

# Hibernate and Primary Keys



# Terminology

## Primary Key

**Uniquely identifies each row in a table**

**Must be a unique value**

**Cannot contain NULL values**



# MySQL - Auto Increment

```
CREATE TABLE student (  
  
    id int(11) NOT NULL AUTO_INCREMENT,  
    first_name varchar(45) DEFAULT NULL,  
    last_name varchar(45) DEFAULT NULL,  
    email varchar(45) DEFAULT NULL,  
    PRIMARY KEY (id)  
  
)
```



# Hibernate Identity - Primary Key

```
@Entity
@Table(name="student")
public class Student {

    @Id
    @Column(name="id")
    private int id;

    ...
}
```



# Hibernate Identity - Primary Key

```
@Entity
@Table(name="student")
public class Student {

    @Id
    @GeneratedValue(strategy=GenerationType.IDENTITY)
    @Column(name="id")
    private int id;

    ...
}
```



# ID Generation Strategies

| Name                           | Description   |
|--------------------------------|---|
| <b>GenerationType.AUTO</b>     | Pick an appropriate strategy for the particular database                    |
| <b>GenerationType.IDENTITY</b> | Assign primary keys using database identity column                          |
| <b>GenerationType.SEQUENCE</b> | Assign primary keys using a database sequence                               |
| <b>GenerationType.TABLE</b>    | Assign primary keys using an underlying database table to ensure uniqueness |



# Bonus Bonus

- You can define your own CUSTOM generation strategy :-)
- Create subclass of **org.hibernate.id.SequenceGenerator**
- Override the method: **public Serializable generate(...)**