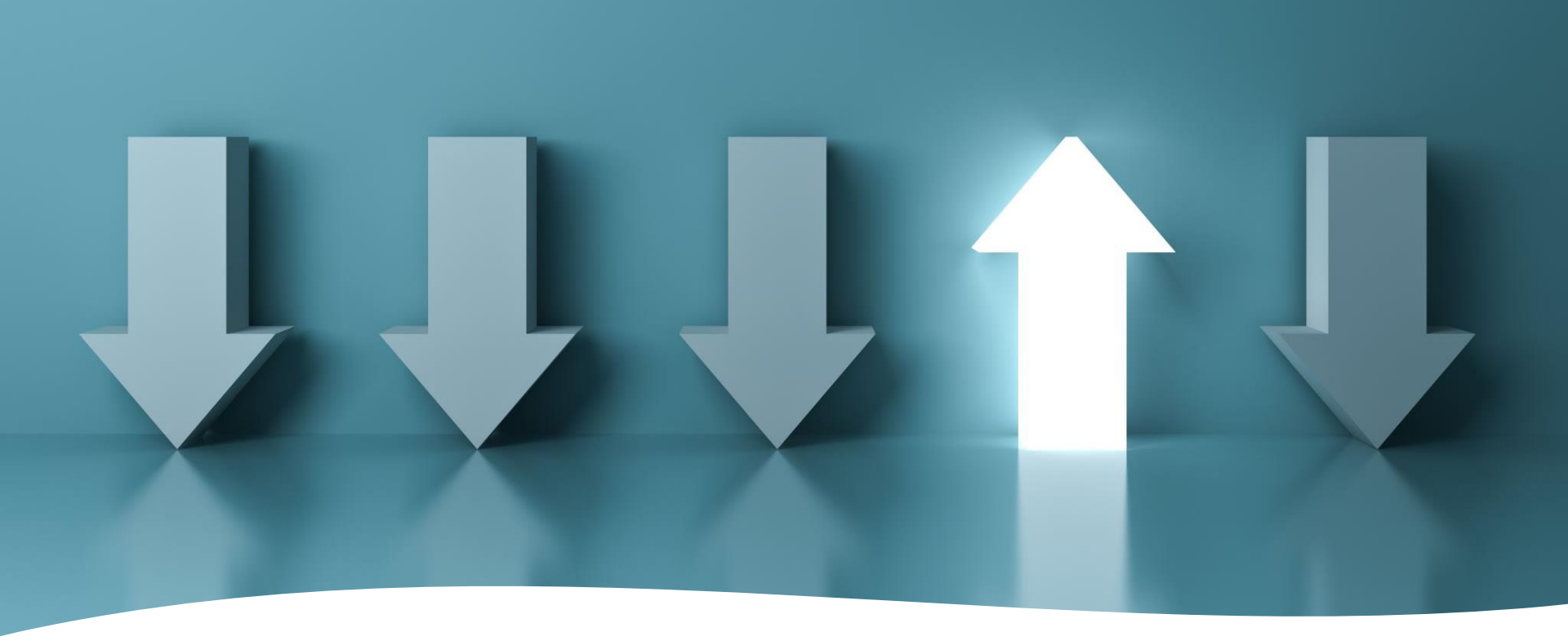

Data Modelling and
Persistence

Modelling data with POJOs

```
public class Venue {

  private long id;

  private String name;

  private int capacity;

  public Venue() {
  }

  // Getters and setters omitted for brevity
}
```

Annotate POJOs for persistence

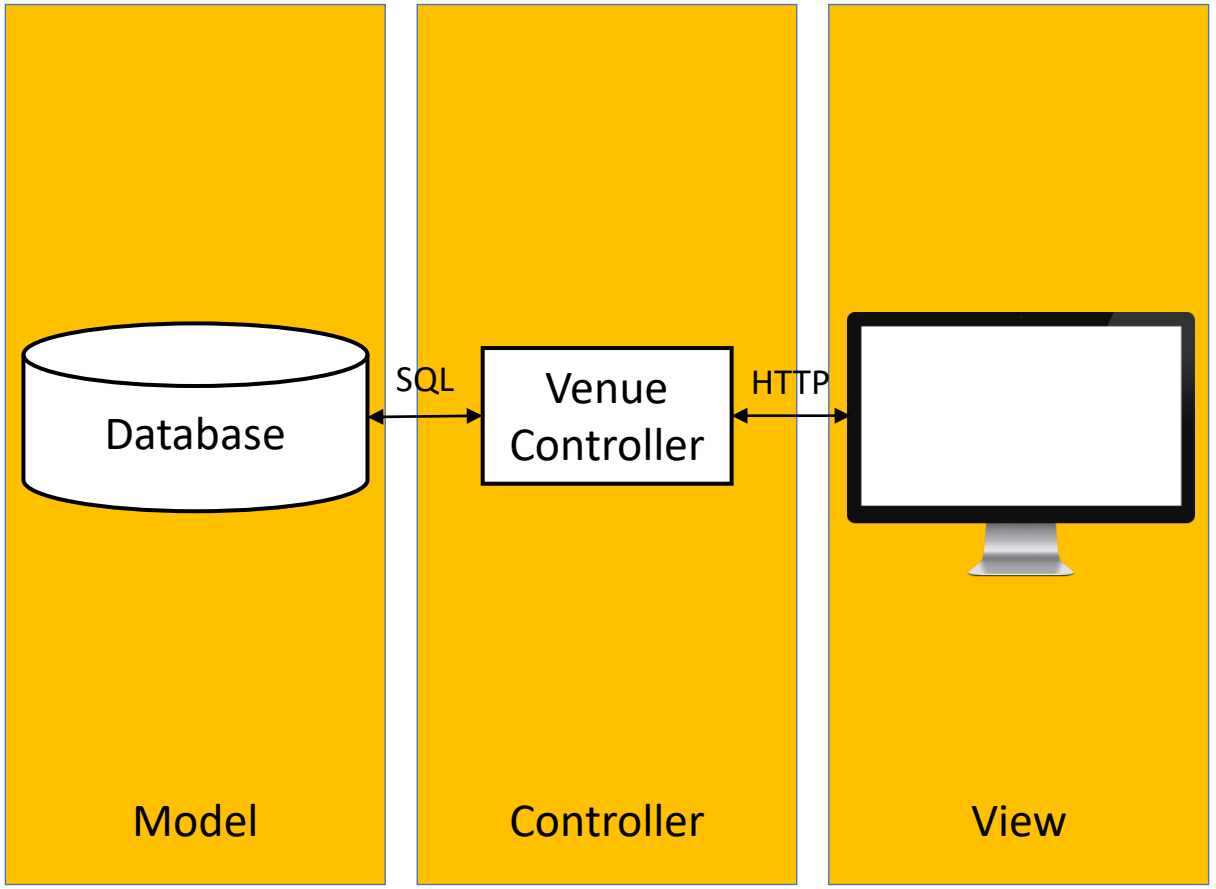
```java
@Entity
@Table(name = "venues")
public class Venue {

  private long id;

  private String name;

  private int capacity;

  public Venue() {
  }

  // Getters and setters omitted for brevity
}
```



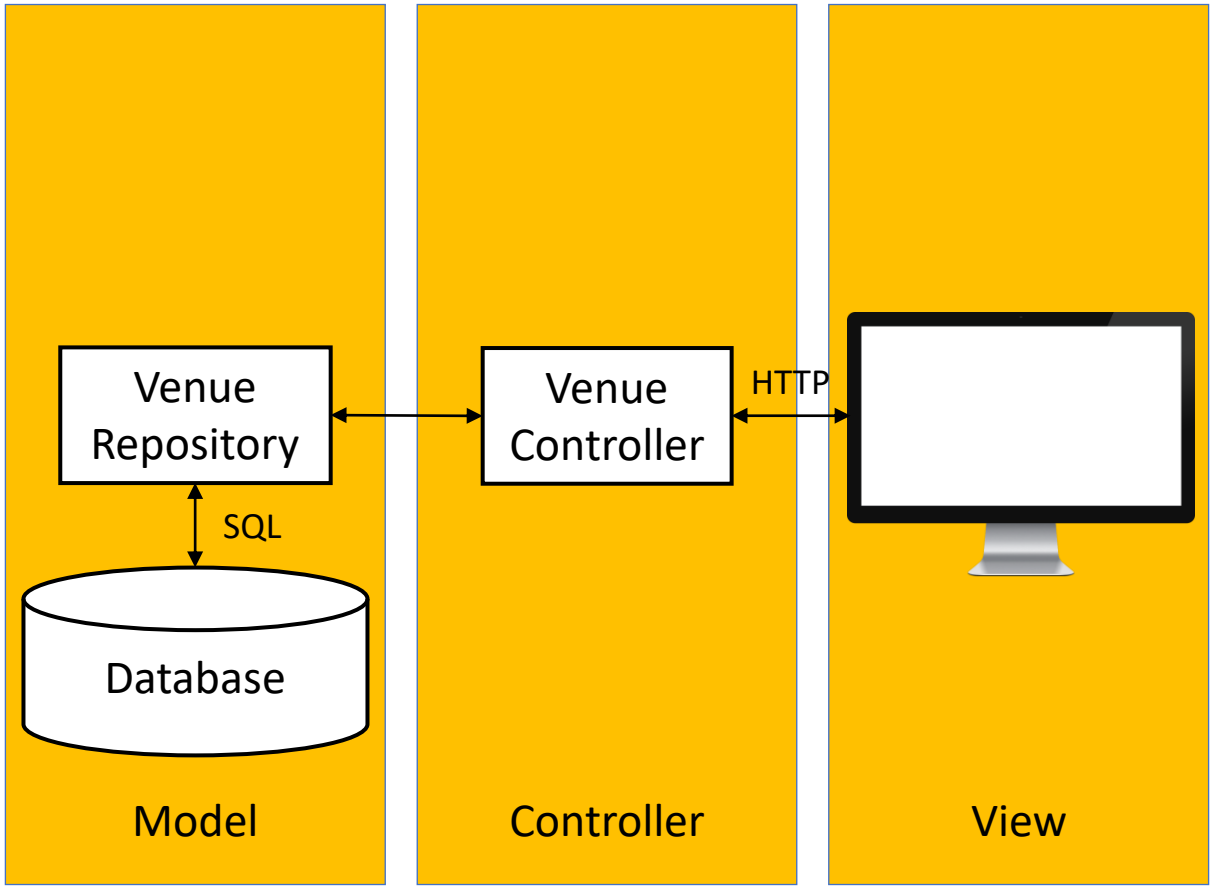
Data relationships

- @OneToMany
  - “A venue can host many events”
- @ManyToOne
  - “An event has one venue”
- @OneToOne
  - “A venue has a manager”

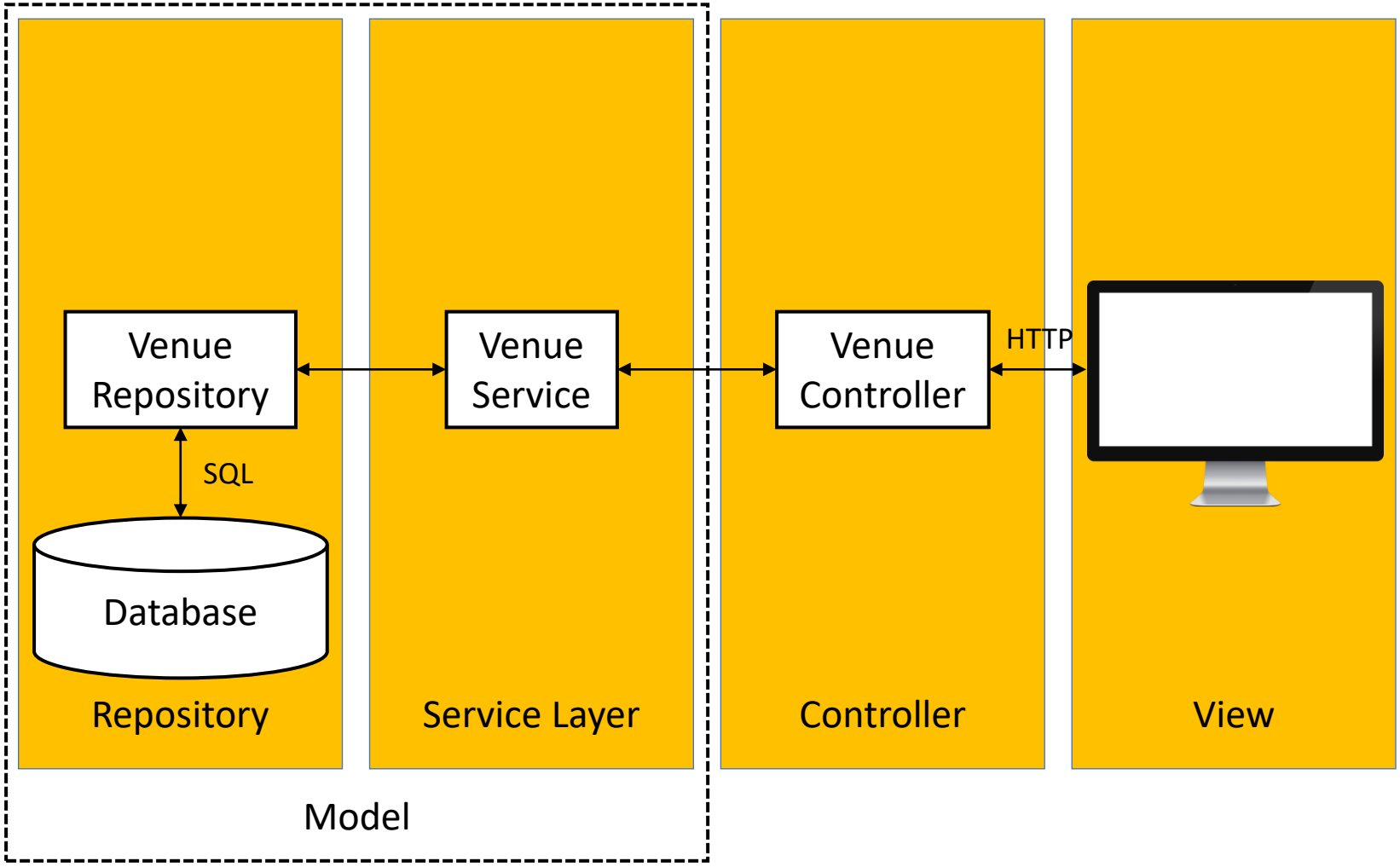
Data Access Architecture



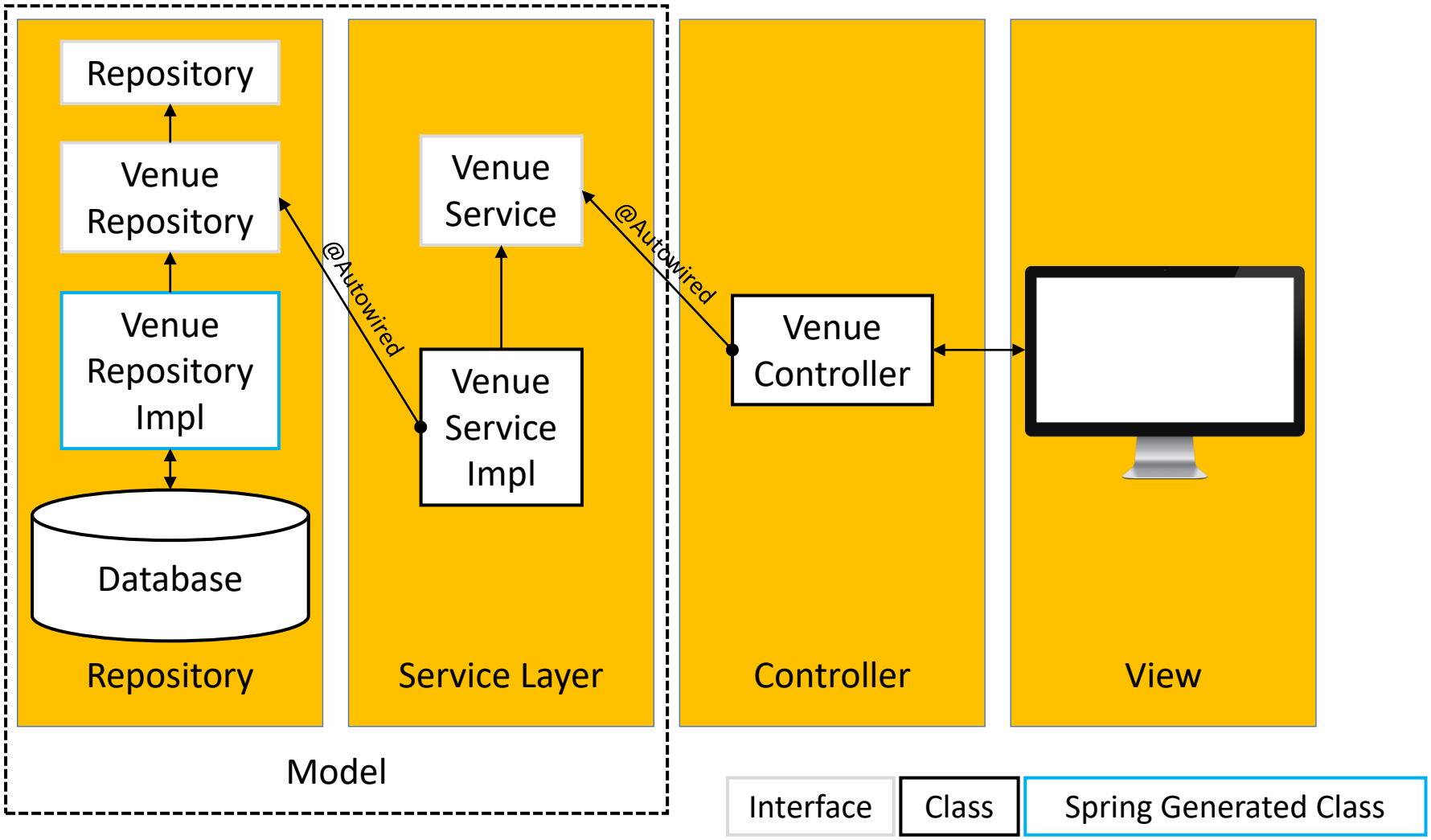
Data Access Architecture



Spring's Data Access Architecture



Spring's Data Access Objects



Spring repositories

```
public interface VenueRepository extends CrudRepository<Venue, Long> {

}
```

The default implementation provides:

- count()
- findOne(long id), findAll()
- save(Venue venue), delete(long id)
- More…

More Spring repository magic

Simply define the queries you want as methods in your repository interface:

```
public interface VenueRepository extends CrudRepository<Venue, Long> {
    public Iterable<Venue> findAllByName(String name);
    public Iterable<Venue> findAllByNameOrderByNameAsc(String name);
    public Venue findFirstByNameOrderByNameAsc(String name);

    public Venue findByNameContainingAndCapacity(String nameSearch, int capacity);

    public Iterable<Venue> findAllByCapacityBetween(int min, int max);
}
```

Querying data via a Service interface

Create a Service interface to expose the methods you need and get Spring to auto-wire the repository:

```
@Service
public class VenueServiceImpl implements VenueService {

  @Autowired
  private VenueRepository venueRepository;

  @Override
  public Iterable<Venue> findAll() {
    return venueRepository.findAll();
  }
}
```