

Generics

John Sonmez

<http://simpleprogrammer.com>

John.Sonmez@gmail.com



Outline

- What is a Generic?
- Creating a Generic Class
- Creating a Generic Method
- Bounded Generics
- Wildcards
- Erasure

What is a Generic?

- A way to write code independent of a type



What is a Generic?

- **Class level**

- Specify a type as a variable
- Class of Type T

- **Method level**

- Specify a type of a parameter
- Parameter of Type T



Life Without Generics

- All classes inherit from Object

```
House house = new House();  
Person person = new Person();  
house.add(person);  
person = (Person)House.remove();
```

```
Dog dog = new Dog();  
house.add(dog);  
// Runtime ERROR  
person = (Person)House.remove();
```

Life With Generics

```
House house = new House<Person>();  
    Person person = new Person();  
        house.add(person);  
            person = House.remove()
```

```
    Dog dog = new Dog();  
        house.add(dog);  
            // Compile ERROR  
                person = House.remove();
```

Type Erasure

- Java Generics aren't real
- They disappear after being compiled



Summary

- What is a Generic?
- Creating a Generic Class
- Creating a Generic Method
- Bounded Generics
- Wildcards
- Erasure