

2강 모델링

1. 기존 파일 정리

- HomeController.java 삭제
- home.jsp 삭제

2. DB 모델링

```
CREATE TABLE user_tb(  
    id int auto_increment primary key,  
    username varchar unique not null,  
    password varchar not null,  
    fullname varchar not null,  
    created_at timestamp not null  
);  
CREATE TABLE account_tb(  
    id int auto_increment primary key,  
    number varchar unique not null,  
    password varchar not null,  
    balance bigint not null,  
    user_id int,  
    created_at timestamp not null  
);  
CREATE TABLE history_tb(  
    id int auto_increment primary key,  
    amount bigint not null,  
    w_balance bigint,  
    d_balance bigint,  
    w_account_id int,  
    d_account_id int,  
    created_at timestamp not null  
);
```

3. 더미데이터 생성

```

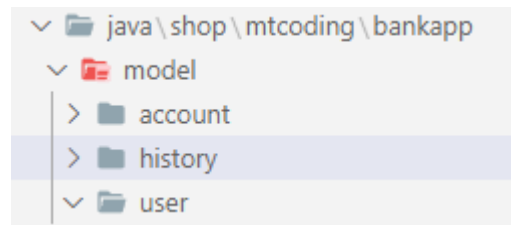
INSERT INTO user_tb(username, password, fullname, created_at) values('ssar', '1234',
'쌀', now());
INSERT INTO user_tb(username, password, fullname, created_at) values('cos', '1234',
'코스', now());
INSERT INTO account_tb(number, password, balance, user_id, created_at)
values('1111', '1234', 1000, 1, now());
INSERT INTO account_tb(number, password, balance, user_id, created_at)
values('2222', '1234', 1000, 2, now());

INSERT INTO history_tb(amount, w_balance, d_balance, w_account_id, d_account_id,
created_at) values(100, 900, 1100, 1, 2, now());
INSERT INTO history_tb(amount, w_balance, d_balance, w_account_id, d_account_id,
created_at) values(100, 800, null, 1, null, now());
INSERT INTO history_tb(amount, w_balance, d_balance, w_account_id, d_account_id,
created_at) values(100, null, 900, null, 1, now());

commit;

```

4. 자바 모델링



mode/User.java

```

package shop.mtcoding.bankapp.model.user;

import java.sql.Timestamp;

import lombok.AllArgsConstructor;
import lombok.Getter;
import lombok.NoArgsConstructor;
import lombok.Setter;

@Setter
@Getter
public class User {
    private Integer id;
    private String username;
    private String password;
    private String fullname;
    private Timestamp createdAt;
}

```

model/Account.java

```
package shop.mtcoding.bankapp.model.account;

import java.sql.Timestamp;

import lombok.Getter;
import lombok.Setter;

@Setter
@Getter
public class Account {
    private Integer id;
    private String number;
    private String password;
    private Long balance;
    private Integer userId;
    private Timestamp createdAt;
}
```

model/History.java

```
package shop.mtcoding.bankapp.model.history;

import java.sql.Timestamp;

import lombok.Getter;
import lombok.Setter;

@Setter
@Getter
public class History {
    private Integer id;
    private Long amount;
    private Long wBalance; // 출금계좌 잔액
    private Long dBalance; // 입금계좌 잔액
    private Integer wAccountId;
    private Integer dAccountId;
    private Timestamp createdAt;
}
```

model/UserRepository.java

```
package shop.mtcoding.bankapp.model.user;

import java.util.List;
```

```
import org.apache.ibatis.annotations.Mapper;

@Mapper
public interface UserRepository {
    public int insert(User user);

    public int updateById(User user);

    public int deleteById(int id);

    public List<User> findAll();

    public User findById(int id);
}
```

model/AccountRepository.java

```
package shop.mtcoding.bankapp.model.account;

import java.util.List;

import org.apache.ibatis.annotations.Mapper;

@Mapper
public interface AccountRepository {
    public int insert(Account account);

    public int updateById(Account account);

    public int deleteById(int id);

    public List<Account> findAll();

    public Account findById(int id);
}
```

model/HistoryRepository.java

```
package shop.mtcoding.bankapp.model.history;

import java.util.List;

import org.apache.ibatis.annotations.Mapper;

@Mapper
public interface HistoryRepository {
```

```

    public int insert(History history);

    public int updateById(History history);

    public int deleteById(int id);

    public List<History> findAll();

    public History findById(int id);
}

```

5. MyBatis 매퍼 설정

mapper/user.xml

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="shop.mtcoding.bankapp.model.user.UserRepository">
  <select id="findAll" resultType="shop.mtcoding.bankapp.model.user.User">
    select * from user_tb
  </select>

  <select id="findById" resultType="shop.mtcoding.bankapp.model.user.User">
    select * from user_tb where id = #{id}
  </select>

  <select id="findByUsernameAndPassword"
    resultType="shop.mtcoding.bankapp.model.user.User">
    select * from user_tb where username = #{username} and password = #
    {password}
  </select>

  <insert id="insert">
    insert into user_tb (username, password, fullname, created_at) values(#{
    username}, #{password}, #{fullname}, now())
  </insert>

  <delete id="deleteById" >
    delete from user_tb where id = #{id}
  </delete>

  <update id="updateById" >
    update user_tb set username= #{username}, password= #{password}, fullname= #
    {fullname} where id = #{id}
  </update>

```

```
</mapper>
```

mapper/account.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="shop.mtcoding.bankapp.model.account.AccountRepository">
  <select id="findAll" resultType="shop.mtcoding.bankapp.model.account.Account">
    select * from account_tb
  </select>

  <select id="findById" resultType="shop.mtcoding.bankapp.model.account.Account">
    select * from account_tb where id = #{id}
  </select>

  <insert id="insert">
    insert into account_tb (number, password, balance, user_id, created_at)
    values(#{number}, #{password}, #{balance}, #{userId}, now())
  </insert>

  <delete id="deleteById" >
    delete from account_tb where id = #{id}
  </delete>

  <update id="updateById" >
    update account_tb set number= #{number}, password= #{password}, balance= #
    {balance}, user_id= #{userId} where id = #{id}
  </update>

</mapper>
```

mapper/history.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE mapper
  PUBLIC "-//mybatis.org//DTD Mapper 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-mapper.dtd">

<mapper namespace="shop.mtcoding.bankapp.model.history.HistoryRepository">
  <select id="findAll" resultType="shop.mtcoding.bankapp.model.history.History">
    select * from history_tb
  </select>

  <select id="findById" resultType="shop.mtcoding.bankapp.model.history.History">
```

```

        select * from history_tb where id = #{id}
    </select>

    <insert id="insert">
        insert into history_tb(
            amount,
            w_balance,
            d_balance,
            w_account_id,
            d_account_id,
            created_at
        )
        values(
            #{amount},
            #{wBalance},
            #{dBalance},
            #{wAccountId},
            #{dAccountId},
            now()
        )
    </insert>


    <delete id="deleteById" >
        delete from history_tb where id = #{id}
    </delete>

    <update id="updateById" >
        update history_tb
        set amount= #{amount},
            w_balance= #{wBalance},
            d_balance= #{dBalance},
            w_account_id = #{wAccountId},
            d_account_id = #{dAccountId}
        where id = #{id}
    </update>

</mapper>

```

6. 실행해보기



```

2023-02-15 12:19:33.708 INFO 18612 --- [ restartedMain] s.mtcoding.bankapp.BankappApplication : No active profile set, falling back to 1 default profile: "default"
2023-02-15 12:19:33.824 INFO 18612 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.add-properties' to 'false' to disable
2023-02-15 12:19:33.824 INFO 18612 --- [ restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related logging consider setting the 'logging.level.web' property to 'DEBUG'
2023-02-15 12:19:34.799 INFO 18612 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)
2023-02-15 12:19:34.810 INFO 18612 --- [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2023-02-15 12:19:34.811 INFO 18612 --- [ restartedMain] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.71]
2023-02-15 12:19:35.003 INFO 18612 --- [ restartedMain] org.apache.jasper.servlet.TldScanner : At least one JAR was scanned but no TLDs were found in them. Skipping unneeded JARs during scanning can improve startup time and JSP compilation time.
2023-02-15 12:19:35.013 INFO 18612 --- [ restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2023-02-15 12:19:35.013 INFO 18612 --- [ restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1188 ms
2023-02-15 12:19:35.037 INFO 18612 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2023-02-15 12:19:35.248 INFO 18612 --- [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2023-02-15 12:19:35.259 INFO 18612 --- [ restartedMain] o.s.b.a.h2.H2ConsoleAutoConfiguration : H2 console available at '/h2-console'. Database available at 'jdbc:h2:mem:test'
2023-02-15 12:19:35.932 INFO 18612 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : LiveReload server is running on port 35729
2023-02-15 12:19:35.981 INFO 18612 --- [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''
2023-02-15 12:19:35.993 INFO 18612 --- [ restartedMain] s.mtcoding.bankapp.BankappApplication : Started BankappApplication in 2.603 seconds (JVM running for 2.984)

```

