0907 - 자바 코드로 직접 스프링 빈 등록

springConfig

```
package hello.hello_spring;

import hello.hello_spring.repository.MemberRepository;
import hello.hello_spring.repository.MemoryMemberRepository;
import hello.hello_spring.service.MemberService;
import org.springframework.context.annotation.Bean;
import org.springframework.context.annotation.Configuration;

@Configuration
public class springConfig {

    @Bean
    public MemberService memberService() {
        return new MemberService(memberRepository());
    }

    @Bean
    public MemberRepository memberRepository() {
        return new MemoryMemberRepository();
    }
}
```

MemberService

```
package hello.hello_spring.service;

import hello.hello_spring.domain.Member;
```

```
import hello.hello_spring.repository.MemberRepository;
import hello.hello_spring.repository.MemoryMemberRepository;
import org.springframework.beans.factory.annotation.Autowired
import org.springframework.stereotype.Service;

import java.util.List;
import java.util.Optional;

public class MemberService {

    private final MemberRepository memberRepository;

    public MemberService(MemberRepository memberRepository) {
        this.memberRepository = memberRepository;
    }

    /**
     * 회원가입
     */
    public  Long join(Member member) {
        //중복 회원 검증
        validateDuplicateMember(member);
        memberRepository.save(member);
        return member.getId();
    }

    private void validateDuplicateMember(Member member) {
        memberRepository.findByName(member.getName())
                .ifPresent(m -> {
                    throw new IllegalStateException("이미 존재ㅎ
                });
    }

    /**
     * 전체 회원 조회
     */
    public List<Member> findMembers() {
        return memberRepository.findAll();
```

```
    }

    /**
     * 회원 조회
     */
    public Optional<Member> findOne(Long memberId) {
        return memberRepository.findById(memberId);
    }

}
```

MemoryMemberRepository

```
package hello.hello_spring.repository;

import hello.hello_spring.domain.Member;
import org.springframework.stereotype.Repository;

import java.util.*;

public class MemoryMemberRepository implements MemberReposito

    private static Map<Long, Member> store = new HashMap<>();
    //시퀀스
    private static long sequence = 0L;

    @Override
    public Member save(Member member) {
        member.setId(++sequence);
        store.put(member.getId(), member);
        return member;
    }

    @Override
    public Optional<Member> findById(Long id) {
        return Optional.ofNullable(store.get(id));
```

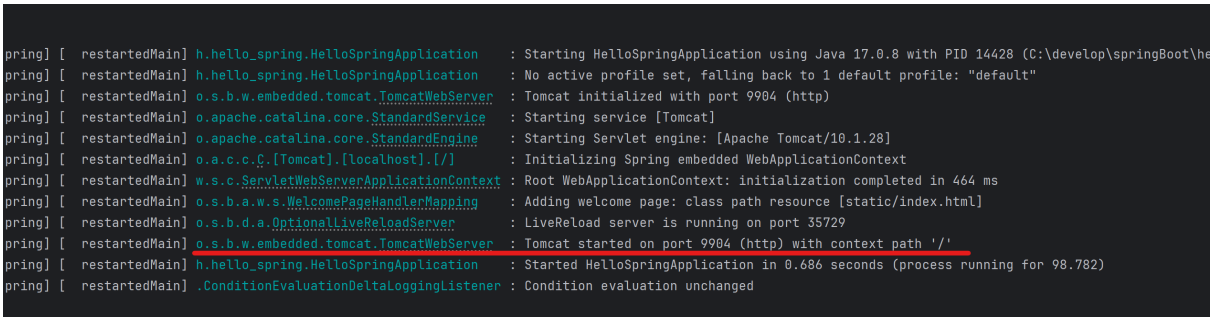
```
    }

    @Override
    public Optional<Member> findByName(String name) {
        return store.values().stream()
                .filter(member -> member.getName().equals(nam
                .findAny();
    }

    @Override
    public List<Member> findAll() {
        return new ArrayList<>(store.values());
    }

    public void clearStore(){
        store.clear();
    }

}
```



- **필드 주입**

```
@Autowired
private MemberService memberService;
```

- **setter 주입**

```
@Autowired
 public void setMemberService(MemberService memberService) {
     this.memberService = memberService;
 }
```

- **생성자 주입**

```
 private final MemberService memberService;

 @Autowired
 public MemberController(MemberService memberService) {
     this.memberService = memberService;
 }
```

- **의존관계가 실행 중에 동적으로 변하는 경우가 거의 없기 때문에 생성자 주입을 권장**
- **실무에서는 주로 정형화된 컨트롤러, 서비스, 리포지토리 같은 코드는 컴포넌트 스캔 사용**
- **정형화 되지 않거나 상황에 따라 구현 클래스를 변경해야 하면 설정을 통해 스프링 빈으로 등록**