Lecture-11

Encapsulation

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Encapsulation is a process of

- packaging variables and methods into a single unit.
- protecting data by declaring them as private.
- As we know private data will be hidden from other classes and they can only be accessed through the methods of their current classes.
- This is known as Data Hiding

Encapsulation Example

As we can see from the left example that the class_1 have a variable declared as private. So it is hidden from other class.

It can only be access by other classes through setMethod of the class_1.

So we can say that the address variable is hidden or has been encapsulated.

Class_1

```
public class EncapsualteClass {
    private String address;
    int roadNo;
    public void setAddress(String address) {
        this.address = address;
    }
    public void getAddress() {
        System.out.println("Address is: "+address);
    }
    void info(){
    }
}
```

Class_2

```
public class TestEncap {
    public static void main(String[] args) {
        EncapsualteClass e = new EncapsualteClass();
        e.roadNo = 54;
        e.setAddress("Dhanmondi");
        e.getAddress();
}
}
```

Benefits of Encapsulation

- Provide Data Hiding.
- Reusability.
- Code can be modified without Breaking the continuation.
- Code maintainability – hiding implementation details reduce complexity

Thank you