreover, it provides easy maintenance.



Syntax for setter methods:

- It should be public in nature.
- The return-type should be void.
- The setter method should be prefixed with set.
- It should take some argument i.e. it should not be no-arg method.



Syntax for getter methods

- It should be public in nature.
- The return-type should not be void i.e. according to our requirement we have to give return-type.
- The getter method should be prefixed with get.
- It should not take any argument.



Java Bean Example:

```
public class Book implements Serializable {
    private String bookName;
    private String isbn;
    private String author;

    public Book() {    //no argument constructor
    }

    public String getBookName() {
        return bookName;
    }

    public void setBookName(String bookName) {
        this.bookName = bookName;
    }

    public String getIsbn() {
        return isbn;
    }

    public void setIsbn(String isbn) {
        this.isbn = isbn;
    }

    public String getAuthor() {
        return author;
    }

    public void setAuthor(String author) {
        this.author = author;
    }
}
```

Steps for creating a new Bean using netbeans

1. Create a directory for the new Bean.
2. Create the Java source file(s).
3. Compile the source file(s).
4. Generate a JAR file.



Java Class Vs. Java Beans

1. All Java Beans are classes but all classes are not Java beans.
2. Beans have to follow the defined three rules i.e. Must implement Serializable interface, must contain no argument constructor and must have getter and setters, but classes do not.

