1대1 양방향, 주테이블에 외래키 실습

STS -> Spring Stater Project, name : onetoone-2
SQL : JPA, MySQL 선택

http://ojc.asia/bbs/board.php?bo_table=LecSpring&wr_id=524
(마리아 DB 설치는 위 URL에서 참조)

application.properties

```
spring.datasource.platform=mysql
spring.datasource.url=jdbc:mysql://localhost/onetoone_2?createDatabaseIfNotExist=true
spring.datasource.username=root
spring.datasource.password=1111
spring.datasource.driver-class-name=com.mysql.jdbc.Driver
spring.datasource.sql-script-encoding=UTF-8
spring.jpa.hibernate.ddl-auto=create
spring.jpa.show-sql=true
```

demo.model.Emp.java

```
@Entity
public class Emp {
    @Id @GeneratedValue
    private Long empno;
    private String ename;

    @OneToOne(cascade = CascadeType.ALL)
    @JoinColumn(name = "addr_id")
    private Addr addr;

    public Emp(String ename, Addr addr) {
        this.ename = ename;     this.addr = addr;
    }
    public Long getEmpno() {
        return empno;
    }
```

```
    public void setEmpno(Long empno) {
        this.empno = empno;
    }
    public String getEname() {
        return ename;
    }
    public void setEname(String ename) {
        this.ename = ename;
    }
    public Addr getAddr() {
        return addr;
    }
    public void setAddr(Addr addr) {
        this.addr = addr;
    }
    public String toString() {
            return String.format(
                    "Emp[empno=%d, ename='%s', address='%s']",
                    empno, ename, addr.getAddress());
     }
}
```

demo.model.Addr.java

```
@Entity     //양방향인경우  CascadeType.ALL
public class Addr {
    @Id @GeneratedValue
    private Long id;          private String address;
    @OneToOne(cascade=CascadeType.ALL,     mappedBy="addr")
    private Emp emp;
    public Addr(String address, Emp emp) {
        this.address = address;        this.emp = emp;
    }
    public Emp getEmp() {return emp;         }
    public void setEmp(Emp emp) {
                    this.emp = emp; }
    public Addr(String address) {
                    this.address = address; }
```

```
    public Long getId() {return id;   }
    public void setId(Long id) {       this.id = id;}
    public String getAddress() { return address;}
    public void setAddress(String address) {              this.address = address; }
    public String toString() {
          return String.format(
                    "Addr[id=%d, address='%s', ename='%s']",
                    id, address, emp.getEname());
    }
}
```

demo.repository.EmpRepository.java

```
package demo.repository;
import org.springframework.data.jpa.repository.JpaRepository;
import demo.model.Emp;
public interface EmpRepository extends JpaRepository<Emp, Long> {   }
```

demo.repository.AddrRepository.java

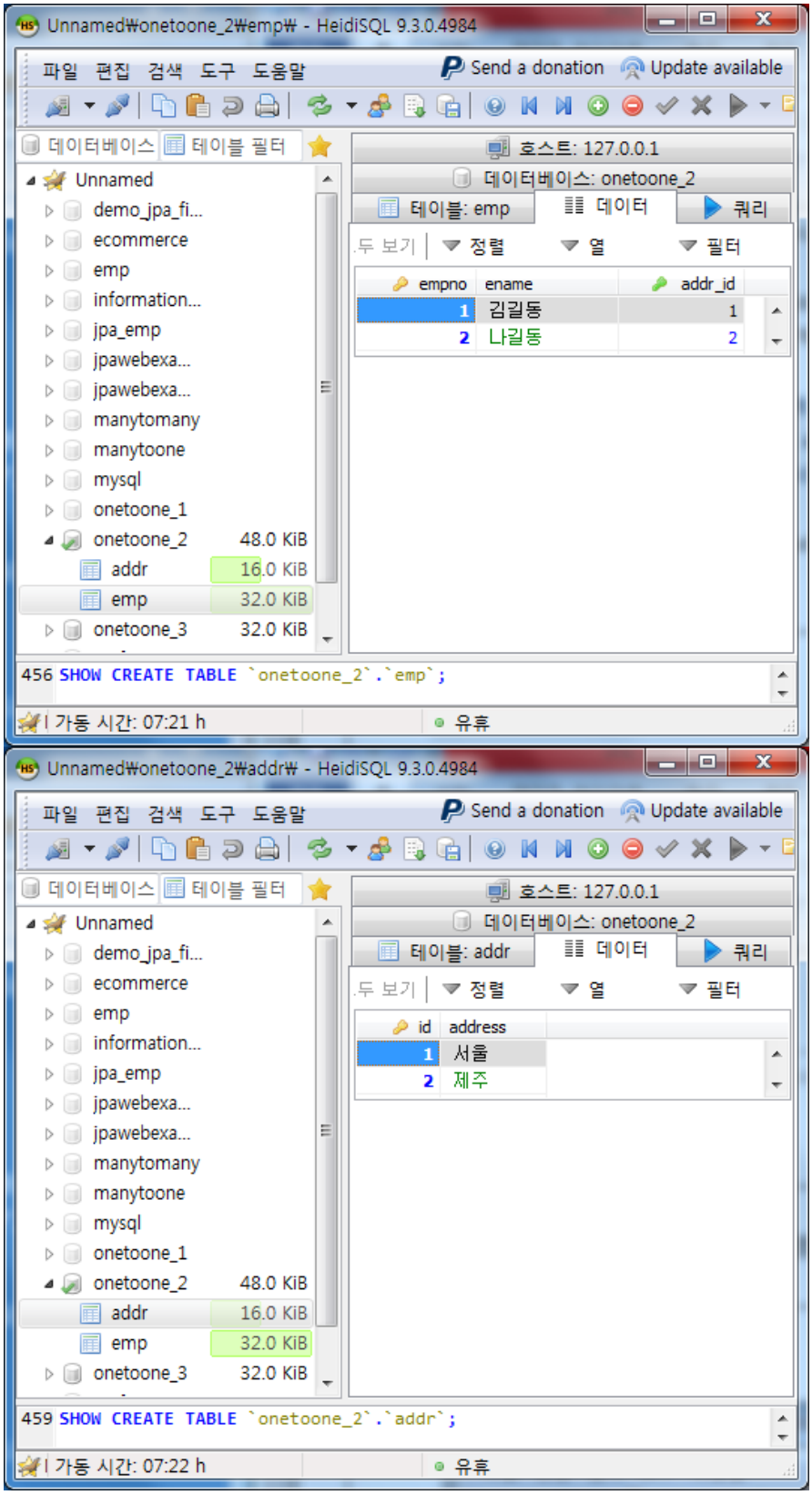
```
package demo.repository;
import org.springframework.data.jpa.repository.JpaRepository;
import demo.model.Addr;
public interface AddrRepository extends JpaRepository<Addr, Long>{ }
```

demo.Onetoone2Application.java

```
@SpringBootApplication
public class Onetoone2Application implements CommandLineRunner {
    public static void main(String[] args) {
        SpringApplication.run(Onetoone2Application.class, args);
    }
    @Autowired     EmpRepository empRepository;
    @Autowired     AddrRepository addrRepository;
    @Transactional
    @Override
    public void run(String...args) {
                    List<Emp> emps = new ArrayList();
```

```
                emps.add(new Emp("김길동", new Addr("서울")));
                emps.add(new Emp("나길동", new Addr("제주")));
                emps.add(new Emp("다길동", new Addr("뉴욕")));

                //Emp가 Owner이고 addr 필드값이 설정되므로
                //Emp 테이블에서 외래키 필드에 값이 채워진다.
                empRepository.save(emps);

                //ALL Emp Display
                for(Emp e : empRepository.findAll()) {
                        System.out.println(e.toString());
                }

                Addr addr1 = new Addr("대전");
                Emp e1 = new Emp("대전길동");

                //Emp쪽이 Owning Side(주인), 외래키가 있다.
                //아래코드가 빠지면 대전길동의 addr_id는 NULL이된다.
                e1.setAddr(addr1);

                //양방향 관계이므로 아래 코드가 빠지면 데이터는 한 건도 저장되지 않는다.
                //insert into addr(address) values (?),insert into emp(addr_id, ename) values
(?, ?)
                addr1.setEmp(e1);
                empRepository.save(e1);

                Addr addr2 = new Addr("하와이");
                Emp e2 = new Emp("하와이길동");

                //아래코드는 연관관계 때문에 두 테이블에 데이터가 저장되지만
                //Emp쪽의 외래키인 addr이 설정되지 않아
                //즉 e2.setAddr(addr2) 코드가 없어 "하와이길동"의 addr_id는 NULL이 된다.
                //insert into addr (address)values (?),insert into emp (addr_id, ename)values
(?, ?)
                addr1.setEmp(e2);
                addrRepository.save(addr2);
        }
}
```

데이터 확인하기


Unnamed₩onetoone_2₩emp₩ - HeidiSQL 9.3.0.4984
파일 편집 검색 도구 도움말
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Update available
데이터베이스
테이블 필터
호스트: 127.0.0.1
데이터베이스: onetoone_2
테이블: emp
데이터
쿼리
두 보기
정렬
열
필터
empno
ename
addr_id
1 김길동 1
2 나길동 2
Unnamed
demo_jpa_fi...
ecommerce
emp
information...
jpa_emp
jpawebexa...
jpawebexa...
manytomany
manytoone
mysql
onetoone_1
onetoone_2 48.0 KiB
addr 16.0 KiB
emp 32.0 KiB
onetoone_3 32.0 KiB
456 SHOW CREATE TABLE `onetoone_2`.`emp`;
가동 시간: 07:21 h
유휴
Unnamed₩onetoone_2₩addr₩ - HeidiSQL 9.3.0.4984
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유휴

[실행 결과]

```
Hibernate: alter table emp drop foreign key FK_b1bolhhce7t698wamy15o3j47
Hibernate: drop table if exists addr
Hibernate: drop table if exists emp
Hibernate: create table addr (id bigint not null auto_increment, address varchar(255), primary key (id))
Hibernate: create table emp (empno bigint not null auto_increment, ename varchar(255), addr_id bigint, primary key (empno))
Hibernate: alter table emp add constraint FK_b1bolhhce7t698wamy15o3j47 foreign key (addr_id) references addr (id)

Hibernate: insert into addr (address) values (?)
Hibernate: insert into emp (addr_id, ename) values (?, ?)
Hibernate: insert into addr (address) values (?)
Hibernate: insert into emp (addr_id, ename) values (?, ?)
Hibernate: insert into addr (address) values (?)
Hibernate: insert into emp (addr_id, ename) values (?, ?)
Hibernate: select emp0_.empno as empno1_1_, emp0_.addr_id as addr_id3_1_, emp0_.ename as ename2_1_ from emp emp0_

//메인 출력
Emp[empno=1, ename='김길동', address='서울']
Emp[empno=2, ename='나길동', address='제주']
Emp[empno=3, ename='다길동', address='뉴욕']

Hibernate: insert into addr (address) values (?)
Hibernate: insert into emp (addr_id, ename) values (?, ?)

Hibernate: insert into addr (address) values (?)
Hibernate: insert into emp (addr_id, ename) values (?, ?)
```