

# Generated Code

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What are this simple tasks?

Of course I used ChatGPT  
to generate the code

# 1:1 Mapping

```
public class CarEntity {  
  
    2 usages  
    private int year;  
    2 usages  
    private String brand;  
    2 usages  
    private double price;  
    2 usages  
    private String modelNumber;  
}
```

```
public class CarDomain {  
  
    2 usages  
    private int year;  
    2 usages  
    private String brand;  
    2 usages  
    private double price;  
    2 usages  
    private String modelNumber;  
}
```

# Lets write the test

```
public class CarMapperTest {

    @Test
    public void testMapToDomain() {
        // Create a sample CarEntity object
        CarEntity entity = new CarEntity();
        entity.setYear(2022);
        entity.setBrand("Toyota");
        entity.setPrice(25000.0);
        entity.setModelNumber("Camry");

        // Instantiate the CarMapper
        CarMapper mapper = new CarMapper();

        // Map the CarEntity to a CarDomain object
        CarDomain domain = mapper.mapToDomain(entity);

        // Verify that the mapping was done correctly
        assertNotNull(domain);
        assertEquals(entity.getYear(), domain.getYear());
        assertEquals(entity.getBrand(), domain.getBrand());
        assertEquals(entity.getPrice(), domain.getPrice(), 0.001);
        assertEquals(entity.getModelNumber(), domain.getModelNumber());
    }
}
```

```
@Test
public void testMapToDomainWithNullEntity() {
    // Instantiate the CarMapper
    CarMapper mapper = new CarMapper();

    // Map a null CarEntity to a CarDomain object
    CarDomain domain = mapper.mapToDomain(null);

    // Verify that the result is null
    assertNull(domain);
}

@Test
public void testMapToEntity() {
    // Create a sample CarDomain object
    CarDomain domain = new CarDomain();
    domain.setYear(2022);
    domain.setBrand("Toyota");
    domain.setPrice(25000.0);
    domain.setModelNumber("Camry");

    // Instantiate the CarMapper
    CarMapper mapper = new CarMapper();

    // Map the CarDomain to a CarEntity object
    CarEntity entity = mapper.mapToEntity(domain);

    // Verify that the mapping ↓ is done correctly
    assertNotNull(entity);
}
```

# So lets write the code

## Java... so of course it is not null safe

```
public class CarMapper {

    // Method to map from Car entity to Car domain object
    public CarDomain mapToDomain(CarEntity entity) {
        CarDomain domain = new CarDomain();
        domain.setYear(entity.getYear());
        domain.setBrand(entity.getBrand());
        domain.setPrice(entity.getPrice());
        domain.setModelNumber(entity.getModelNumber());
        return domain;
    }

    // Method to map from Car domain object to Car entity
    public CarEntity mapToEntity(CarDomain domain) {
        CarEntity entity = new CarEntity();
        entity.setYear(domain.getYear());
        entity.setBrand(domain.getBrand());
        entity.setPrice(domain.getPrice());
        entity.setModelNumber(domain.getModelNumber());
        return entity;
    }
}
```

# So lets fix the code

## I asked ChatGPT to make it null safe

```
public class CarMapper {  
  
    // Method to map from Car entity to Car domain object  
    public CarDomain mapToDomain(CarEntity entity) {  
        if (entity == null) {  
            return null;  
        }  
        CarDomain domain = new CarDomain();  
        domain.setYear(entity.getYear());  
        domain.setBrand(entity.getBrand());  
        domain.setPrice(entity.getPrice());  
        domain.setModelNumber(entity.getModelNumber());  
        return domain;  
    }  
  
    // Method to map from Car domain object to Car entity  
    public CarEntity mapToEntity(CarDomain domain) {  
        if (domain == null) {  
            return null;  
        }  
        CarEntity entity = new CarEntity();  
        entity.setYear(domain.getYear());  
        entity.setBrand(domain.getBrand());  
        entity.setPrice(domain.getPrice());  
        entity.setModelNumber(domain.getModelNumber());  
        return entity;  
    }  
}
```



# MapStruct



# Mapstruct Mapper

## The Interface

```
import org.mapstruct.Mapper;
import org.mapstruct.Mapping;
import org.mapstruct.factory.Mappers;

@Mapper
public interface CarMapper {

    CarMapper INSTANCE = Mappers.getMapper(CarMapper.class);

    @Mapping(target = "year", source = "entity.year")
    @Mapping(target = "brand", source = "entity.brand")
    @Mapping(target = "price", source = "entity.price")
    @Mapping(target = "modelNumber", source = "entity.modelNumber")
    CarDomain mapToDomain(CarEntity entity);

    @Mapping(target = "year", source = "domain.year")
    @Mapping(target = "brand", source = "domain.brand")
    @Mapping(target = "price", source = "domain.price")
    @Mapping(target = "modelNumber", source = "domain.modelNumber")
    CarEntity mapToEntity(CarDomain domain);
}
```

# The power of a Prompt Developer



**You**

can you do it with less code

# Mapstruct Mapper

## The Interface

```
import org.mapstruct.Mapper;

@Mapper
public interface CarMapper {

    CarDomain mapToDomain(CarEntity entity);

    CarEntity mapToEntity(CarDomain domain);
}
```

# Mapstruct Mapper

## The Class

```
@Generated(  
    value = "org.mapstruct.ap.MappingProcessor",  
    date = "2024-03-26T17:09:36+0100",  
    comments = "version: 1.5.5.Final, compiler: javac, environment: Java 17.0.9 (Eclipse Adoptium)"  
)  
public class CarMapperImpl implements CarMapper {
```

```
no usages  
@Override  
public CarDomain mapToDomain(CarEntity entity) {  
    if ( entity == null ) {  
        return null;  
    }  
  
    CarDomain carDomain = new CarDomain();  
  
    carDomain.setYear( entity.getYear() );  
    carDomain.setBrand( entity.getBrand() );  
    carDomain.setPrice( entity.getPrice() );  
    carDomain.setModelNumber( entity.getModelNumber() );  
  
    return carDomain;  
}
```

```
no usages  
@Override  
public CarEntity mapToEntity(CarDomain domain) {  
    if ( domain == null ) {  
        return null;  
    }  
  
    CarEntity carEntity = new CarEntity();  
  
    carEntity.setYear( domain.getYear() );  
    carEntity.setBrand( domain.getBrand() );  
    carEntity.setPrice( domain.getPrice() );  
    carEntity.setModelNumber( domain.getModelNumber() );  
  
    return carEntity;  
}
```

How do we test it?

Conclusion

Automate simple  
tasks

# Thank you!

Any Questions?



# Contact and Sources

- <https://github.com/trothenbacher>
- [https://www.xing.com/profile/Thomas\\_Rothenbacher](https://www.xing.com/profile/Thomas_Rothenbacher)
- Sources:
  - <https://mapstruct.org/>
  - <https://chat.openai.com/>