



CS544 EA

Applications

Spring Data: JPA Example

DAOs aka Repositories

- DAOs (also known as repositories) are classes that implement CRUD operations and finder methods for a Entity
- Spring Data generates DAOs which:
 - Have the **same basic interface regardless of data store**
 - Provide a common way of querying for data
 - Provide a CRUD interface (if reasonable for DS)

CrudRepository Interface

- Spring Data JPA is instructed to scan package
- DAOs are generated for any **interface** that extends **Repository<T, id>**
 - JpaRepository extends PagingAndSortingRepository extends CrudRepository extends Repository

count()	saveAll(Iterable<S> entities)
exists(ID id)	save(S entity)
findAll()	delete(ID id)
findAllById(Iterable<ID> ids)	delete(T entity)
findById(id)	deleteAll(Iterable<? extends T> entities)
getById(ID id)	deleteAll()

JPA Repository methods

Example JPA Config

Java Config

```
@Configuration
@ComponentScan("edu.mum.cs544")
@EnableJpaRepositories("edu.mum.cs544.dao")
public class Config {

}
```

Which package to scan
for repository interfaces

Same thing

XML Config

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:jpa="http://www.springframework.org/schema/data/jpa"
  xsi:schemaLocation="
    http://www.springframework.org/schema/beans
    http://www.springframework.org/schema/beans/spring-beans.xsd
    http://www.springframework.org/schema/data/jpa
    http://www.springframework.org/schema/data/jpa/spring-jpa.xsd">

  <jpa:repositories base-package="edu.mum.cs544.dao"/>

</beans>
```

Remember to add the
namespace

Which package to scan
for repository interfaces

Example Code

```
public interface ContactDao extends JpaRepository<Contact, Long> {  
}
```

Use an interface to declare
that there should be a ContactDao

Spring Data will automatically
generate an implementation

```
@Service  
@Transactional  
public class ContactService {  
  
    @Resource  
    private ContactDao contactDao;  
  
    ...  
}
```

Generated DAO can be used like
any other DAO before this