Day 19: spring boot

　　spring boot rest, spring data :) dao layer can be written declartivly
　　spring boot jsp
　　spring boot security
　　spring boot web service

Why spring boot ?
it is wrapper on spring framework ...
it make conf dam easy! 0 configration
embedded tomcat
jar file , no need to configure web app

devOp supportive
docker , aws cloud plateforms
ms: spring boot support it
...)

@SpringBootApplication=

@SpringBootConfiguration + @EnableAutoConfiguration + @ComponentScan

Spring data: is a project ie it dont only talk about rdbms
**　　it also support NoSql**

adv: u dont have to write dao layer ..... :)

CrudRepository
JpaRepository
　　　　　　　　　　　　　　| **spring data** |
　　　　　　　　　　　　　　| **spring hibernate** |
　　　　　　　　　　　　　　| **hibernate** |

　　　　　　　　　　　　　　| **jdbc** |

　　　　　　　　　　　　　　　　ResponseEnity= data + http code
handle status code properly
handle exception in proper way

Spring boot hello world
spring boot and spring data
spring boot rest end point
spring boot status code and exception handing

spring boot : rest with proper ex handling
please run productapp2 and confirm it works or not?

how exception handling is working in spring boot rest?
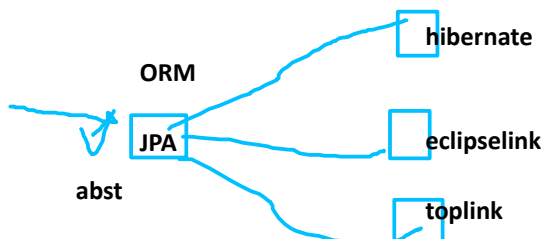
```
@GetMapping(path = "products/{id}")
public ResponseEntity<Product> getAnProduct(@PathVariable(name = "id") int id) {
    return ResponseEntity.ok(productService.getById(id));
}
```

ProductNotFoundException

```
@RestController
@ControllerAdvice //aop
public class ExceptionHandleController {

    // code to handle productNotFoundEx
    @ExceptionHandler(ProductNotFoundException.class)
    public ResponseEntity<ErrorDetails> handleProductNotFound(Exception ex, WebRequest req){
        ErrorDetails details=new ErrorDetails();
        details.setContact("rgupta.mtech@gmail.com");
        details.setDate(new Date());
        details.setErrorMessage(ex.getMessage());
        return ResponseEntity.status(HttpStatus.NOT_FOUND).body(details);
    }

    //code to handle any other server side error
    @ExceptionHandler(Exception.class)
    public ResponseEntity<ErrorDetails> handleAnyOtherEx(Exception ex, WebRequest req){
        ErrorDetails details=new ErrorDetails();
        details.setContact("rgupta.mtech@gmail.com");
        details.setDate(new Date());
        details.setErrorMessage(ex.getMessage());
        return ResponseEntity.status(HttpStatus.INTERNAL_SERVER_ERROR).body(details);
    }
}
```

Q? spring data : little in more details

in spring data vs jpa specification ?

hibernate

ORM

JPA   eclipselink

abst

toplink

even if u are using jpa
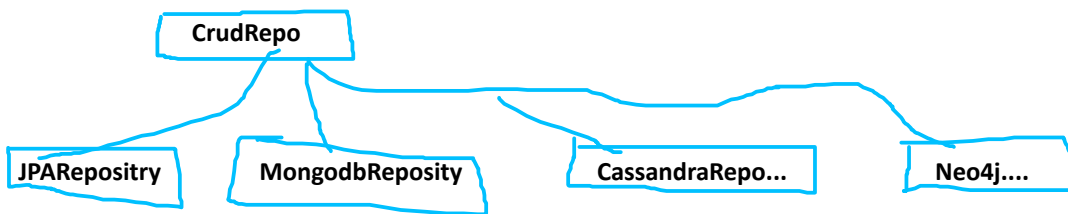we have to write the dao layer :(

Spring data:
another motation : is not to standard orm framework (its alrady done by JPA)

to provide declerative way to write crud opeation   RDBMS

:)

NoSql

CrudRepo

JPARepositry   **MongodbReposity**   **CassandraRepo...**   **Neo4j....**

Quaries and join and, pagination....
will cover after spring security

Spring security:

Servlet jsp :security , filter , not best solution
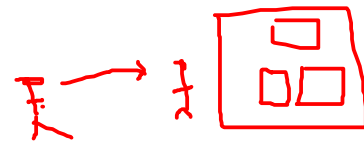
acegi framework... config :(

spring : spring security is build on top of acegi framework

authenticaation , authorization

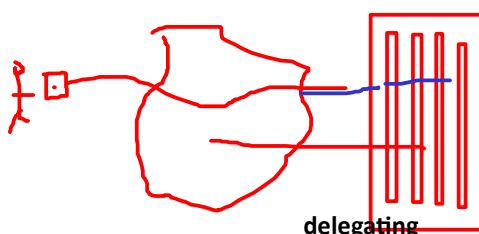who are u?   what u can access? role

spring sec: serlet filter , is used chain of filters..... delegating filter proxy (Spring mvc xml   , java , spring boot)

method level sec: AOP, @Secure, @PreAuthorized....
url based sec : filter

Arch of spring sec:

DaoAuthProvide
InMemoryAuth...

AuthenticationProvide

AuthenticationMgr

authenticate()
support()

Auth credentials
un/pw

Authenticate

authenticate()

UserDetailService

Authentication
Principal (current logged in user)

UserService

delegating
filterproxy
(it delegate call to filter chain)

userDao

db

how i get AuthencationMgr=> u have to create a class extends
WebSecurityConfigureAdaptor

```
<listener>
        <listener-class>org.springframework.web.context.ContextLoaderListener</listener-class>
    </listener>

    <context-param>
        <param-name>contextConfigLocation</param-name>
        <param-value>
        /WEB-INF/spring-security.xml
    </param-value>
    </context-param>

    <!-- Spring Security Filter -->
    <filter>
        <filter-name>springSecurityFilterChain</filter-name>
        <filter-class>org.springframework.web.filter.DelegatingFilterProxy</filter-class>
    </filter>

    <filter-mapping>
        <filter-name>springSecurityFilterChain</filter-name>
        <url-pattern>/*</url-pattern>
    </filter-mapping>
```
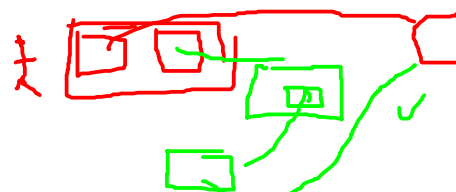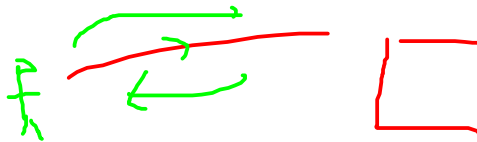
?

what is CSRF?

Restful ws must be stateless

ie one req should nothing to do with previour requeste

what 401   **vs**   **403**

it authenitcation fail   **if authenication is correct**
                                     but authorization is failed

Spring sec db integration

spring sec can not talk to my service layer
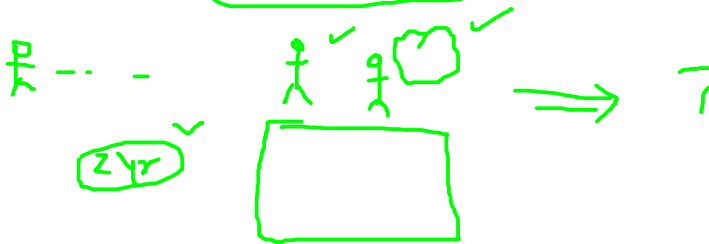**he will talk to a class if it extends UserDetailsService**

tue:
~~**nasa project**~~

"6 month"

must be know to u?
serilization : cover it :)
very imp topic

5 days
core java + ds

Z yr

good programming practive

ROLE_ADMIN   admin

ROLE_CLERK   mgr

ROLE_STORE_INCH   emp

NEXT DAY:

spring sec : jsp part
spring web service
revision of some topics : project work?

:)