

Security

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Spring Security



Spring Security

Spring security offers the following annotations:

- `@PreFilter` for filtering input iterable argument based on security constraints expressed in SpEL.
- `@PostFilter` for filtering output iterable value based on security constraints expressed in SpEL.
- `@PreAuthorize` for authorizing method execution based on security constraints expressed in SpEL.
- `@PostAuthorize` for authorizing return from the method execution based on security constraints expressed in SpEL.



Spring Security - SpEL

Relevant SpEL expressions:

- `hasRole('ROLE_ADMIN')` checks whether the currently logged in user has the 'ADMIN' role.
- `and`, `or` logical operators.
- `principal` the currently logged in user, e.g., `principal.username`.
- `filterObject` the object filtered from the collection, e.g., `filterObject.customer`.

Become familiar with these annotations before starting the following tasks.



Security in E-shop

Important security-related classes and notions used in the e-shop involve

- `SecurityConfig` and all the beans used in it
- `SecurityUtils`
 - Namely, the thread local-based `SecurityContextHolder`
- Aforementioned Spring security annotations



Tasks



Syncing Your Fork

- 1 Make sure your local Git repository clone is configured correctly¹ and all changes are committed (git status - your branch is up to date, nothing to commit).
- 2 Fetch branches and commits from the upstream repository (EAR/B201-eshop)
 - `git fetch upstream`
- 3 Check out local branch corresponding to the task branch
 - `git checkout -b b201-seminar-10-task`
- 4 Merge changes from the corresponding upstream branch
 - `git merge upstream/b201-seminar-10-task`
- 5 Do your task
- 6 Push the solution to your fork
 - `git push origin b201-seminar-10-task`

¹see seminar 2 page 18 (Task for 1 point) and page 19 (Syncing Your Fork)



Task – 1 point

- **Implement**
DefaultAuthenticationProvider.authenticate method to return the expected authentication information.
- **Acceptance criteria:** Tests in DefaultAuthenticationProviderTest should pass.
- **Hints:** Use SecurityUtils, UserDetails, and UserDetailsService classes in the method implementation.



Task – 1 point

- 1 Data modifying operations in `CategoryController` should be allowed only for administrators. Use appropriate Spring security features to secure the corresponding endpoints.
- 2 Method `OrderService.findAll` should return only the orders of the current user or all orders if the current user is administrator.

Acceptance criteria:

- 1 All tests in `CategoryControllerSecurityTest` pass.
- 2 All tests in `OrderServiceSecurityTest` pass.

Hints: Administrators are users with `Role.ADMIN`.



Resources

- <https://docs.spring.io/spring/docs/current/spring-framework-reference/core.html#expressions>
- <https://docs.spring.io/spring-security/site/docs/current/reference/htmlsingle/#el-access>

