

The different models of security in java are

### JAVA SE

This model is called code-centric because it allows the specification of code security in a predefined policy file. When a class is loaded in the java run time environment, the class loader following associates the following info with the class.

### JAAS

The model extends the java SE code-centric model by introducing a user-centric model where both the nature of the code and the executor are taken into account in security decisions.

### JAVA EE

In this model, secured resources are identified by URL patterns or method names, the container where the applications run enforces authentication and authorisation according to specification in the application deployment descriptor or annotations in the application code.

- JACC - Permission on JEE resources like URL etc.
- OPSS - Protects all.



## 2 Similarities

① Interface can not be instantiated, same way you can not instantiate abstract class.

② That means you can not create obj of interface or abstract class.

## Differences

### Interfaces-

- We can use interface keyword to declare interface.
- Interface can hold only abstract methods
- Implemented using implements keywords

### Abstract

- We can use abstract keyword to declared abs class
- Abstract class can hold abstract as well as non abstract methods
- Extend using extend keyword

③ Uses of final keyword are to define constants, final

- Used to prevent inheritance
- Prevent overriding
- Method arguments

④ Super can be used to refer immediate parents class inheritance variables, invoke immediate parent class method and immediate parents class constructor.



```
import java.io.*;
import java.lang.*;
import java.util.*;
class shape
{
    class 2D
    {
        public void println("2D")
    }
    interface rectangle {
        public void print();
    }
    interface square {
        public void print_for();
    }
    interface circle extends rectangle, square {
        public void print();
    }
    class child implements circle {
        @Override public void print_rectangle()
        {
            System.out.println("rectangle");
        }
        public void print_for()
        {
            System.out.println("circle");
        }
    }
    class 3d
    {
        public void println("3D")
    }
}
```



```

interface sphere {
    public void print_sphere();
}

```

```

interface cube {
    public void print_cube();
}

```

```

interface cube extends sphere {
    @Override public void print_sphere()
    {

```

```

        System.out.println("Sphere");
    }

```

```

    public void print_for()
    {

```

```

        System.out.println("Cube");
    }
}

```

```

}

```

```

}

```

```

}

```

```

}

```

```

public class Main {

```

```

    public static void main(String[] args)
    {

```

```

        child c = new child();

```

```

        c.print_rectangle();

```

```

        c.print_square();

```

```

        c.print_sphere();
    }
}

```

```

}

```

(1)

6 In Derived :: foo()  
In Derived :: Bar()  
In Base :: foo()  
In Base :: Bar()

(ii)

name + nm.member

~~AAA~~