

Step 1: Define the Animal class

```
public class Animal { }
```

- This step defines the **Animal** class, which serves as the base class for other classes. It has no specific attributes or methods defined.

Step 2: Define the Mammal class

```
public class Mammal extends Animal { }
```

- This step defines the **Mammal** class, which is a subclass of **Animal**. It inherits from the **Animal** class and has no additional attributes or methods.

Step 3: Define the Reptile class

```
public class Reptile extends Animal { }
```

- This step defines the **Reptile** class, which is also a subclass of **Animal**. It also inherits from the **Animal** class and has no specific attributes or methods.

Step 4: Define the Dog class

```
public class Dog extends Mammal { }
```

- This step defines the **Dog** class, which is a subclass of **Mammal**. It inherits from the **Mammal** class and has no additional attributes or methods.

Step 5: Test the Class Hierarchy

```
public class TestClass {  
    public static void main(String args[]) {  
        Animal a = new Animal();  
        Mammal m = new Mammal();  
        Dog d = new Dog();  
  
        System.out.println(m instanceof Animal);  
        System.out.println(d instanceof Mammal);  
        System.out.println(d instanceof Animal);  
    }  
}
```

- This step creates instances of **Animal**, **Mammal**, and **Dog** classes and tests the class hierarchy using the **instanceof** operator.

Output:

```
true
```

```
true
```

```
true
```