

Java ☐☐ - Type Casting

Type Casting ☐ Casting ☐ ☐ ☐

```
class Animal {
    void speak(){
        System.out.println("Default speak");
    }
}
```

```
class Bird extends Animal {
    @Override
    void speak() {
        System.out.println("☐☐");
    }
}
```

```
class Dog extends Animal {
    @Override
    void speak() {
        System.out.println("🐶");
    }
}
```

```
public class main {  
    public static void main(String[] args) {  
        Animal animal = new Animal();  
        Bird bird = new Bird();  
        Dog dog = new Dog();  
  
        animal.speak();  
        bird.speak();  
        dog.speak();  
  
        // Upcasting and Downcasting
```

```
Animal animal2;  
animal2 = bird; // Upcasting  
animal2.speak(); // works normally
```

```
Bird bird2;
```

```
// bird2 = animal; // Down casing, compile error  
// bird2 = (Bird)animal; // Compile pass  
// bird2.speak(); // but throw ClassCastException error
```

```
Dog dog2;
```

```
// dog2 = bird; // Obviously not working for compiling  
// dog2 = (Dog)bird; // Cannot casting to another child class, compile error.  
}  
}
```

- Bird → casting → Animal → Upcasting → Upcasting →
- → animal casting → Bird → Animal → Bird → Compiler →
 - → Downcasting → Compiler →
- → (Bird)animal → Compiler → Compiler → Compiler → OK →
 - → ClassCastException → Runtime error → VM →
- → Animal → class → Compiler → Compiler → ...

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