# Java Inner Classes (Nested Classes)

****Java inner class**** or nested class is a class that is declared inside the class or interface.

We use inner classes to logically group classes and interfaces in one place to be more readable and maintainable.

Additionally, it can access all the members of the outer class, including private data members and methods.

#### Syntax of Inner class

**class** Java\_Outer\_class{

 //code

**class** Java\_Inner\_class{

  //code

 }

}

### Advantage of Java inner classes

There are three advantages of inner classes in Java. They are as follows:

1. Nested classes represent a particular type of relationship that is ****it can access all the members (data members and methods) of the outer class,**** including private.
2. Nested classes are used ****to develop more readable and maintainable code**** because it logically group classes and interfaces in one place only.
3. ****Code Optimization****: It requires less code to write.

## Need of Java Inner class

Sometimes users need to program a class in such a way so that no other class can access it. Therefore, it would be better if you include it within other classes.

If all the class objects are a part of the outer object then it is easier to nest that class inside the outer class. That way all the outer class can access all the objects of the inner class.

### Difference between nested class and inner class in Java

An inner class is a part of a nested class. Non-static nested classes are known as inner classes.

### Types of Nested classes

There are two types of nested classes non-static and static nested classes. The non-static nested classes are also known as inner classes.

* Non-static nested class (inner class)
  1. Member inner class
  2. Anonymous inner class
  3. Local inner class
* Static nested class

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| **Type** | **Description** |
| [Member Inner Class](https://www.javatpoint.com/member-inner-class) | A class created within class and outside method. |
| [Anonymous Inner Class](https://www.javatpoint.com/anonymous-inner-class) | A class created for implementing an interface or extending class. The java compiler decides its name. |
| [Local Inner Class](https://www.javatpoint.com/local-inner-class) | A class was created within the method. |
| [Static Nested Class](https://www.javatpoint.com/static-nested-class) | A static class was created within the class. |
| [Nested Interface](https://www.javatpoint.com/nested-interface) | An interface created within class or interface. |