

# Softwaretest and Security Assignment

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**Fag:** Softwaretest og Sikkerhed

## PRODUCT OWNER KRAV:

*Jeg ønsker en C#.NET server-side web app med høj sikkerhed som skal "deploy" på vores Linux setup. Jeg vil gerne have en 2 faktor bruger registrering OG login hvor bruger registrering og login info gemmes i en bruger database. Forresten skal login implementerer en stærk password krav. Vores firma har en SSL certifikat som applikationen kan bruges. Til at starte med, ønsker vi til den første sprint, at applikationen også kan opret en simpel tekst fil på serveren så vi kan gå i gang med at afprøve vores installeret Linux setup.*

## Product Backlog:

Requirement	Priority
C# .NET Server-side web app	1
Configure User database compatible with Linux	2
Design user registration interface	3
Implement two-factor authentication.	4
Implement strong password requirements.	4
Implement password validation.	4
Create pages (2, 3, 4) for testing access/authentication	5
Implement roles to allow for administrator	5
Implement SSL certificate capability.	6
Make the server capable of storing a textfile.	6
Store file locally for user and generally on server.	7

## Sprint Backlog:

Story:	Sprint	Requirement	Priority
Customer wants a C#.NET server-side Web APP	1	Configure C# .NET server-side web (Blazor)	1
Customer wants to deploy it on Linux.		Configure User database that is linux compatible	1
Customer wants the ability to generate a textfile on the server.		Implement ability to generate textfile locally for user in their personal folder, and on server.	2
Customer wants 2FA registration	2	Implement 2FA (Authenticator) on registration	3
Customer wants 2FA login		Implement 2FA (Authenticator) on login	4
User accomplishes this 2FA via QR Code		Add QR code capability to allow for easier 2FA	4
Customer wants to implement strong password		Implement strong password requirements	4
		Create roles to allow for administration	4
		Create pages to test access	5
Customer wants to store user info in Database		Save user info in database (SQLite)	5
Customer has an SSL Certificate for use.		Add SSL capability.	6

## **Test Plan:**

### **Test Cases:**

#### **Environment Testing:**

- **Windows/Linux:**
  - Ensure that registration/login/file write is functional on either OS.
- **Database:**
  - Ensure new users are saved in database (can login afterward)

#### **Functionality Testing:**

- **2FA:**
  - Verify new users are automatically required to utilize 2FA
  - Verify successful login with valid credentials and 2FA.
- **Password:**
  - Validate password requirements during registration (length, complexity).
    - 8 length, upper and lower case, digit
- **File System:**
  - Ensure write-access and sample.txt is created/username is appended, in wwwroot when accessing page 3

#### **Usability Testing:**

- **User Registration/Login:**
  - Test registration process flow.
  - Validate login flow; check if 2FA setup is intuitive for users.
- **Page Navigation and Access:**
  - Navigate to Page2 without login; verify redirection to login page.
  - Attempt to access Page4 without Admin role; ensure access denial/block.

#### **Performance Testing:**

- **File Storage Performance:**
  - Validate that username is appended to sample.txt each time Page3 is loaded.