Entity Associations

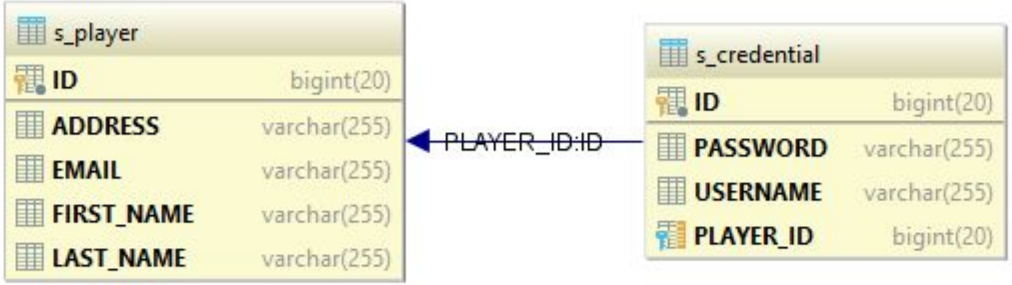
Entity Associations

- Reference from one entity to another
- Associations / Relationships
- Source Object / Target Object
- Owning Side / Inverse Side
- Unidirectional / Bidirectional

Entity Associations Types

- @OneToOne
    - Credentials - Player
- @OneToMany
    - Team - Player
- @ManyToOne
    - Player - Team
- @ManyToMany
    - Player - Skill

@OneToOne



s_player	
ID	bigint(20)
ADDRESS	varchar(255)
EMAIL	varchar(255)
FIRST_NAME	varchar(255)
LAST_NAME	varchar(255)

s_credential	
ID	bigint(20)
PASSWORD	varchar(255)
USERNAME	varchar(255)
PLAYER_ID	bigint(20)

@OneToOne

- Unidirectional
  - Source / Owning Entity - the side holding foreign key

```
@OneToOne(cascade = CascadeType.ALL)
@JoinColumn(name = "PLAYER_ID", referencedColumnName = "ID")
private Player player;
```

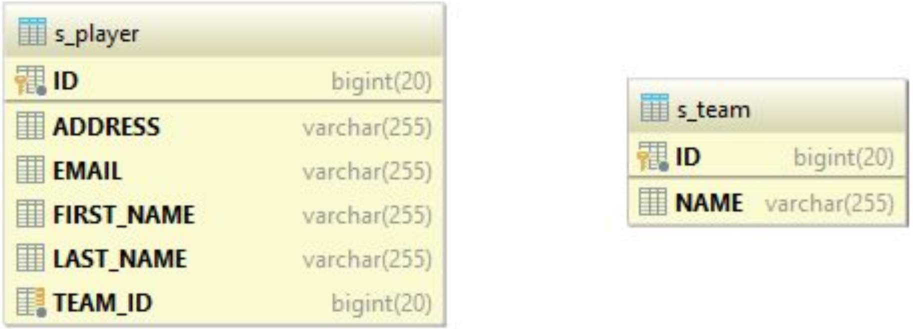
- Bidirectional - reference the owning entity, from the non-owning entity
  - inverse side

```
@OneToOne(mappedBy = "player")
private Credentials credentials;
```

  - no join column on inverse side
  - no cascade on both sides
  - manage inverse side of relationship

@OneToMany

- Unidirectional



s_player	
ID	bigint(20)
ADDRESS	varchar(255)
EMAIL	varchar(255)
FIRST_NAME	varchar(255)
LAST_NAME	varchar(255)
TEAM_ID	bigint(20)

s_team	
ID	bigint(20)
NAME	varchar(255)

@OneToMany

- Unidirectional
  - Source / Owning Entity - the side holding foreign key

```
@OneToMany(cascade = CascadeType.ALL)
@JoinColumn(name = "TEAM_ID", referencedColumnName = "ID", nullable = false)
private List<Player> players = new ArrayList<>();
```

  - Foreign key is in Player but no inverse relation
  - `nullable = false,` Let hibernate know that an ID from Team entity should be used

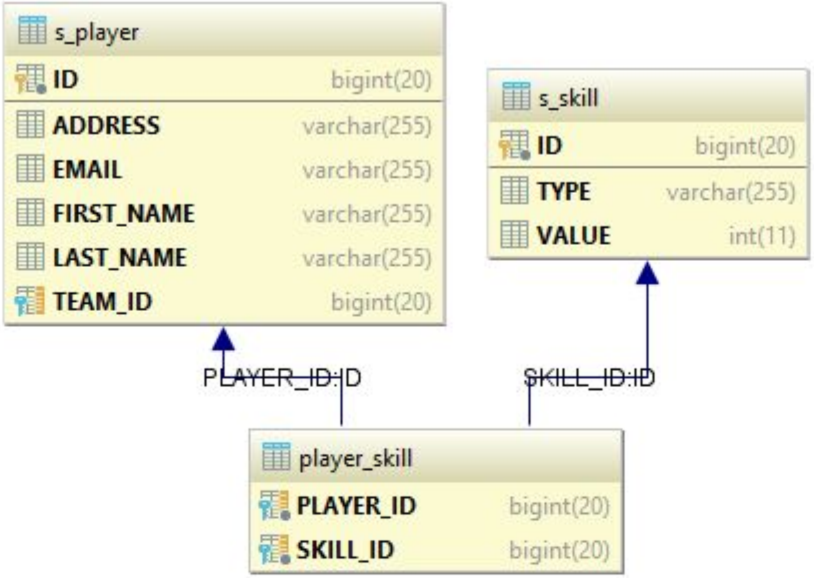
@ManyToOne

- Bidirectional - reference the owning entity, from the non-owning entity
    - inverse side:

```
@ManyToOne(cascade = CascadeType.ALL)
@JoinColumn(name = "TEAM_ID", referencedColumnName = "ID")
private Team team;
```

-
    - we move the @JoinColumn on the owning side

@JoinTable



s_player	
ID	bigint(20)
ADDRESS	varchar(255)
EMAIL	varchar(255)
FIRST_NAME	varchar(255)
LAST_NAME	varchar(255)
TEAM_ID	bigint(20)

s_skill	
ID	bigint(20)
TYPE	varchar(255)
VALUE	int(11)

player_skill	
PLAYER_ID	bigint(20)
SKILL_ID	bigint(20)

@JoinTable

- Optional @OneToMany

```
@OneToMany(cascade = CascadeType.ALL)
@JoinTable(name = "PLAYER_SKILL",
       joinColumns = @JoinColumn(name = "PLAYER_ID", referencedColumnName = "ID"),
       inverseJoinColumns = @JoinColumn(name = "SKILL_ID", referencedColumnName = "ID")
)
private List<Skill> skills = new ArrayList<>();
```

@ManyToOne

- Unidirectional

```
@ManyToMany(cascade = CascadeType.ALL)
@JoinTable(name = "PLAYER_SKILL",
       joinColumns = @JoinColumn(name = "PLAYER_ID", referencedColumnName = "ID"),
       inverseJoinColumns = @JoinColumn(name = "SKILL_ID", referencedColumnName = "ID")
)
private List<Skill> skills = new ArrayList<>();
```

- Bidirectional

```
@ManyToMany(mappedBy = "skills")
private List<Player> players = new ArrayList<>();
```