

2018

Test report for “Testing Bank” application

IRYNA MARTYNCHUK(S315562) , MARIA MIKHAYLOVA(S315699),
MAJA ZOFIA KISZKA(S315589)

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1. Identification (Identifikasjon)

Name of final report:
“Testing of TestingBank application”.

Version: 1

Authors:
Iryna Martynchuk, Maria Mikhaylova, Maja Zofia Kiszka

Date: 15.03.2018

This final report involves all the tests included in the application, ie. everything from customer to admin data where they have been tested through unit, integration, and system testings.

2. Summary(Sammendrag)

Summarize the evaluation of the product being tested. Identify test environment that is used.

Oppsummer evalueringen av det produkt som er testet. Spesielt beskriv kritikaliteten av produktet, slik at de som leser denne rapporten vet hvor kritisk produktet og dens funksjoner er! Identifiser testmiljøet som er brukt.

To implement testing of the whole application we followed application structure and conducted testing on different layers. “TestingBank” is a sensitive application, since it requires high level of security and should be able to handle different input from users, including handling invalid data. Also since it is a web application it should be able to handle many inquiries/clients at the same time.

After testing different layers of the app, we found many mistakes when handling invalid input from both customer and admin sides. Regex should be improved and alert pop-up windows added.

All tests were performed on the mac OS with help of the following software:

- SoapUI 5.4.0
- Katalon Automation Recorder 3.4.4
- Google Chrome version 65.0.3325.162 (Official Build) (64-bit)
- NetBeans IDE Dev (Build 201801180002)
- MTM
- PHPUnit 5.1.0
- MAMP Version 4.3 (853)
- Xdebug 2.5.0

We were using following servers:

- Database server:

- Server: Localhost via UNIX socket
 - Server type: MySQL
 - Server version: 5.6.38 - MySQL Community Server (GPL)
 - Protocol version: 10
 - User: root@localhost
 - Server charset: UTF-8 Unicode (utf8)
- Web Server:
- Apache/2.2.34 (Unix) mod_wsgi/3.5 Python/2.7.13 PHP/7.1.12 mod_ssl/2.2.34 OpenSSL/1.0.2j DAV/2 mod_fastcgi/2.4.6 mod_perl/2.0.9 Perl/v5.24.0
 - Database client version: libmysql - mysqlnd 5.0.12-dev - 20150407 - \$Id: b396954eeb2d1d9ed7902b8bae237b287f21ad9e \$
 - PHP extension: mysqli; curl; mbstring
 - PHP version: 7.1.12

3. Differences in relations to the test plan (Avvik i forhold til test plan)

Describe all the differences between tests and test plan, test design and other test documentation, and provide a justification.

Beskriv alle avvik mellom den utførte test og testplanen, testdesign og annen testdokumentasjon, og gi en begrunnelse.

During testing we found out that handling of invalid input (register new customer with empty fields, invalid amounts in transactions, invalid editing) is not good enough, because of that we made more tests for registration and editing functions. During testing we've noticed that we need to use other functions to test output from the function that was tested. This led to some extra steps in test cases in SoapUI during integration testing. For example, when we made test for registrerBetaling function, we had to use hentBetalinger function after it to confirm the output.

4. Evaluation of the test thoroughness (Vurdering av testens grundighet)

Evaluate the accuracy of the test against the thoroughness requirements described in your test plan. Describe differences.

Evaluér testingens grundighet mot de grundighetskrav som er beskrevet i din testplan. Beskriv eventuelle avvik. Beskriv hva som er for lite testet og hvorfor.

According to our plan, unit testing was made more thoroughly, we tested regex, all possible combinations for login, and tried to make all possible tests for each function. Code coverage for adminDatabaseStub is 100%, for bankDatabaseStub 83.01%, because we did not check hentEnKunde and hentAlleKunder functions since they were not part of assignment. For bankLogikk and adminLogikk code coverage is 96.15% and 95% respectively. Integration and system testing were made not as detailed as unit testing, since there is no need to check all possible combinations and sometimes it is even impossible.

5. Remaining activities/tasks (Gjenstående aktiviteter/oppgaver)

Describe which testing activities/tasks might remain and which must be followed up, for example in later testing (in later releases, value chain testing). There may be some details that others need to know.

Beskriv hvilke testaktiviteter/oppgaver som eventuelt gjenstår og som må følges opp videre, f.eks. i senere tester (i senere releaser, verdikjedetester). Det kan være aksjonspunkter som andre må ta tak i.

In this project we did not make lots of changes in the actual code for the application, but in future all the bugs found should be fixed and code improvements should be made. Additional testing after these activities should be performed.

When performing additional tests, there are some changes in the database data in InitDB.sql file that one should be aware of: In line: “ ('105010123456', '01010110523', 720, 'Lønnskonto', 'NOK') ” instead of norwegian letter “ø” should be “oo”.

6. Differences in the product (Avvik i produktet)

Provide a summary of the testing results. Identify all differences found. Summarize their solution and describe the new testing/regression testing performed after correction. Identify all remaining unresolved differences. Provide a reason why they are not corrected.

**Gi et sammendrag av testresultatene. Identifiser alle avvik som ble funnet.
Oppsummer deres løsning og beskriv ny test / regressionstest som er utført etter
retting. Identifiser alle gjenstående uløste avvik. Gi en begrunnelse for at de ikke er
rettet.**

During unit testing registerBetaling function failed, because it is possible to register a payment with '0' or 'negative' amount, and then function utførBetaling is also incomplete, because it processed payment with negative amount.

During integration testing, in test cases adminEndreKontoFail, AdminSlettKunde_Feil, adminRegistrerKonto_FalseOK, adminRegistrerKundeFeil, adminEndreKundeFeil, registrerBetalingFeil, utførBetalingFeil, endreKundeInfo_Feil we found mistakes regarding poor robustness against incorrect input. These mistakes should be fixed in next version. And during system testing we confirmed that code lacks proper error handling with invalid input.

7. Evaluation of the tested product (Vurdering av produktet som er testet)

Provide an evaluation of each test object with its possible constraints. This should be based on the test results and the approval criteria previously planned (see test plan, etc.). Provide an estimate of the risk of putting the product into operation. Are there any special requirements that have been taken?

Gi en totalvurdering av hvert testobjekt med dets eventuelle begrensninger. Dette skal baseres på testresultatene og på godkjenningskriteriene som tidligere er planlagt brukt (se testplan, etc.). Gi et estimat av risikoen med å sette produktet i drift. Er det noen spesielle forutsetninger som er tatt?

Unit testing has succeeded in finding simple errors that may arise and building the basis for further testing. Tests passed with 95,83% approval and we are pleased with the results on this part.

Further in integration testing we have tested all APIs through the SoapUI and 27 got green color and passed and 8 got red color and failed. Most of the GET methods that we have tested have passed and have been returning expected information while a lot of POST methods didn't have expected error handling and were returning "OK" instead of "Feil" or other appropriate error messages on invalid data or empty input fields on submission of the form.

During system testing we have tested the product according to the user stories and we were satisfied with outcomes of tests conducted. But there are still areas for improvement to be

absolutely satisfied. During testing with Katalon we noticed that some of the functions should have a pop-up alert or confirmation windows.

The risk of putting the product into service is pretty high, because now it is possible to make transactions with invalid data, like wrong date and invalid amount. In addition, system is prone to sql injections, which compromises the security of the whole system. Also there is a risk of poor customer safety, as there is a lot of sensitive information and it should be protected in a better way.

8. Summary of activities and lessons learned (Sammendrag av aktiviteter og lærdom)

Give a rough description of the entire test process. Describe lessons learnt during the project testing. Summarize things like resource use.

Gi en grov beskrivelse av hele testingens forløp. Vekten her er å trekke ut lærdom av det testprosjektet som nå avsluttes. Oppsummer ting som ressursforbruk.

Software testing has been challenging from beginning to the end. PHPUnit and Code Coverage has been useful but very time consuming in terms of installation, we've also had some problems with configuration of NetBeans in the beginning. After we installed and configured the software, it was not very difficult to use it during unit testing. Working with database Stub was also new for us, and made it much easier to test functions without direct connection to database.

Integration testing with SoapUI has been easy to install but difficult to understand the whole picture how test cases are run, and how to write them properly with Init and login requests in every test case.

The last part should be more related to what users would do in the application in reality. Katalon for system testing was easy to install and easy to use. This section focused on user stories as criteria for approval of the product. There were some problems with popup confirmation window, but besides this it was easy to use.

To conclude, we must admit that it has been a very informative and challenging project. We've gotten a sense of what testing looks in real life. How to use up-to-date and relevant software related to testing. Our overall impression is that testing is a very complex task. Much more complex than one might think in the beginning. It requires focus and paying attention to details.

1. Identification (Identifikasjon)

Created: 10.02.2018 **Authors:** Maja Zofia Kiszka, Iryna Martynchuk, Maria Mikhaylova

Last updated: 16.03.2018 **Authors:** Maja Zofia Kiszka, Iryna Martynchuk, Maria Mikhaylova

What is tested: Banking system “TestingBank” via unit testing, integration testing, system testing

Version of the plan: 5

2. Introduction (Innledning)

Test should verify that existing functionality of the application is functioning. Give an overview of the system which is tested. / Testen skal verifisere at eksisterende funksjonalitet i applikasjonen fungerer. Gi et overblikk over systemet som skal testes.

TestingBank is a simple banking application, which is directed for private customers. This system consists of two main parts, which we can call “Kunde”/”Customer” and “Admin”. Each of these parts have their own set of functionalities. This structure is clearly reflected through the code.

Under this test plan the following functions under the “Kunde” system will be tested:

- Checking account information and saldo
- Registering payments
- Checking information about payments made
- Checking information about transactions made in a particular period
- Viewing and editing customer information

The following functions under the “Admin” system will be tested:

- Registering new customers
- Viewing customer details
- Changing customer details
- Deleting customer
- Registering new accounts
- Viewing account information
- Changing account information
- Deleting account

3. Test objects (Testobjekter)

Testobjekt i denne testplanen defineres som de programmer som skal gå i drift. Dvs. Alle filer, API'er etc.

Beskriv de funksjoner og egenskaper som skal testes og evt. som ikke skal testes. Er det noen prioritering av testene?

Code for given application has the following structure: API folder contains code for application interface; BLL, which contains the logic of the webpage and all the main functions as connected to the database; DAL, which provides access to the database, Model, which contains class structures and View, which provides style and structure of visual web content.

Under our test plan three types of tests will be included and performed in the following order: unit testing, integration testing and system testing. Functions written under BLL will be the main focus under the unit testing. All functions provided in bankLogikk.php and adminLogikk.php will be tested with the help of stub files (adminDatabaseStub.php and bankDatabaseStub.php), created to imitate response from a database.

Under the integration testing functions under the API folder will be in focus. All functions with the exception of loggUt.php, apiAdminHeader.php and bankAdminHeader.php will be tested. In order to perform integration tests in SoapUI additional InitDB.php and InitDB.sql will be created and used during testing. These files are used to restore the original state of the database before running each test in order to ensure that all the tests are run under the same preconditions.

System testing as a last part of our testing plan will concentrate on testing of the user interface as well as it's interaction with the server side. On this level the program will be tested as a whole in order to make sure that all the necessary functionalities are in place and functioning, as they should. User stories will be taken as a basis for the test performed.

4. Approach to testing (Fremgangsmåte)

Describe how testing will be performed. Which data will be used. How the tests will be automated/Beskriv hvordan testingen skal foregå. Hvilke data skal benyttes. Hvordan automatiseres testene?)

According to our test plan, first we will perform unit testing. At this level test we will be using database stub in order to imitate database, and therefore we will not be working with the information from the actual database. PHPunit framework will be used for test automation.

As the second phase of our testing plan, integration testing will be performed. Data from the actual database is used. In order to leave data unaltered InitDB.sql and InitDB.php are used. The only change that should be made in InitDB.sql is to replace special Norwegian characters (å,ø,æ) with readable through SoapUI letters(aa, oo, ae). This was done only on one occasion. Test data used for specific tests is reflected in the Test Plan tables. All tests are automated and performed via SoapUI using REST protocol.

During system testing we will be simulating the way customer/administrator will be using the system. Data from the original database was used as the basis. In order to perform Selenium automated tests Katalon Automation Recorder extension for Google Chrome was used.

4.1 Overall test strategy (Overordnet teststrategi)

The main goal of our project is to find as many existing errors associated with different parts of the system as possible in the TestingBank system (these could be errors related to retrieving or writing down information from/to the database, errors within the functions of the BLL, or errors in the API, etc.). This goal is achieved through performance of the unit testing, integration testing and system testing. Unit testing will be performed first, then integration testing and then system testing. At all levels, first step will be to formulate a test plan in order to prioritise the most important tests. For integration testing and system testing, chosen user stories will serve as a basis for test plans.

In our case the code for the TestingBank system will not be changed during testing, which means that the developed test plans will not be undergoing any significant changes either. All the tests therefore will be performed in accordance with these plans without any drastic alterations.

Unit testing: Test plan for unit testing will be formulated. Will be automated with the help of PHPUnit. Should be thorough so it will not lead to data corruption and will not compromise the following tests.

Integration testing: User stories will be formulated. The test plan will be formulated on the basis of prioritized user stories. Test will be performed and automated with the help of SoapUI using the REST protocol.

System testing: User stories will be written down organised into features using the Microsoft Test Management system. Test will be performed and all the bugs found will be recorded. Following given user stories tests in Katalon will be performed.

4.2 Procedure for planning and conducting the tests (Prosedyre for planlegging og gjennomføring av test)

How should the tests be specified and how should it be run?/Hvordan skal testene spesifiseres og hvordan skal de kjøres?

Unit testing is based on functions contained in BLL with its current parameters. Based on the parameters of the functions tested as well as those in DAL and keeping in mind class structures contained in domeneModel.php one should create a database stub.

Integration testing will be specified with the input and output of data provided in the API. Tests are run using the actual database.

System testing is specified with data of input and output against predetermined user histories. User stories

What are the criteria that the tests could be performed(setup of environment, database etc.)?/Hva er kriteriene for at testene kan kjøres (oppsett av miljø, database etc)?

In accordance with our plan all the tests are supposed to run on the local host, which means that local server environment should be set up. In our case MAMP will be used as all the members of the team use Mac OS. MAMP should also support PHP 7.1.10. PHP 7.1.12 was used. The project should be added and the code should run by appropriate IDE. For our project the NetBeans 8.1 IDE is chosen. The appropriate version PHPUnit should be set up in order to correspond the chosen NetBeans version. In our case PHPUnit 5.1.0 will be used. In order to see Code coverage Xdebug should be configured.

For integration testing SoapUI should be installed. SoapUI 5.4.0 will be used. For system testing the MTM system (Microsoft Test Management) will be used. The access to MTM was provided by the course leader. Additionally the Katalon extension for Chrome should be installed.

What are the criteria to determine that the test are run?/Hva er kriteriene for at testene er kjørt?

Code coverage will be the main indication of the unit tests being performed successfully. We are expecting the code coverage for adminLogikk.php and bankLogikk.php to be more than 95% (code coverage for these files will not be 100% as they include the connection to the database, which will not be covered by our tests).

The SoapUI gives a clear indication of whether the tests have been conducted, as they should be. In case if the test is performed and contains no mistakes the test case is marked as "Finished" and highlighted with green colour. In cases where tests have failed they will have status "Failed" and will be marked red. In order to make the TestingBank ready for deployment, all the fails in the system should be fixed and the tests should be run again. System can be considered to be ready for deployment when all the tests are passed.

System testing can be considered to be finished when all the user stories are covered. This would be easy to follow through the MTM, where all of the user stories will be written down. Testing application with help of Katalon is also part of system testing. Here you can easily indicate if the test is passed or failed, if the test passes it has green color, and if fails one will see red circle near test name. And also when you run the whole suite with all tests you can see under tests how many tests passed and how many failed.

4.3 Criteria for thoroughness in the test (Kriterier for grundighet i testen)

In order to check the level of thoroughness of the unit tests we can check the code coverage. One can easily spot the lack of necessary tests after performing all the tests and checking relevant code file.

Integration tests should be covering all the main user stories. All corresponding API functions should be tested. In most cases we expect to have more than one test per function, as to detect error during the normal flow and the existence of error handling within the functions.

System tests should also be covering all the formulated earlier user stories. It is important to note that when it comes to integration testing and system testing one is not expected to make test cases and assertions for all the possible inputs and outputs that the system can produce, but rather have to concentrate on prioritised user stories.

5. Acceptance Criteria (Godkjenningskriterier)

- The test is considered approved, when 95% of the Unit Testing is performed without serious Category A and B errors
- The test is considered approved, when 95% of the User Stories are completed without serious Category A and B errors
- The test is considered approved, when 95% of the Integration Testing is performed without serious Category A and B errors

When reporting errors, errors and deviations should be categorized. This will be further used as a basis for approval and eligibility criteria of the test. Following categories may be used for errors and deviation:

Category A: Errors in one or more functions that cause the system to stop. For example, the machine/system/function has to be restarted.

Category B: Errors have serious consequences in the system or adjoining systems, such as errors in databases, serious errors in reports so that they're misinterpreted.

Category C: Errors with less severe consequences, such as lesser degree of instability, minor malfunctions etc.

Category D: Errors without severe consequences, such as layout/printing errors connected with screenshots, reports or documentation that does not affect their interpretation

6. Test Environment (Testmiljø)

Describe the various test environments and tools used for those three test types.

- SoapUI 5.4.0
- Katalon Automation Recorder 3.4.4
- Google Chrome version 65.0.3325.162 (Official Build) (64-bit)
- NetBeans IDE Dev (Build 201801180002)
- MTM
- PHPUnit 5.1.0
- MAMP Version 4.3 (853)
- Xdebug 2.5.0

We were using following servers:

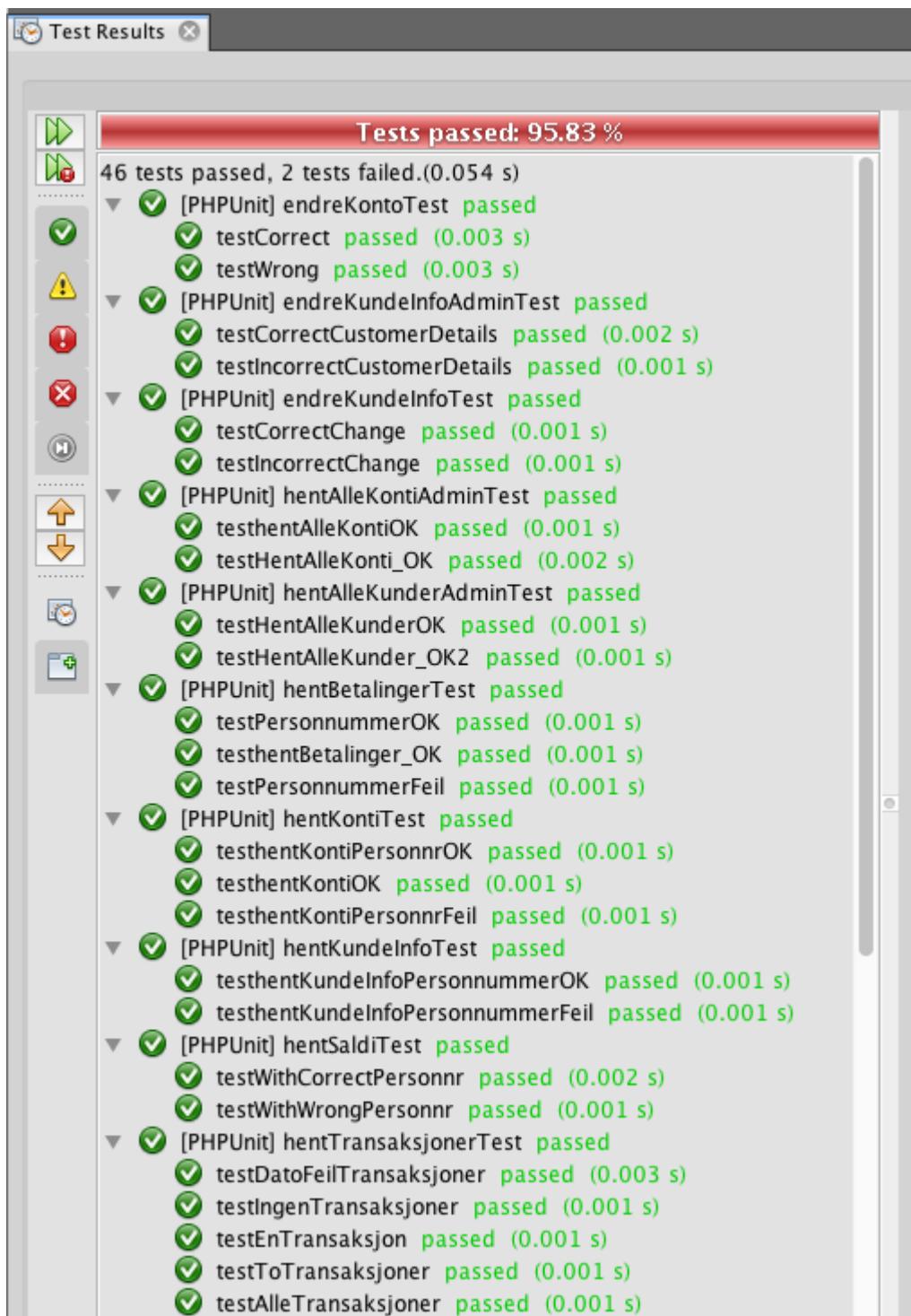
- Database server:
 - Server: Localhost via UNIX socket
 - Server type: MySQL
 - Server version: 5.6.38 - MySQL Community Server (GPL)
 - Protocol version: 10
 - User: root@localhost
 - Server charset: UTF-8 Unicode (utf8)
- Web Server:
 - Apache/2.2.34 (Unix) mod_wsgi/3.5 Python/2.7.13 PHP/7.1.12 mod_ssl/2.2.34 OpenSSL/1.0.2j DAV/2 mod_fastcgi/2.4.6 mod_perl/2.0.9 Perl/v5.24.0
 - Database client version: libmysql - mysqlnd 5.0.12-dev - 20150407 - \$Id: b396954eeb2d1d9ed7902b8bae237b287f21ad9e \$
 - PHP extension: mysqli; curl; mbstring
 - PHP version: 7.1.12

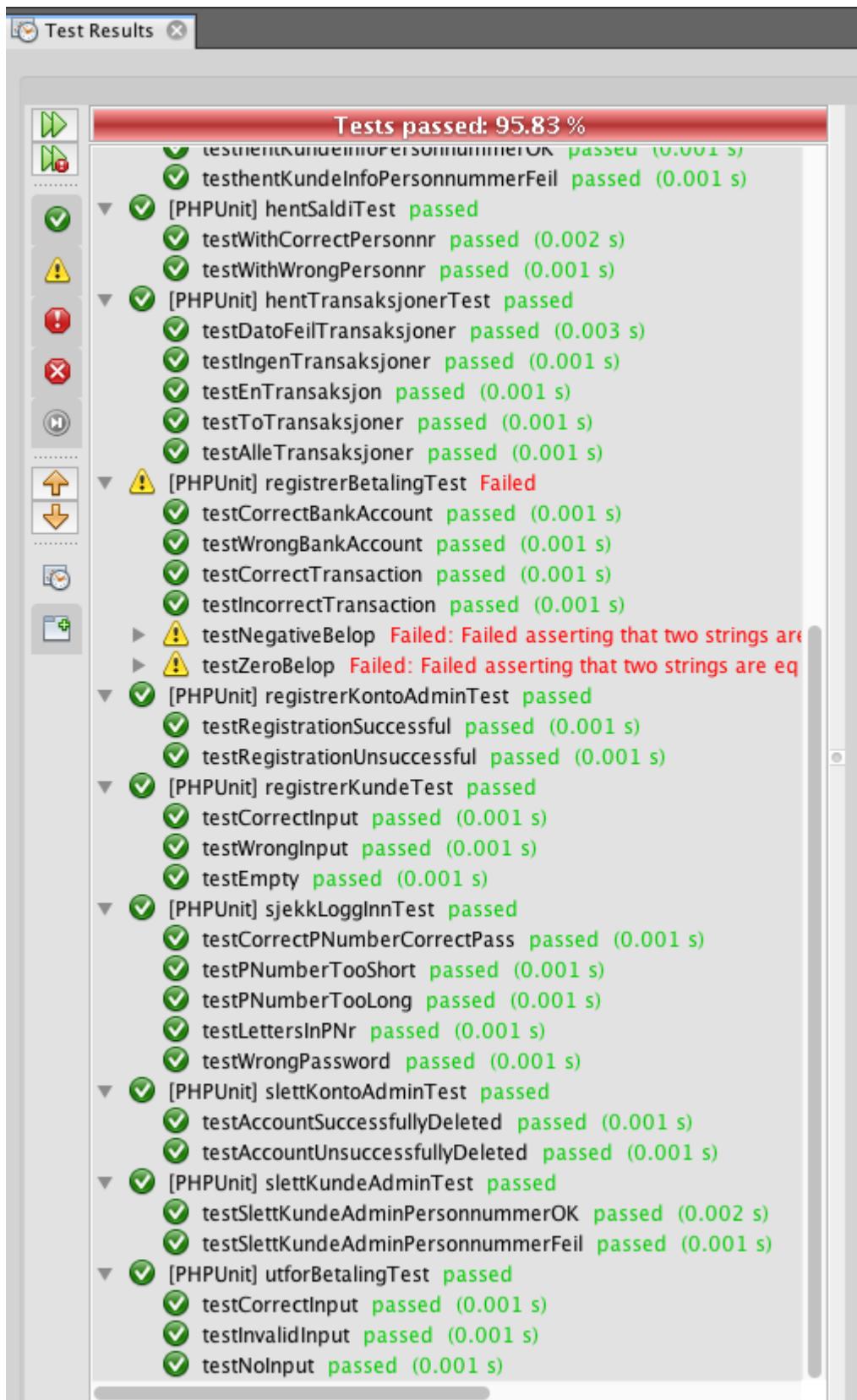
7. Result documents (Resultatdokumenter)

- Final report for the test
- Test plan
- Test Manuscript and Test Cases (Test Scenarios/ Test Cases, both automatic and manual scripts)
- Test logs, bug reports
- Description of test input and output data, files, databases
- Test programs (test data generators, stubs etc)

1. Unit Testing

1.1 PHPUnit tests





endreKontoTest

The screenshot shows a PHP code editor interface with the following details:

- Title Bar:** The title bar displays "endreKontoTest".
- Toolbar:** A standard toolbar with icons for file operations, search, and navigation.
- Project View:** On the left, there's a "Projects" view showing a single project folder.
- Code Editor:** The main area contains the PHP test code for "endreKontoTest".
- Code Content:**

```
<?php
    include_once '../Model/domeneModell.php';
    include_once '../DAL/databaseStub.php';
    include_once '../BLL/adminLogikk.php';
    //Hei Ira it's maja, just checking if the git is working

    class endreKontoTest extends PHPUnit_Framework_TestCase{
        public function testCorrect(){
            $konto = new konto();
            $konto->personnummer = "01010110523";
            $konto->kontonummer ="105010123456";
            $konto->saldo = "520";
            $konto->type = "Lønnskonto";
            $konto->valuta = "NOK";

            $admin = new Admin(new AdminDBStub());
            $result = $admin->endreKonto($konto);
            $this->assertEquals("OK", $result);
        }
        public function testWrong(){
            $konto = new konto();
            $konto->kontonummer ="105010123456";
            $konto->personnummer = "90";
            $konto->saldo = "520";
            $konto->type = "Lønnskonto";
            $konto->valuta = "NOK";

            $admin = new Admin(new AdminDBStub());
            $result = $admin->endreKonto($konto);
            $this->assertEquals("Feil", $result);
        }
    }

```
- Code Coverage:** At the bottom, it shows "Code Coverage: 0.00 %".

endreKundeInfoAdminTest

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/adminLogikk.php';
4
5
6 class endreKundeInfoAdminTest extends PHPUnit_Framework_TestCase{
7
8     function testCorrectCustomerDetails(){
9
10         $kunde = new kunde();
11         $kunde->etternavn = "Kiszka";
12         $kunde->adresse = "Thereses Gate";
13
14         $admin = new Admin(new AdminDBStub());
15
16         $result = $admin->endreKundeInfo($kunde);
17         $this->assertEquals($result, "OK");
18
19     }
20
21     function testIncorrectCustomerDetails(){
22
23         $kunde = new kunde();
24         $kunde->etternavn = "Etternavn";
25         $kunde->adresse = "";
26
27         $admin = new Admin(new AdminDBStub());
28
29         $result = $admin->endreKundeInfo($kunde);
30         $this->assertEquals($result, "Feil");
31
32     }
33
34 }
```

Code Coverage: 0.00 %

endreKundeInfoTest

The screenshot shows a Java IDE interface with a PHP test file open. The file is named `hentBetalingerTest.php` and is part of a project named `endreKundeInfoTest`. The code is written in PHP and contains three test methods: `testPersonnummerOK`, `testhentBetalinger_OK`, and `testPersonnummerFeil`. The code uses PHPUnit_Framework_TestCase and interacts with a `Bank` class via a `BankDBStub`.

```
<?php
include_once '../Model/domeneModell.php';
include_once '../DAL/databaseStub.php';
include_once '../BLL/bankLogikk.php';

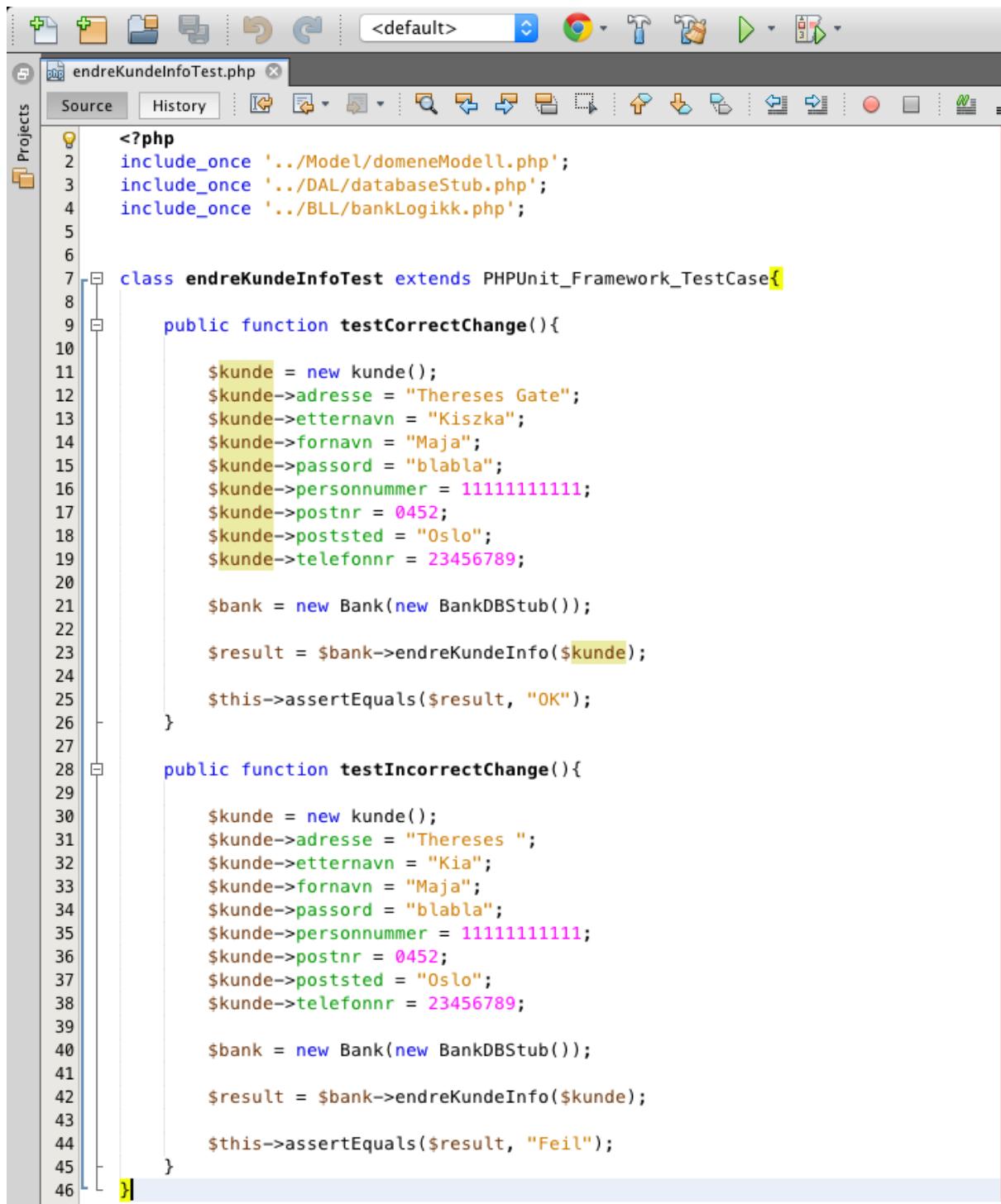
class hentBetalingerTest extends PHPUnit_Framework_TestCase{
    public function testPersonnummerOK(){
        $personnummer = 01010122344;
        $bank=new Bank(new BankDBStub());
        $betalinger = $bank->hentBetalinger($personnummer);
        $this->assertEquals(2,count($betalinger));
    }

    //or

    public function testhentBetalinger_OK(){
        // arrange
        $bank = new Bank(new BankDBStub());
        $personnummer = 01010122344;
        // act
        $transaksjon = $bank->hentBetalinger($personnummer);
        // assert
        $this->assertEquals("22342344556", $transaksjon[0]->fraTilKontonummer);
        $this->assertEquals("134.45", $transaksjon[0]->transaksjonBelop);
        $this->assertEquals("2015-03-26", $transaksjon[0]->dato);
        $this->assertEquals("Meny Holtet", $transaksjon[0]->melding);
    }

    public function testPersonnummerFeil(){
        $personnummer = 20108824000;
        $bank=new Bank(new BankDBStub());
        $betalinger = $bank->hentBetalinger($personnummer);
        $this->assertEquals(" ",$betalinger[0]);
    }
}
```

endreKundeInfo



The screenshot shows a PHP development environment with the following details:

- Title Bar:** The title bar displays "endreKundeInfoTest.php".
- Toolbar:** A standard toolbar with icons for file operations, search, and navigation.
- Project View:** On the left, there's a "Projects" view showing a single project folder.
- Code Editor:** The main area contains the PHP test code for "endreKundeInfo".
- Code Content:**

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/bankLogikk.php';
4
5
6
7 class endreKundeInfoTest extends PHPUnit_Framework_TestCase{
8
9     public function testCorrectChange(){
10
11         $kunde = new kunde();
12         $kunde->adresse = "Thereses Gate";
13         $kunde->etternavn = "Kiszka";
14         $kunde->fornavn = "Maja";
15         $kunde->passord = "blabla";
16         $kunde->personnummer = 11111111111;
17         $kunde->postnr = 0452;
18         $kunde->poststed = "Oslo";
19         $kunde->telefonnr = 23456789;
20
21         $bank = new Bank(new BankDBStub());
22
23         $result = $bank->endreKundeInfo($kunde);
24
25         $this->assertEquals($result, "OK");
26     }
27
28     public function testIncorrectChange(){
29
30         $kunde = new kunde();
31         $kunde->adresse = "Thereses ";
32         $kunde->etternavn = "Kia";
33         $kunde->fornavn = "Maja";
34         $kunde->passord = "blabla";
35         $kunde->personnummer = 11111111111;
36         $kunde->postnr = 0452;
37         $kunde->poststed = "Oslo";
38         $kunde->telefonnr = 23456789;
39
40         $bank = new Bank(new BankDBStub());
41
42         $result = $bank->endreKundeInfo($kunde);
43
44         $this->assertEquals($result, "Feil");
45     }
46 }
```

hentBetalingerTest

The screenshot shows a Java IDE interface with a PHP file named 'hentBetalingerTest.php' open. The code is a PHPUnit test case for a 'Bank' class, specifically for retrieving payment information ('Betalinger'). It includes three test methods: 'testPersonnummerOK', 'testhentBetalinger_OK', and 'testPersonnummerFeil'. The code uses assertions to check the correctness of the retrieved data.

```
<?php
include_once '../Model/domeneModell.php';
include_once '../DAL/databaseStub.php';
include_once '../BLL/bankLogikk.php';

class hentBetalingerTest extends PHPUnit_Framework_TestCase{
    public function testPersonnummerOK(){
        $personnummer = 01010122344;
        $bank=new Bank(new BankDBStub());
        $betalinger = $bank->hentBetalinger($personnummer);
        $this->assertEquals(2,count($betalinger));
    }

    //or

    public function testhentBetalinger_OK(){
        // arrange
        $bank = new Bank(new BankDBStub());
        $personnummer = 01010122344;
        // act
        $transaksjon = $bank->hentBetalinger($personnummer);
        // assert
        $this->assertEquals("22342344556", $transaksjon[0]->fraTilKontonummer);
        $this->assertEquals("134.45", $transaksjon[0]->transaksjonBelop);
        $this->assertEquals("2015-03-26", $transaksjon[0]->dato);
        $this->assertEquals("Meny Holtet", $transaksjon[0]->melding);
    }

    public function testPersonnummerFeil(){
        $personnummer = 20108824000;
        $bank=new Bank(new BankDBStub());
        $betalinger = $bank->hentBetalinger($personnummer);
        $this->assertEquals("",$betalinger[0]);
    }
}
```

hentAlleKontiAdminTest

The screenshot shows a Java IDE interface with a PHP file open. The file is named 'hentAlleKontiAdminTest.php' and contains PHP code for unit testing. The code includes imports for Model, DAL, and BLL components, and defines two test methods: 'testhentAlleKontiOK()' and 'testHentAlleKonti_OK()'. The second method contains detailed assertions for two account objects, comparing their personnummer, kontonummer, saldo, valuta, and type.

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/adminLogikk.php';
4
5 class hentAlleKontiAdminTest extends PHPUnit_Framework_TestCase {
6     public function testhentAlleKontiOK(){
7         //arrange
8         $admin = new Admin(new AdminDBStub());
9         //act
10        $resultat=$admin->hentAlleKonti();
11        //assert
12        $this->assertEquals(2,count($resultat));
13    }
14
15    public function testHentAlleKonti_OK()
16    {
17        // arrange
18        $admin = new Admin(new AdminDBStub());
19        // act
20        $konti = $admin->hentAlleKonti();
21        // assert
22        $this->assertEquals("12345678901", $konti[0]->personnummer);
23        $this->assertEquals("123123123", $konti[0]->kontonummer);
24        $this->assertEquals("2300.34", $konti[0]->saldo);
25        $this->assertEquals("NOK", $konti[0]->valuta);
26        $this->assertEquals("Lønnskonto", $konti[0]->type);
27
28        $this->assertEquals("12345678901", $konti[1]->personnummer);
29        $this->assertEquals("123123333", $konti[1]->kontonummer);
30        $this->assertEquals("230000.00", $konti[1]->saldo);
31        $this->assertEquals("NOK", $konti[1]->valuta);
32        $this->assertEquals("Sparekonto", $konti[1]->type);
33    }
34}
```

hentAlleKunderAdminTest

The screenshot shows a code editor window with the title bar "hentAlleKunderAdminTest.php". The menu bar includes "Source" and "History". The toolbar contains various icons for file operations like open, save, and search. The code itself is a PHPUnit test case for an Admin class. It includes two test methods: "testHentAlleKunderOK" and "testHentAlleKunder_OK2". The first method tests the count of returned customers, while the second method asserts specific details for each customer in the array.

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/adminLogikk.php';
4
5
6 class hentAlleKunderAdminTest extends PHPUnit_Framework_TestCase {
7     public function testHentAlleKunderOK(){
8         //arrange
9         $admin = new Admin(new AdminDBStub());
10        //act
11        $alleKunder=$admin->hentAlleKunder();
12        //assert
13        $this->assertEquals(3, count($alleKunder));
14    }
15
16    public function testHentAlleKunder_OK2(){
17        // arrange
18        $admin = new Admin(new AdminDBStub());
19        // act
20        $kunder = $admin->hentAlleKunder();
21        // assert
22        $this->assertEquals("01010122344", $kunder[0]->personnummer);
23        $this->assertEquals("Per", $kunder[0]->fornavn);
24        $this->assertEquals("Olsen", $kunder[0]->etternavn);
25        $this->assertEquals("Osloveien 82", $kunder[0]->adresse);
26        $this->assertEquals("1234", $kunder[0]->postnr);
27        $this->assertEquals("Asker", $kunder[0]->poststed);
28        $this->assertEquals("12345678", $kunder[0]->telefonnr);
29        $this->assertEquals("HeiHeiHei", $kunder[0]->passord);
30
31        $this->assertEquals("01010122355", $kunder[1]->personnummer);
32        $this->assertEquals("Line", $kunder[1]->fornavn);
33        $this->assertEquals("Jensen", $kunder[1]->etternavn);
34        $this->assertEquals("Askerveien 10", $kunder[1]->adresse);
35        $this->assertEquals("4321", $kunder[1]->postnr);
36        $this->assertEquals("Oslo", $kunder[1]->poststed);
37        $this->assertEquals("92876789", $kunder[1]->telefonnr);
38        $this->assertEquals("HeiHei2", $kunder[1]->passord);
39    }
40}
```

hentKontiTest

The screenshot shows a code editor window with the title "hentKontiTest.php". The menu bar includes "Source" and "History". The toolbar contains various icons for file operations like new, open, save, and search. The code itself is a PHPUnit test case named "hentKontiTest". It contains three test methods: "testhentKontiPersonnrOK()", "testhentKontiOK()", and "testhentKontiPersonnrFeil()". Each method follows a typical AAA (Arrange, Act, Assert) pattern using the Bank class and its stub.

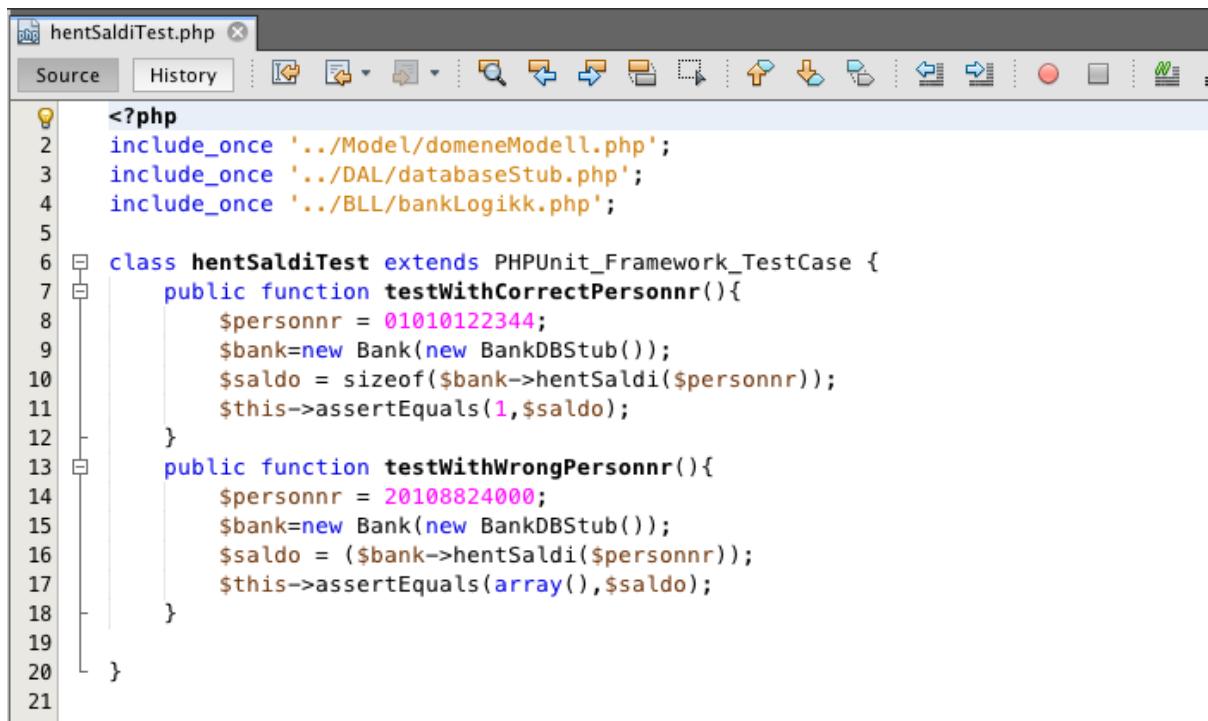
```
<?php  
2  
3     include_once '../Model/domeneModell.php';  
4     include_once '../BLL/bankLogikk.php';  
5  
6     class hentKontiTest extends PHPUnit_Framework_TestCase{  
7  
8         public function testhentKontiPersonnrOK(){  
9             //arrange  
10            $personnummer = 01010110523;  
11            $bank=new Bank(new BankDBStub());  
12            //act  
13            $konto = $bank->hentKonti($personnummer);  
14            //assert  
15            $this->assertEquals(105010123456,$konto[0]->kontonummer);  
16            $this->assertEquals(105010123499,$konto[1]->kontonummer);  
17        }  
18  
19        //or  
20  
21        public function testhentKontiOK(){  
22            //arrange  
23            $personnummer = 01010110523;  
24            $bank=new Bank(new BankDBStub());  
25            //act  
26            $konto = $bank->hentKonti($personnummer);  
27            //assert  
28            $this->assertEquals(2,count($konto));  
29        }  
30  
31        public function testhentKontiPersonnrFeil(){  
32            //arrange  
33            $personnummer = 0000000000;  
34            $bank=new Bank(new BankDBStub());  
35            //act  
36            $konto = $bank->hentKonti($personnummer);  
37            //assert  
38            $this->assertEquals(" ",$konto[0]);  
39        }  
40    }  
}
```

hentKundeInfoTest

```
hentKontiTest.php x hentKundeInfoTest.php
Source History ...
```

```
1 ?php
2
3 /*
4  * To change this license header, choose License Headers in Project Properties.
5  * To change this template file, choose Tools | Templates
6  * and open the template in the editor.
7 */
8
9 class hentKundeInfoTest extends PHPUnit_Framework_TestCase{
10    public function testhentKundeInfoPersonnummerOK(){
11        //arrange
12        $personnummer = 01010110523;
13        $bank=new Bank(new BankDBStub());
14        //act
15        $kunde = $bank->hentKundeInfo($personnummer);
16        //assert
17        $this->assertEquals('Maria',$kunde->fornavn);
18        $this->assertEquals('Mikhaylova',$kunde->etternavn);
19        $this->assertEquals('Ookern Torgvei 92',$kunde->adresse);
20        $this->assertEquals(1177,$kunde->postnr);
21        $this->assertEquals(45654654,$kunde->telefonnr);
22        $this->assertEquals('HeiHei',$kunde->passord);
23        $this->assertEquals('Oslo',$kunde->poststed);
24    }
25
26    public function testhentKundeInfoPersonnummerFeil(){
27        $personnummer = 01010110000;
28        $bank=new Bank(new BankDBStub());
29        //act
30        $kunde = $bank->hentKundeInfo($personnummer);
31        //assert
32        $this->assertEquals('Feil',$kunde);
33    }
34 }
```

hentSaldiTest



The screenshot shows a PHP code editor window with the title "hentSaldiTest.php". The code is a PHPUnit test case for a bank balance retrieval function. It includes three test methods: one for a correct person number and two for wrong ones.

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/bankLogikk.php';
4
5
6 class hentSaldiTest extends PHPUnit_Framework_TestCase {
7     public function testWithCorrectPersonnr(){
8         $personnr = 01010122344;
9         $bank=new Bank(new BankDBStub());
10        $saldo = sizeof($bank->hentSaldi($personnr));
11        $this->assertEquals(1,$saldo);
12    }
13    public function testWithWrongPersonnr(){
14        $personnr = 20108824000;
15        $bank=new Bank(new BankDBStub());
16        $saldo = ($bank->hentSaldi($personnr));
17        $this->assertEquals(array(),$saldo);
18    }
19
20}
21
```

hentTransaksjonerTest

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/bankLogikk.php';
4
5 class hentTransaksjonerTest extends PHPUnit_Framework_TestCase {
6
7
8     public function testDatoFeilTransaksjoner()
9     {
10        // arrange
11        $kontoNr = "10502023523";
12        $fraDato = '2015-03-27';
13        $tilDato = '2015-03-22';
14        $bank=new Bank(new BankDBStub());
15        // act
16        $konto= $bank->hentTransaksjoner($kontoNr, $fraDato, $tilDato);
17        // assert
18        $this->assertEquals("Fra dato må være større enn tildato",$konto);
19    }
20
21
22    public function testIngenTransaksjoner()
23    {
24        // arrange
25        $kontoNr = "10502023523";
26        $fraDato = '2015-03-20';
27        $tilDato = '2015-03-22';
28        $bank=new Bank(new BankDBStub());
29        // act
30        $konto= $bank->hentTransaksjoner($kontoNr, $fraDato, $tilDato);
31        // assert
32        $this->assertEquals("010101234567",$konto->personnummer);
33        $this->assertEquals($kontoNr,$konto->kontonummer);
34        $this->assertEquals("Sparekonto",$konto->type);
35        $this->assertEquals(2300.34,$konto->saldo);
36        $this->assertEquals("NOK",$konto->valuta);
37        $tomtArray = array();
38        $this->assertEquals($tomtArray,$konto->transaksjoner);
39    }
40}
```

```
40
41     public function testEnTransaksjon()
42     {
43         // arrange
44         $kontoNr = "10502023523";
45         $fraDato = '2015-03-26';
46         $stilDato = '2015-03-26';
47         $bank=new Bank(new BankDBStub());
48         // act
49         $konto= $bank->hentTransaksjoner($kontoNr, $fraDato, $stilDato);
50         // assert
51         $this->assertEquals("010101234567",$konto->personnummer);
52         $this->assertEquals($kontoNr,$konto->kontonummer);
53         $this->assertEquals("Sparekonto",$konto->type);
54         $this->assertEquals(2300.34,$konto->saldo);
55         $this->assertEquals("NOK",$konto->valuta);
56         $this->assertEquals('2015-03-26',$konto->transaksjoner[0]->dato);
57         $this->assertEquals(134.4,$konto->transaksjoner[0]->transaksjonBelop);
58         $this->assertEquals("22342344556",$konto->transaksjoner[0]->fraTilKontonummer);
59         $this->assertEquals("Meny Holtet",$konto->transaksjoner[0]->melding);
60     }
61     public function testToTransaksjoner()
62     {
63         // arrange
64         $kontoNr = "10502023523";
65         $fraDato = '2015-03-27';
66         $stilDato = '2015-03-30';
67         $bank=new Bank(new BankDBStub());
68         // act
69         $konto= $bank->hentTransaksjoner($kontoNr, $fraDato, $stilDato);
70         // assert
71         $this->assertEquals("010101234567",$konto->personnummer);
72         $this->assertEquals($kontoNr,$konto->kontonummer);
73         $this->assertEquals("Sparekonto",$konto->type);
74         $this->assertEquals(2300.34,$konto->saldo);
75         $this->assertEquals("NOK",$konto->valuta);
76         $this->assertEquals('2015-03-27',$konto->transaksjoner[0]->dato);
77         $this->assertEquals(-2056.45,$konto->transaksjoner[0]->transaksjonBelop);
78         $this->assertEquals("114342344556",$konto->transaksjoner[0]->fraTilKontonummer);
79         $this->assertEquals("Husleie",$konto->transaksjoner[0]->melding);
80         $this->assertEquals('2015-03-29',$konto->transaksjoner[1]->dato);
81         $this->assertEquals(1454.45,$konto->transaksjoner[1]->transaksjonBelop);
82         $this->assertEquals("114342344511",$konto->transaksjoner[1]->fraTilKontonummer);
83         $this->assertEquals("Lekeland",$konto->transaksjoner[1]->melding);
84     }
```

The screenshot shows a Java Integrated Development Environment (IDE) interface. The title bar displays three tabs: "endreKundelInfoTest.php", "sjekkLoggInnTest.php", and "hentTransaksjonerTest.php". The main window contains the source code for the "hentTransaksjonerTest.php" file. The code is a PHPUnit test for a bank system, specifically testing the "hentTransaksjoner" method. It includes two test methods: "testEnkeltTransaksjon" and "testAlleTransaksjoner". The "testEnkeltTransaksjon" method asserts equality for a single transaction entry. The "testAlleTransaksjoner" method asserts equality for all transaction entries in an array, comparing fields like date, amount, and message against expected values. The code uses the PHP Mock Object API (MockObject) for assertions.

```
80     $this->assertEquals('2015-03-29', $konto->transaksjoner[1]->dato);
81     $this->assertEquals(1454.45, $konto->transaksjoner[1]->transaksjonBelop);
82     $this->assertEquals("114342344511", $konto->transaksjoner[1]->fraTilKontonummer);
83     $this->assertEquals("Lekeland", $konto->transaksjoner[1]->melding);
84 }
85
86 public function testAlleTransaksjoner()
87 {
88     // arrange
89     $kontoNr = "10502023523";
90     $fraDato = '2015-03-26';
91     $tilDato = '2015-03-30';
92     $bank=new Bank(new BankDBStub());
93     // act
94     $konto= $bank->hentTransaksjoner($kontoNr, $fraDato, $tilDato);
95     // assert
96     $this->assertEquals("010101234567", $konto->personnummer);
97     $this->assertEquals($kontoNr, $konto->kontonummer);
98     $this->assertEquals("Sparekonto", $konto->type);
99     $this->assertEquals(2300.34, $konto->saldo);
100    $this->assertEquals("NOK", $konto->valuta);
101    $this->assertEquals('2015-03-26', $konto->transaksjoner[0]->dato);
102    $this->assertEquals(134.4, $konto->transaksjoner[0]->transaksjonBelop);
103    $this->assertEquals("22342344556", $konto->transaksjoner[0]->fraTilKontonummer);
104    $this->assertEquals("Meny Holtet", $konto->transaksjoner[0]->melding);
105    $this->assertEquals('2015-03-27', $konto->transaksjoner[1]->dato);
106    $this->assertEquals(-2056.45, $konto->transaksjoner[1]->transaksjonBelop);
107    $this->assertEquals("114342344556", $konto->transaksjoner[1]->fraTilKontonummer);
108    $this->assertEquals("Husleie", $konto->transaksjoner[1]->melding);
109    $this->assertEquals('2015-03-29', $konto->transaksjoner[2]->dato);
110    $this->assertEquals(1454.45, $konto->transaksjoner[2]->transaksjonBelop);
111    $this->assertEquals("114342344511", $konto->transaksjoner[2]->fraTilKontonummer);
112    $this->assertEquals("Lekeland", $konto->transaksjoner[2]->melding);
113 }
```

registerBetalingTest

The screenshot shows a Java IDE interface with a PHP test class named `registerBetalingTest.php`. The code is written in PHP and contains two test methods: `testIncorrectBankAccountNumber()` and `testCorrectTransaction()`. The code uses the `BankDBStub` to simulate a database and the `Bank` class to handle transactions. The `registerBetaling` method is tested with both incorrect and correct bank account numbers, and the resulting error message is asserted.

```
41 //Incorrect bank account number - but correct message
42 //Arrange
43 $kontoNr = "127890";
44 $bank = new Bank(new BankDBStub());
45 $konto = new konto();
46 $konto->personnummer = "000000000000";
47 $konto->kontonummer = $kontoNr;
48 $konto->saldo = 999.99 ;
49 $konto->type = "Spare";
50 $konto->valuta = "NOK";
51 $transaksjoner = array();

52
53     $transaksjon1 = new transaksjon();
54     $transaksjon1->avventer = 1;
55     $transaksjon1->fraTilKontonummer = "0099887766";
56     $transaksjon1->belop = 500;
57     $transaksjon1->melding="message";
58     $transaksjon1->dato="12-05-17";
59     $transaksjoner [] = $transaksjon1;

60
61     $konto->transaksjoner = $transaksjoner;
62     $transaksjon = $konto->transaksjoner[0];
63     //act
64     $result = $bank->registerBetaling($kontoNr, $transaksjon);
65     //assert
66     $this->assertEquals("Feil", $result);
67
68 }
69
70 public function testCorrectTransaction(){
71     //Arrange
72     $kontoNr = "1234567890";    //correct account nr
73     $bank = new Bank(new BankDBStub());
74     $konto = new konto();
75     $konto->personnummer = "000000000000";
76     $konto->kontonummer = $kontoNr;
77     $konto->saldo = 999.99 ;
78     $konto->type = "Spare";
79     $konto->valuta = "NOK";
80     $transaksjoner = array();
81 }
```

```
81     $transaksjon1 = new transaksjon();
82     $transaksjon1->avventer = 1;
83     $transaksjon1->fraTilKontonummer = "0099887766";
84     $transaksjon1->belop = 500;
85     $transaksjon1->melding="message"; //correct message
86     $transaksjon1->dato="12-05-17";
87     $transaksjoner [] = $transaksjon1;
88
89
90     $konto->transaksjoner = $transaksjoner;
91     $transaksjon = $konto->transaksjoner[0];
92
93     //Act
94     $result = $bank->registerBetaling($kontoNr, $transaksjon);
95     //Assert
96     $this->assertEquals("OK", $result);
97 }
98
99 ⚠ public function testIncorrectTransaction(){
100     //Arrange
101     $kontoNr = "123"; //incorrect bank number
102     $bank = new Bank(new BankDBStub());
103     $konto = new konto();
104     $konto->personnummer = "000000000000";
105     $konto->kontonummer = $kontoNr;
106     $konto->saldo = 999.99 ;
107     $konto->type = "Spare";
108     $konto->valuta = "NOK";
109     $transaksjoner = array();
110
111     $transaksjon1 = new transaksjon();
112     $transaksjon1->avventer = 1;
113     $transaksjon1->fraTilKontonummer = "0099887766";
114     $transaksjon1->belop = 500;
115     $transaksjon1->melding="message"; //correct message
116     $transaksjon1->dato="12-05-17";
117     $transaksjoner [] = $transaksjon1;
118
119     $transaksjon2 = new transaksjon();
120     $transaksjon2->avventer = 0;
121     $transaksjon2->fraTilKontonummer="1122334455";
```

The screenshot shows a Java IDE interface with a code editor containing PHP test code. The code is part of a class named 'utforBetalingTest.php'. It includes several test methods: 'testPositiveBelop', 'testNegativeBelop', and 'testMelding'. The code uses the Mockito framework for testing a 'Bank' class. It creates a 'Konto' object with various properties like account number, person number, balance, type, and currency. It then creates a 'Transaksjon' object with specific values for recipient account number, amount, message, and date. Finally, it calls the 'registerBetaling' method on the 'Bank' object and asserts that it returns an error ('Feil').

```
121     $transaksjon2->fraTilKontonummer="1122334455";
122     $transaksjon2->belop=66.99;
123     $transaksjon2->melding = "wrong message"; //incorrect message
124     $transaksjon2->dato="11-11-2017";
125     $transaksjoner [] = $transaksjon2;
126
127
128     $konto->transaksjoner = $transaksjoner;
129     $transaksjon = $konto->transaksjoner[0];
130     $secondTransaksjon = $konto->transaksjoner[1];
131     //Act
132     $result = $bank->registerBetaling($kontoNr, $transaksjon);
133     $secondResult = $bank->registerBetaling($kontoNr, $secondTransaksjon);
134     //Assert
135     $this->assertEquals("Feil", $result);
136     $this->assertEquals("Feil", $secondResult);
137 }
138
139
140 public function testNegativeBelop(){
141
142     //Arrange
143     $kontoNr = "1234567890";    //correct account nr
144     $bank = new Bank(new BankDBStub());
145     $konto = new Konto();
146     $konto->personnummer = "000000000000";
147     $konto->kontonummer = $kontoNr;
148     $konto->saldo = 999.99 ;
149     $konto->type = "Spare";
150     $konto->valuta = "NOK";
151     $transaksjoner = array();
152
153     $transaksjon1 = new Transaksjon();
154     $transaksjon1->avventer = 1;
155     $transaksjon1->fraTilKontonummer = "0099887766";
156     $transaksjon1->belop = -500;
157     $transaksjon1->melding="message";
158     $transaksjon1->dato="12-05-17";
159     $transaksjoner [] = $transaksjon1;
160
161     $konto->transaksjoner = $transaksjoner;
```

The screenshot shows a Java IDE interface with the following details:

- Toolbar:** Standard Java IDE toolbar with icons for file operations, search, and navigation.
- Project Explorer:** Shows a single project named "bankDatabaseStub.php".
- Code Editor:** Displays the content of `utforBetalingTest.php`. The code is a PHPUnit test for a banking system, specifically testing the `registerBetaling` method. It includes setup code, assertions, and a test function `testZeroBelop` which creates a new account with a balance of 999.99 NOK and performs a zero-value payment.
- Code Coverage:** A progress bar at the bottom indicates "Code Coverage: 0.00 %".
- Test Results:** A tab labeled "Test Results" is visible at the bottom left.
- Bottom Bar:** Includes the "TestingBank" logo.

```
161 $konto->transaksjoner = $transaksjoner;
162 $transaksjon = $konto->transaksjoner[0];
163
164 //Act
165 $result = $bank->registerBetaling($kontoNr, $transaksjon);
166 //Assert
167 $this->assertEquals("Feil", $result);
168
169 }
170
171 public function testZeroBelop(){
172
173     //Arrange
174     $kontoNr = "1234567890";
175     $bank = new Bank(new BankDBStub());
176     $konto = new konto();
177     $konto->personnummer = "0000000000";
178     $konto->kontonummer = $kontoNr;
179     $konto->saldo = 999.99 ;
180     $konto->type = "Spare";
181     $konto->valuta = "NOK";
182     $transaksjoner = array();
183
184     $transaksjon1 = new transaksjon();
185     $transaksjon1->avventer = 1;
186     $transaksjon1->fraTilKontonummer = "0099887766";
187     $transaksjon1->belop = 0;
188     $transaksjon1->melding="message";
189     $transaksjon1->dato="12-05-17";
190     $transaksjoner [] = $transaksjon1;
191
192     $konto->transaksjoner = $transaksjoner;
193     $transaksjon = $konto->transaksjoner[0];
194
195     //Act
196     $result = $bank->registerBetaling($kontoNr, $transaksjon);
197     //Assert
198     $this->assertEquals("Feil", $result);
199 }
200
201
```

registerKontoAdminTest

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/adminLogikk.php';
4
5
6 class registerKontoAdminTest extends PHPUnit_Framework_TestCase{
7
8     function testRegistrationSuccessful() {
9
10         $konto = new konto();
11         $konto->personnummer = "111111111111";
12
13         $admin = new Admin(new AdminDBStub());
14         $result = $admin->registerKonto($konto);
15
16         $this->assertEquals($result, "OK");
17     }
18
19     function testRegistrationUnsuccessful(){
20
21         $konto = new konto();
22         $konto->personnummer = "123";
23
24         $admin = new Admin(new AdminDBStub());
25         $result = $admin->registerKonto($konto);
26
27         $this->assertEquals($result, "Feil");
28     }
29
30
31 }
32 }
```

registerKundeTest

The screenshot shows a code editor interface with two tabs at the top: "registerKontoAdminTest.php" and "registerKundeTest.php". The "registerKundeTest.php" tab is active, displaying the following PHP code:

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/adminLogikk.php';
4
5
6 class registerKundeTest extends PHPUnit_Framework_TestCase{
7     public function testCorrectInput(){
8
9         $kunde = new kunde();
10        $kunde->personnummer = "20108824000";
11        $kunde->fornavn = "Iryna";
12        $kunde->etternavn = "Martynchuk";
13        $kunde->adresse = "Wilses gate 3b, L303";
14        $kunde->postnr = "0178";
15        $kunde->poststed = "Oslo";
16        $kunde->telefonnr = "92120940";
17        $kunde->passord = "123456";
18        $admin = new Admin(new AdminDBStub);
19        $result = $admin->registerKunde($kunde);
20        $this->assertEquals("OK", $result);
21    }
22
23    public function testWrongInput(){
24        $kunde = new kunde();
25        $kunde->personnummer = "0";
26        $kunde->fornavn = "Iryna";
27        $kunde->etternavn = "Martynchuk";
28        $kunde->adresse = "Wilses gate 3b, L303";
29        $kunde->postnr = "0178";
30        $kunde->poststed = "Oslo";
31        $kunde->telefonnr = "92120940";
32        $kunde->passord = "123456";
33        $admin = new Admin(new AdminDBStub);
34        $result = $admin->registerKunde($kunde);
35        $this->assertEquals("Feil", $result);
36    }
37    public function testEmpty(){
38        $kunde = new kunde();
39        $admin = new Admin(new AdminDBStub);
40        $result = $admin->registerKunde($kunde);
41        $this->assertEquals("Feil", $result);
42    }
43}
```

sjekkLoggInnTest

The screenshot shows a PHP development environment with the following details:

- Title Bar:** The title bar displays "sjekkLoggInnTest.php" as the active tab.
- Toolbar:** Standard IDE toolbar with icons for file operations, search, and navigation.
- Project View:** A sidebar labeled "Projects" showing a single project structure.
- Code Editor:** The main area contains the source code for the test class "sjekkLoggInnTest".
- Code Content:**

```
<?php
    include_once '../Model/domeneModell.php';
    include_once '../DAL/databaseStub.php';
    include_once '../BLL/bankLogikk.php';

class sjekkLoggInnTest extends PHPUnit_Framework_TestCase{

    public function testCorrectPNumberCorrectPass(){
        //Arrange
        $personnummer = "111111111111";
        $password = "123456";
        $bank = new Bank(new BankDBStub());
        //Act
        $result = $bank->sjekkLoggInn($personnummer, $password);
        //Assert
        $this->assertEquals($result, "OK");
    }

    public function testPNumberTooShort(){
        //Arrange
        $personnummer = "1111111";
        $password = "123456";
        $bank = new Bank(new BankDBStub());
        //Act
        $result = $bank->sjekkLoggInn($personnummer, $password);
        //Assert
        $this->assertEquals($result, "Feil i personnummer");
    }

    public function testPNumberTooLong(){
        //Arrange
        $personnummer = "1111111111111111";
        $password = "123456";
        $bank = new Bank(new BankDBStub());
        //Act
        $result = $bank->sjekkLoggInn($personnummer, $password);
        //Assert
        $this->assertEquals($result, "Feil");
    }
}
```

The screenshot shows a Java IDE interface with a code editor containing a test class. The code is written in PHP and includes three test methods: `testLettersInPNr`, `testWrongPassword`, and `NoPassword`. The code uses the `BankDBStub` class to interact with a database.

```
41     public function testLettersInPNr(){
42         //Arrange
43         $personnummer = "1111111111a";
44         $password = "123456";
45         $bank = new Bank(new BankDBStub());
46         //Act
47         $result = $bank->sjekkLoggInn($personnummer, $password);
48         //Assert
49         $this->assertEquals($result, "Feil i personnummer");
50     }
51
52     public function testWrongPassword(){
53         //Arrange
54         $personnummer = "11111111111";
55         $password = "1476";
56         $bank = new Bank(new BankDBStub());
57         //Act
58         $result = $bank->sjekkLoggInn($personnummer, $password);
59         //Assert
60         $this->assertEquals($result, "Feil i passord");
61     }
62
63     public function NoPassword(){
64         //Arrange
65         $personnummer = "11111111111";
66         $password = "";
67         $bank = new Bank(new BankDBStub());
68         //Act
69         $result = $bank->sjekkLoggInn($personnummer, $password);
70         //Assert
71         $this->assertEquals($result, "Feil i passord");
72     }
73 }
74
75 }
```

slettKontoAdminTest

The screenshot shows a PHP code editor window with the title bar "slettKontoAdminTest.php". The menu bar includes "Source" and "History". The toolbar contains various icons for file operations like new, open, save, and search. The code itself is a PHPUnit test case for account deletion:

```
1 ?php
2 include_once '../Model/domeneModell.php';
3 include_once '../DAL/databaseStub.php';
4 include_once '../BLL/adminLogikk.php';
5
6 class slettKontoAdminTest extends PHPUnit_Framework_TestCase{
7
8     function testAccountSuccessfullyDeleted(){
9
10         $konto = new konto();
11         $konto->kontonummer = "1234567890";
12
13         $admin = new Admin(new AdminDBStub());
14
15         $result = $admin->slettKonto($konto->kontonummer);
16         $this->assertEquals($result, "OK");
17
18     }
19
20     function testAccountUnsuccessfullyDeleted(){
21
22         $konto = new konto();
23         $konto->kontonummer = "123";
24
25         $admin = new Admin(new AdminDBStub());
26         $result = $admin->slettKonto($konto->kontonummer);
27
28         $this->assertEquals($result, "Feil");
29
30     }
31
32
33 }
34 }
```

slettKundeAdminTest

The screenshot shows a code editor window with two tabs at the top: "slettKontoAdminTest.php" and "slettKundeAdminTest.php". The "slettKundeAdminTest.php" tab is active, displaying the following PHP code:

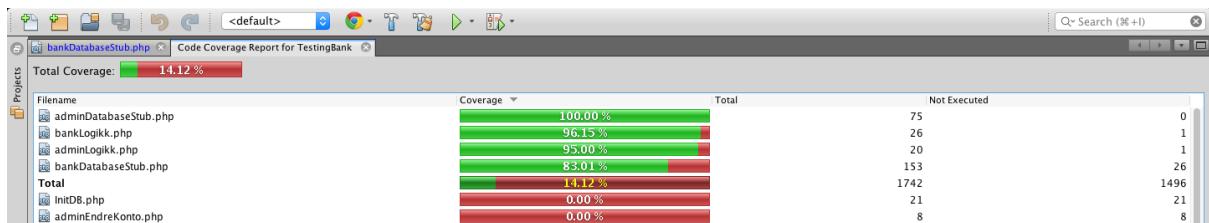
```
<?php
2
3     include_once '../Model/domeneModell.php';
4     include_once '../DAL/databaseStub.php';
5     include_once '../BLL/adminLogikk.php';
6
7     class slettKundeAdminTest extends PHPUnit_Framework_TestCase {
8
9         public function testSlettKundeAdminPersonnummerOK() {
10            //arrange
11            $personnummer=12345678901;
12            $admin=new Admin(new AdminDBStub());
13            //act
14            $resultat=$admin->slettKunde($personnummer);
15            //assert
16            $this->assertEquals('OK',$resultat);
17        }
18
19        public function testSlettKundeAdminPersonnummerFeil() {
20            //arrange
21            $personnummer=12345600000;
22            $admin=new Admin(new AdminDBStub());
23            //act
24            $resultat=$admin->slettKunde($personnummer);
25            //assert
26            $this->assertEquals('Feil',$resultat);
27        }
28    }
29
30 }
```

utførBetalingTest

The screenshot shows a PHP IDE interface with two tabs open: 'bankDatabaseStub.php' and 'utførBetalingTest.php'. The 'utførBetalingTest.php' tab is active, displaying the following PHP code:

```
<?php
1 include_once '../Model/domeneModell.php';
2 include_once '../DAL/databaseStub.php';
3 include_once '../BLL/bankLogikk.php';
4
5 class utførBetalingTest extends PHPUnit_Framework_TestCase{
6     public function testCorrectInput(){
7         $TxID = 7;
8         $bank = new Bank(new BankDBStub());
9         $result = $bank->utførBetaling($TxID);
10        $this->assertEquals("OK", $result);
11    }
12
13    public function testInvalidInput(){
14        $TxID = 6;
15        $bank = new Bank(new BankDBStub());
16        $result = $bank->utførBetaling($TxID);
17        $this->assertEquals("Feil", $result);
18    }
19
20    public function testNoInput(){
21        $bank = new Bank(new BankDBStub());
22        $result = $bank->utførBetaling(" ");
23        $this->assertEquals("Feil", $result);
24    }
25}
26}
```

1.2 Code Coverage



BankLogikk Code Coverage

The image displays two side-by-side code coverage reports from a software development environment. Both reports are for the same PHP file, 'bankLogikk.php'. The top report shows a higher coverage rate (96.15%) than the bottom one (76.26%). The code coverage is visualized as colored bars above each line of code. Green bars indicate that the code has been executed, while red bars indicate that it has not. The code itself is a mix of standard PHP syntax and some comments.

```

1 <?php
2     include_once '../DAL/bankDatabase.php';
3     include_once '../DAL/bankDatabaseStub.php';
4     class Bank
5     {
6         private $db;
7         function __construct($innDb=null)
8         {
9             if($innDb==null)
10            {
11                $this->db=new BankDB();
12            }
13            else
14            {
15                $this->db=$innDb;
16            }
17        }
18        function hentTransaksjoner($kontoNr, $fraDato, $tilDato)
19        {
20            $konto= $this->db->hentTransaksjoner($kontoNr, $fraDato, $tilDato);
21            return $konto;
22        }
23    }
24    //Maja
25    function sjekkloggInn($personnummer,$password)
26    {
27        if(!preg_match("/[0-9]{11}/", $personnummer))
28        {
29            return "Feil i personnummer";
30        }
31        if(!preg_match("/.{6,30}/", $password))
32        {
33            return "Feil i password";
34        }
35        $OK = $this->db->sjekkloggInn($personnummer,$password);
36        return $OK;
37    }
38    /*Maria*/
39    function hentKonti($personnummer)
40    {
41    }
42    //Maja
43    function hentKonti($personnummer)
44    {
45        $konti = $this->db->hentKonti($personnummer);
46        return $konti;
47    }
48    function hentSaldi($personnummer)
49    {
50        $saldo = $this->db->hentSaldi($personnummer);
51        return $saldo;
52    }
53    //Maja
54    function registrerBetalning($kontoNr, $transaksjon)
55    {
56        $ok = $this->db->registrerBetalning($kontoNr, $transaksjon);
57        return $ok;
58    }
59    /*Maria*/
60    function hentBetalinger($personnummer)
61    {
62        $betalinger = $this->db->hentBetalinger($personnummer);
63        return $betalinger;
64    }
65    function utførBetalning($TxID)
66    {
67        $ok = $this->db->utførBetalning($TxID);
68        return $ok;
69    }
70    //Maja
71    function endreKundeInfo($kunde)
72    {
73        $OK= $this->db->endreKundeInfo($kunde);
74        return $OK;
75    }
76    /*Maria*/
77    function hentKundeInfo($personnummer)
78    {
79        $kunde= $this->db->hentKundeInfo($personnummer);
80        return $kunde;
81    }
82    
```

Code Coverage: 96.15% | Test | All Tests | Clear | Report... | Disable | /Applications/MAMP/htdocs/TestingBank/BLL/bankLogikk.php | 6:17 | INS


```

43    function hentKonti($personnummer)
44    {
45        $konti = $this->db->hentKonti($personnummer);
46        return $konti;
47    }
48    function hentSaldi($personnummer)
49    {
50        $saldo = $this->db->hentSaldi($personnummer);
51        return $saldo;
52    }
53    //Maja
54    function registrerBetalning($kontoNr, $transaksjon)
55    {
56        $ok = $this->db->registrerBetalning($kontoNr, $transaksjon);
57        return $ok;
58    }
59    /*Maria*/
60    function hentBetalinger($personnummer)
61    {
62        $betalinger = $this->db->hentBetalinger($personnummer);
63        return $betalinger;
64    }
65    function utførBetalning($TxID)
66    {
67        $ok = $this->db->utførBetalning($TxID);
68        return $ok;
69    }
70    //Maja
71    function endreKundeInfo($kunde)
72    {
73        $OK= $this->db->endreKundeInfo($kunde);
74        return $OK;
75    }
76    /*Maria*/
77    function hentKundeInfo($personnummer)
78    {
79        $kunde= $this->db->hentKundeInfo($personnummer);
80        return $kunde;
81    }
82    
```

Code Coverage: 76.26% | Test | All Tests | Clear | Report... | Disable | /Applications/MAMP/htdocs/TestingBank/BLL/bankLogikk.php | 76.26 | INS

AdminLogikk Code Coverage

The screenshot displays two instances of the Eclipse IDE interface, each showing a PHP file with code coverage analysis.

Top Window (Admin Logikk Code Coverage):

```
<?php
1 include_once '../DAL/adminDatabase.php';
2 include_once '../DAL/adminDatabaseStub.php';
3 class Admin
4 {
5     private $db;
6     function __construct($innDb=null)
7     {
8         if($innDb==null)
9         {
10             $this->db=new AdminDB();
11         }
12         else
13         {
14             $this->db=$innDb;
15         }
16     }
17     function hentAlleKunder()
18     {
19         $kunder= $this->db->hentAlleKunder();
20         return $kunder;
21     }
22     //Maja
23     function endreKundeInfo($kunde)
24     {
25         $OK= $this->db->endreKundeInfo($kunde);
26         return $OK;
27     }
28     function registrerKunde($kunde)
29     {
30         $OK = $this->db->registrerKunde($kunde);
31         return $OK;
32     }
33     function slettKunde($personnummer)
34     {
35         $OK = $this->db->slettKunde($personnummer);
36         return $OK;
37     }
38     //Maja
39     function registrerKonto($konto)
40     {
41         $OK = $this->db->registerKonto($konto);
42         return $OK;
43     }
44     //Maja
45 }
```

Code Coverage: 95.00%

Bottom Window (Admin Logikk Code Coverage):

```
25     //Maja
26     function endreKundeInfo($kunde)
27     {
28         $OK= $this->db->endreKundeInfo($kunde);
29         return $OK;
30     }
31     function registrerKunde($kunde)
32     {
33         $OK = $this->db->registrerKunde($kunde);
34         return $OK;
35     }
36     function slettKunde($personnummer)
37     {
38         $OK = $this->db->slettKunde($personnummer);
39         return $OK;
40     }
41     //Maja
42     function registrerKonto($konto)
43     {
44         $OK = $this->db->registerKonto($konto);
45         return $OK;
46     }
47     function endreKonto($konto)
48     {
49         $OK = $this->db->endreKonto($konto);
50         return $OK;
51     }
52     function hentAlleKonti()
53     {
54         $konti = $this->db->hentAlleKonti();
55         return $konti;
56     }
57     //Maja
58     function slettKonto($kontonummer)
59     {
60         $OK = $this->db->slettKonto($kontonummer);
61         return $OK;
62     }
63 }
```

Code Coverage: 95.00%

AdminDatabaseStub

```
<?php
include_once '../Model/domeneModell.php';

class AdminDBStub {

    /*Maria*/
    function hentAlleKunder(){
        $alleKunder = array();
        $kunde1 = new kunde();
        $kunde1->personnummer = "01010122344";
        $kunde1->fornavn = "Per";
        $kunde1->etternavn = "Olsen";
        $kunde1->postnr=1234;
        $kunde1->poststed="Asker";
        $kunde1->adresse = "Osloveien 82";
        $kunde1->telefonnr="12345678";
        $kunde1->password="HeiHeiHei";
        $alleKunder[]=$kunde1;

        $kunde2 = new kunde();
        $kunde2->personnummer ="01010122355";
        $kunde2->fornavn = "Line";
        $kunde2->etternavn = "Jensen";
        $kunde2->adresse = "Askerveien 10";
        $kunde2->postnr=4321;
        $kunde2->poststed="Oslo";
        $kunde2->telefonnr="92876789";
        $kunde2->password="HeiHei12";
        $alleKunder[]=$kunde2;

        $kunde3 = new kunde();
        $kunde3->personnummer ="02020233466";
        $kunde3->fornavn = "Ole";
        $kunde3->etternavn = "Olsen";
        $kunde3->adresse = "Barunsveien 23";
        $kunde3->postnr=2823;
        $kunde3->poststed="Oslo";
        $kunde3->telefonnr="99889988";
        $kunde3->password="Hei2";
        $alleKunder[]=$kunde3;
        return $alleKunder;
    }

    function registrerKunde($kunde){
        if($kunde->personnummer == "20108824000"){
            return "OK";
        }
        else {
            return "Feil";
        }
    }

    /*Maria*/
    function slettKunde($personnummer){
        $kundes= new kunde();
        $kunde->personnummer=12345678901;
        if($personnummer==$kunde->personnummer){
            return 'OK';
        }
        else {
            return 'Feil';
        }
    }

    function endreKonto($konto){
        if($konto->personnummer==90){
            return "Feil";
        }
        else {
            return "OK";
        }
    }

    /*Maja*/
    function endreKundeInfo($kunde){

        $kundel = new kunde();
        $kundel->etternavn = "Kiszka";
        $kundel->adresse = "Thereses Gate";

        if($kundel->etternavn == $kunde->etternavn || $kundel->adresse == $kunde->adresse){
            return "OK";
        }
        else {
    
```

Code Coverage: 100.00 %

Test Results TestingBank TestingBank #1

1:1 | INS

```

    }
}
```

Code Coverage: 100.00 %

Test Results TestingBank TestingBank #1

1:1 | INS

Screenshot of a Java IDE showing two code editors side-by-side. Both editors display the same PHP code for bankDatabaseStub.php and adminDatabaseStub.php.

```

81     return "OK";
82 } else {
83     return "Feil";
84 }
85
86 //Maja
87 function registerKonto($konto) {
88
89     $kunde = new kunde();
90     $kunde->personnummer = "111111111111";
91
92     if($kunde->personnummer == $konto->personnummer) {
93         return "OK";
94     } else {
95         return "Feil";
96     }
97 }
98
99 /**
100 * @param array $konti
101 */
102 function hentAlleKonti() {
103     $konti=array();
104     $kontol=new konto();
105     $kontol->personnummer=12345678901;
106     $kontol->kontonummer=123123123;
107     $kontol->type="Lønnskonto";
108     $kontol->saldo =1300.34;
109     $kontol->valuta="NOK";
110     $konti[]=$kontol;
111
112     $konto2=new konto();
113     $konto2->personnummer=12345678901;
114     $konto2->kontonummer=123123333;
115     $konto2->type="Sparekonto";
116     $konto2->saldo =130000.00;
117     $konto2->valuta="NOK";
118     $konti[]=$konto2;
119     return $konti;
120 }
121
122 //Maja

```

Code Coverage: 100.00 %

Test All Tests Clear Report... Disable

Test Result TestingBank #1

1:1 INS

Screenshot of a Java IDE showing the same PHP code for bankDatabaseStub.php and adminDatabaseStub.php.

```

109     $kontol->valuta= "NOK";
110     $konti[]=$kontol;
111
112     $konto2=new konto();
113     $konto2->personnummer=12345678901;
114     $konto2->kontonummer=123123333;
115     $konto2->type="Sparekonto";
116     $konto2->saldo =130000.00;
117     $konto2->valuta="NOK";
118     $konti[]=$konto2;
119     return $konti;
120
121
122 //Maja
123 function slettKonto($kontonummer){
124
125     $konto = new konto();
126     $konto->kontonummer = "1234567890";
127
128     if($konto->kontonummer == $kontonummer){
129         return "OK";
130     } else {
131         return "Feil";
132     }
133 }
134

```

Code Coverage: 100.00 %

Test All Tests Clear Report... Disable

Test Results TestingBank #1

1:1 INS

BankDatabaseStub

```

<?php
    include_once '../Model/domeneModell.php';
    class BankDBStub
    {
        function hentEnKunde($personnummer)
        {
            $enKunde = new kunde();
            $enKunde->personnummer = $personnummer;
            $enKunde->navn = "Per Olsen";
            $enKunde->adresse = "Osloveien 82, 0270 Oslo";
            $enKunde->telefonnr="12345678";
            return $enKunde;
        }
        function hentAlleKunder()
        {
            $alleKunder = array();
            $kunde1 = new kunde();
            $kunde1->personnummer ="01010122344";
            $kunde1->navn = "Per Olsen";
            $kunde1->adresse = "Osloveien 82 0270 Oslo";
            $kunde1->telefonnr="12345678";
            $alleKunder[]=$kunde1;
            $kunde2 = new kunde();
            $kunde2->personnummer ="01010122344";
            $kunde2->navn = "Lise Jensen";
            $kunde2->adresse = "Askerveien 100, 1379 Asker";
            $kunde2->telefonnr="92876789";
            $alleKunder[]=$kunde2;
            $kunde3 = new kunde();
            $kunde3->personnummer ="02020233455";
            $kunde3->navn = "Ole Olsen";
            $kunde3->adresse = "Bærumsveien 23, 1234 Bærum";
            $kunde3->telefonnr="99889988";
            $alleKunder[]=$kunde3;
            return $alleKunder;
        }
        function hentTransaksjoner($kontoNr,$fraDato,$tilDato)
        {
            date_default_timezone_set("Europe/Oslo");
            $fraDato = strtotime($fraDato);
            $tilDato = strtotime($tilDato);
            if($fraDato>$tilDato)
            {
                return "Fra dato må være større enn tildato";
            }
            $konto = new konto();
            $konto->personnummer="010101234567";
            $konto->kontonummer=$kontoNr;
            $konto->type="Sparekonto";
            $konto->saldo =2300.34;
            $konto->valuta="NOK";
            if($tilDato < strtotime('2015-03-26'))
            {
                return $konto;
            }
            $dato = $fraDato;
            while ($dato<=$tilDato)
            {
                switch($dato)
                {
                    case strtotime('2015-03-26') :
                        $transaksjon1 = new transaksjon();
                        $transaksjon1->dato='2015-03-26';
                        $transaksjon1->transaksjonBelop=134.4;
                        $transaksjon1->fraTilkontonummer="22342344556";
                        $transaksjon1->melding="Meny Holte";
                        $skonto->transaksjoner[]=$transaksjon1;
                        break;
                    case strtotime('2015-03-27') :
                        $transaksjon2 = new transaksjon();
                        $transaksjon2->dato='2015-03-27';
                        $transaksjon2->transaksjonBelop=-2056.45;
                        $transaksjon2->fraTilkontonummer="114342344556";
                        $transaksjon2->melding="Husleie";
                        $skonto->transaksjoner[]=$transaksjon2;
                        break;
                    case strtotime('2015-03-29') :
                        $transaksjon3 = new transaksjon();
                }
            }
        }
    }

```

Code Coverage: 83.01%

Test Results: TestingBank #1

19:51 | INS

Screenshot of two Eclipse IDE windows showing PHP code coverage analysis for `bankDatabaseStub.php`.

Top Window:

```

79     $transaksjon3->dato = '2015-03-29';
80     $transaksjon3->transaksjonBelop=1454.45;
81     $transaksjon3->fraTilKontonummer="1114342344511";
82     $transaksjon3->melding="Lekeland";
83     $konto->transaksjoner[]=$transaksjon3;
84     break;
85   }
86   $dato +=(60*60*24); // en dag i tillegg i sekunder
87 }
88 return $konto;
89 }

function sjekkloggInn($personnummer, $passord){
  $kunde = new kunde();
  $kunde->personnummer = "111111111111";
  $kunde->passord = "123456";
  if($personnummer == $kunde->personnummer && $passord == $kunde->passord){
    return "OK";
  } else {
    return "Feil";
  }
}

function registrerBetalung($kontoNr, $transaksjon){
  if($kontoNr == "1234567890" && $transaksjon->melding == "message"){
    return "OK";
  } else {
    return "Feil";
  }
}

function hentBetalinger($personnummer) {
  $konto=new konto();
  $konto->personnummer=81010122344;
  if($konto->personnummer==$personnummer) {
    $konto->transaksjoner=array();
    $transaksi1 = new transaksjon();
    $transaksi1->dato='2015-03-26';
  }
}

```

Code Coverage: 83.01%

Bottom Window:

```

120   $transaction1->transaksjonBelop=134.45;
121   $transaction1->fraTilKontonummer="22342344556";
122   $transaction1->melding="Meny Holtet";
123   $transaction1->avventer=1;
124   $konto->transaksjoner[]=$transaction1;
125

126   $transaction2 = new transaksjon();
127   $transaction2->dato= '2015-03-27';
128   $transaction2->transaksjonBelop=2056.45;
129   $transaction2->fraTilKontonummer="114342344556";
130   $transaction2->melding="Musleie";
131   $transaction2->avventer=1;
132   $konto->transaksjoner[]=$transaction2;
133

134   $transaction3 = new transaksjon();
135   $transaction3->dato='2015-03-26';
136   $transaction3->transaksjonBelop=134.45;
137   $transaction3->fraTilKontonummer="22342344556";
138   $transaction3->melding="Meny Holtet";
139   $transaction3->avventer=0;
140   $konto->transaksjoner[]=$transaction3;
141

142   $betalinger=array();
143   foreach($konto->transaksjoner as $betalning){
144     if($betalning->avventer == 1){
145       $betalinger[]=$betalning;
146     }
147   }
148   return $betalinger;
149 }

150 else {
151   $betalinger=array();
152   $betalinger[]="";
153   return $betalinger;
154 }

155 }

function hentKonti($personnummer){
  $konti=array();
  $konto1 = new konto();
  $konto2 = new konto();
  $konto1->personnummer=81010110523;
}

```

Code Coverage: 83.01%

Screenshot of a Java IDE showing two code editors side-by-side. Both editors display PHP code for a 'bankDatabaseStub.php' file.

Top Editor:

```

160     $skonto->personnummer=01010110523;
161     if ($personnummer == $skonto->personnummer){
162         $skonto->kontonummer=105010123456;
163         $skonto=$skonto1;
164         $skonto2->kontonummer=105010123459;
165         $skonto1=$skonto2;
166         return $skonto;
167     }
168     else {
169         $skonto[]="";
170         return $skonto;
171     }
172 }
173
174 function hentSaldo($personnr){
175     $saldo = array();
176     if($personnr == 20100824000){
177         return $saldo;
178     }
179
180     $skonto = new stdClass;
181     $skonto->kontonummer = "105010123456";
182     $skonto->Personnummer = $personnr;
183     $skonto->Saldo = 526;
184     $skonto->Type = "Lånskonto";
185     $skonto->Valuta = "NOK";
186     $saldo[]=$skonto;
187
188     return $saldo;
189 }
190
191 function utførBetalings($TxID){
192     if($TxID == ''){
193         return "OK";
194     } else {
195         return "Feil";
196     }
197 }
198
199 function endreKundeInfo($kunde){
200 }
```

Code Coverage: 83.01%

Bottom Editor:

```

200
201     $kunde1 = new kunde();
202     $kunde1->etternavn = "Kiszka";
203     $kunde1->adresse = "Thereses Gate";
204
205     if($kunde->etternavn == $kunde1->etternavn || $kunde->adresse == $kunde1->adresse){
206         return "OK";
207     } else {
208         return "Feil";
209     }
210
211
212 function hentKundeInfo($personnummer){
213     $kunde=new kunde();
214     $kunde->personnummer=01010110523;
215     if ($kunde->personnummer == $personnummer){
216         $kunde->forenavn = 'Maria';
217         $kunde->etternavn = 'Mikhaylova';
218         $kunde->adresse = 'Ookern Torgvei 92';
219         $kunde->postnr =117;
220         $kunde->telefonnr = 45654654;
221         $kunde->passord = 'HeiHei';
222         $kunde->poststed='Oslo';
223         return $kunde;
224     } else{
225         return "Feil";
226     }
227 }
228
229 }
```

Code Coverage: 83.01%

2. Integration Testing

2.1 Plan for Integration Testing

Test Info		Test Summary						
Test Scenario	As an administrator I want to log in <th>Total Passed</th> <td>4<th data-cs="5" data-kind="parent"></th><th data-kind="ghost"></th><th data-kind="ghost"></th><th data-kind="ghost"></th><th data-kind="ghost"></th></td>	Total Passed	4 <th data-cs="5" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>					
Test Environment	SoapUI 5.4.0	Total Failed	0 <th data-cs="5" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>					
		Total Remaining	0 <th data-cs="5" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-02-18 13:00:00	
loggInnAdmin (1 step)	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
loggInnAdmin (2 step)	Log in to the TestingBank application with wrong username and correct password	Could not log in	bruker: Ira; passord: Admin	Could not log in	Pass	Ira	2018-03-06 11:17:00	
loggInnAdmin (3 step)	Log in to the TestingBank application with correct username and wrong password	Could not log in	bruker: Admin; passord: Admin1234	Could not log in	Pass	Ira	2018-03-06 11:19:00	

Test Info		Test Summary						
Test Scenario	As an administrator I want to update account information	Total Passed	15 <th data-cs="5" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>					
Test Environment	SoapUI 5.4.0	Total Failed	1					
		Total Remaining	0					
Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments	
Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 13:00:00		
Log in to the TestingBank application with my username and password	Admin is logged in	bruker: Admin; passord: HeiHei personnummer: 01010110523, kontonummer: 105010123456, saldo: 4000.00, type: Spare, valuta: USD	Admin logged in	Pass	Ira	2018-03-18 13:30:00		
Change account information of a user	Account information is changed (OK)	Information about accounts is displayed	Account information is changed (OK) Information about accounts is displayed	Pass	Maria	2018-03-01 13:00:00		
Check info about all existing accounts	Information about accounts is displayed		Information about accounts is displayed	Pass	Ira	2018-03-06 13:02:00		
Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-01-01 13:00:00		
Log in to the TestingBank application with my username and password	Admin is logged in	bruker: Admin; passord: HeiHei personnummer: 01010110523, kontonummer: 105010123456	Admin logged in	Pass	Ira	2018-03-18 13:30:00		
Change account information of a user	Fail		OK	Fail	Ira	2018-03-01 13:00:00	Mangler feilhåndtering for andre felt	
Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
Log in to the TestingBank application with my username and password	Admin is logged in	bruker: Admin; passord: HeiHei	Admin logged in	Pass	Ira	2018-03-18 13:30:00		
Change account information of a user	Fail i kontonummer	personnummer: 01010110523, kontonummer: Feil i kontonummer	Feil i kontonummer	Pass	Maria	2018-03-01 13:00:00	Mangler feilhåndtering for andre felt	
Initializes database to its original state	Default database restored		Default database restored	Pass		2018-03-03 14:00:00		
Log in to the TestingBank application with my username and password	Admin is logged in	bruker: Admin; passord: HeiHei personnummer: 01010110523, kontonummer: 105010123456, saldo: 3000.00, type: Spare, valuta: USD	Admin logged in	Pass	Ira	2018-03-18 13:30:00		
Change account information of a user	Fail i kontonummer	Feil i kontonummer	Feil i kontonummer	Pass	Maria	2018-03-01 13:00:00	Mangler feilhåndtering for andre felt	
Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
Log in to the TestingBank application with my username and password	Admin is logged in	bruker: Admin; passord: HeiHei personnummer: 01010110523, kontonummer: 105010123456, saldo: 3000.00, type: Spare, valuta: USD	Admin logged in	Pass	Ira	2018-03-18 13:30:00		
Change account information of a user	Fail i personnummer	Feil i personnummer	Feil i personnummer	Pass	Maria	2018-03-01 13:00:00	Mangler feilhåndtering for andre felt	

A	B	C	D	E	F	G	H	I
Test Info		Test Summary						
Test Scenario	As an administrator I want to delete a customer	Total Passed	6					
Test Environment	SoapUI 5.4.0	Total Failed	1					
		Total Remaining	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 13:00:00	
loggInn	Log in to the TestingBank application with my username and password	Admin is logged in	buker: Admin; passord: HeiHei	Admin logged in	Pass	Ira	2018-03-18 13:30:00	
AdminSlettKunde	Delete customer from the database	Customer is deleted("OK")	personnummer: 01010110523	Customer is deleted("OK")	Pass	Maria	2018-03-01 13:00:00	
hentAlleKunder	Information about existing customers is displayed	Changed information is displayed (customer deleted)		Changed information is displayed (customer deleted)	Pass	Maja	2018-03-03 13:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 13:00:00	
loggInn	Log in to the TestingBank application with my username and password	Admin is logged in	buker: Admin; passord: HeiHei	Admin logged in	Pass	Ira	2018-03-18 13:30:00	
AdminSlettKunde_Feil	Delete customer from the database	No customer is deleted("Feil")	personnummer: 121212	"OK"	Fail	Maria	2018-03-01 13:00:00	Feil i kode

A	B	C	D	E	F	G	H	I
Test Info		Test Summary						
Test Scenario	As an administrator I want to check existing accounts	Total Passed	3					
Test Environment	SoapUI 5.4.0	Total Failed	0					
		Total Remaining	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 13:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminHentKonti	Check info about all existing accounts	Information about accounts is displayed		Information about accounts is displayed	Pass	Ira	2018-03-06 13:02:00	

A	B	C	D	E	F	G	H	I
Test Info		Test Summary						
Test Scenario	As an administrator I want to register new account	Total Passed	16					
Test Environment	SoapUI 5.4.0	Total Failed	1					
		Total Remaining	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_Feilkont	Register new account	New account is registered (OK)	personnummer: 01010120000, type: New, valuta: Bitcoin	New account is registered (OK)	Pass	Maria	2018-03-01 13:00:00	
adminHentKonti	Check if info about existing accounts was updated	Information is updated		Information is updated	Pass	Ira	2018-03-06 13:19:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_Feilkont	Register new account	New account is not registered ("Feil")	personnummer: 01010110523, kontonummer: 105010123456, type: New, valuta: Bitcoin	New account is not registered ("Feil")	Pass	Maria	2018-03-01 13:00:00	
adminHentKonti	Check if info about existing accounts was updated	Information is updated		Information is updated	Pass	Ira	2018-03-06 13:19:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_FeilOK	Register new account	Feil		OK	Fail	Maria	2018-03-01 13:00:00	Mangler feilhåndtering. Det var ikke mulig å registrere konto med manglende informasjon
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_FeilPersNr	Register new account	New account is not registered ("Feil i personnummer")	personnummer: 01010110, kontonummer: 105010120000, type: New, valuta: Bitcoin	New account is not registered ("Feil i personnummer")	Pass	Maria	2018-03-01 13:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_FeilPersNr	Register new account	New account is not registered ("Feil i personnummer")	personnummer: 01010110523, kontonummer: 105010123456, type: New, valuta: Bitcoin, saldo: 50000	New account is not registered ("Feil")	Pass	Maria	2018-03-01 13:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	buker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKonto_FeilSaldo	Register new account	New account is not registered ("Feil")	personnummer: 01010110523, kontonummer: 105010123456, type: New, valuta: Bitcoin, saldo: 50000	New account is not registered ("Feil")	Pass	Maria	2018-03-01 13:00:00	

Test Info		Test Summary						
Test Scenario	As an administrator I want to update customer's information	Total Passed	12	Actual Result	Status	Tester	Date/Time	Comments
Test Environment	SoapUI 5.4.0	Total Failed	2					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKunde	Admin registers new customer	New customer is registered	12058823064; Maja; Kiszka; Thereses gate; 0455; Oslo; 45095955; 123456	New customer is registered and information about other existing customers listed	Pass	Maja	2018-03-05 16:00:00	
hentAlleKunder	Information about existing customers is displayed	Changed information is displayed (customer deleted)		Changed information is displayed	Pass	Maja	2018-03-03 14:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminRegisterKundeFail	Admin registers new customer	Fail	none - all fields left empty	OK	Fail	Maja	2018-03-14 14:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin 0101110523; Lene; Jensen; Askerveien 22; 3270; 22224455; Heilei	Admin is logged in New details changed successfully and saved in database	Pass	Maja	2018-03-14 14:00:00	
hentAlleKunder	Information about existing customers is displayed	Changed information is displayed (customer deleted)		Changed information is displayed	Pass	Maja	2018-03-03 15:00:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin personnummer:01010110523; all the other fields left empty	Admin is logged in	Pass	Ira	2018-03-18 13:30:00	
adminEndreKundeFail	Admin changes information about the customer	Fail		OK	Fail	Maja	2018-03-14 14:00:00	

Test Info		Test Summary						
Test Scenario	As an administrator I want to delete an account	Total Passed	7	Actual Result	Status	Tester	Date/Time	Comments
Test Environment	SoapUI 5.4.0	Total Failed	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin kontonummer: 2234412345	Admin is logged in	Pass	Ira	2018-03-06 13:00:00	
adminSlettKonto	Delete specific bank account	Account is deleted		Account is deleted	Pass	Ira	2018-03-06 13:17:00	
adminHentKonto	Check if info about existing accounts was updated	Information is updated		Information is updated	Pass	Ira	2018-03-06 13:19:00	
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginnAdmin	Log in to the TestingBank application with valid username and password	Admin is logged in	bruker: Admin; passord: Admin kontonummer: 2234412344	Admin is logged in received "Feil kontonummer" message	Pass	Ira	2018-03-06 13:00:00	
adminSlettKontoFail	Delete account passing invalid number of account	Fail/contains not ok		Pass	Pass	Ira	2018-03-08 13:19:00	

Test Info		Test Summary						
Test Scenario	As a user I want to log in to the TestingBank application	Total Passed	4	Actual Result	Status	Tester	Date/Time	Comments
Test Environment	SoapUI 5.4.0	Total Failed	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInn-01	Log in to the TestingBank application with valid personnummer and password	User is logged in	personnummer: 01010110523; password: HeiHei	User logged in	Pass	Maja	2018-03-05 13:30:00	
loggInn-02	Log in to the TestingBank application with INVALID personnummer and valid password	Login refused	personnummer: 01010110524; password: HeiHei	User not logged in	Pass	Maja	2018-03-05 14:00:00	
loggInn-03	Log in to the TestingBank application with valid personnummer and INVALID password	Login refused	personnummer : 01010110523; password: HeiHe	User not logged in	Pass	Maja	2018-03-05 14:00:00	

Test Info		Test Summary						
Test Scenario	As a user I want to check my account information	Total Passed	3	Actual Result	Status	Tester	Date/Time	Comments
Test Environment	SoapUI 5.4.0	Total Failed	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInn-01	Log in to the TestingBank application with valid personnummer and password	User is logged in	personnummer: 01010110523; password: HeiHei	User logged in	Pass	Maja	2018-03-05 13:30:00	
hentKonti	Display accounts information	Accounts information is displayed		Accounts information is displayed	Pass	Maria	2018-03-01 13:00:00	

Test Info		Test Summary						
Test Scenario	As a user I want to check saldo	Total Passed	3	Actual Result	Status	Tester	Date/Time	Comments
Test Environment	SoapUI 5.4.0	Total Failed	0					
Test Case ID	Test Case Description	Expected Result	Test Data	Actual Result	Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00	
loggInn	Log in to the TestingBank application with valid personnummer and password	User is logged in	personnummer: 01010110523; password: HeiHei	User logged in	Pass	Maja	2018-03-05 13:30:00	
hentSaldi	Check saldo as a user	Saldo is displayed	personnummer: 1010110523	Saldo is displayed	Pass	Ira	2018-03-05 13:30:00	

Test Info		Test Summary							
Test Scenario	As a user I want to register payment SoapUI 5.4.0	Total Passed	6	Actual Result		Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored	personnummer: 01010110523; passord: HeiHei; tilKonto: 20102012345; dato: 2018-02-28; belop: 100; melding: GAVE; kontonr: 105010123456	Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	personnummer: 01010110523; passord: HeiHei	User logged in	Pass	Maja	2018-03-05 13:30:00		
registerBetaling	Register a payment	Payment is awaiting confirmation	No transactions, that are waiting for completing with aventer status 1, are displayed	Payment is awaiting confirmation	Pass	Maja	2018-03-05 14:00:00		
hentBetalingen	Check if aventer status was changed to 0			No transactions, that are waiting for completing with aventer status 1, are displayed	Pass	Ira	2018-03-06 13:45:00		
InitDB	Initializes database to its original state	Default database restored	personnummer: 01010110523; passord: HeiHei	Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	tilKonto: 20102012345; kontonr: 105010123456	User logged in	Pass	Maja	2018-03-05 13:30:00		
registerBetalingFail	Register a payment with empty fields	Feil/Contains not OK		Payment registered	Fail	Ira	2018-03-08 13:45:00		

Test Info		Test Summary							
Test Scenario	As a user I want to confirm transaction SoapUI 5.4.0	Total Passed	7	Actual Result		Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored	personnummer: 01010110523; passord: HeiHei	Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	tilKonto: 22334412345; dato: 2018-02-28; belop: 100; melding: GAVE; kontonr: 105010123456	User logged in	Pass	Maja	2018-03-05 13:30:00		
utforBetaling (step 1)	Register a payment	Payment is registered	TxD:10	Payment is registered	Pass	Ira	2018-03-06 13:30:00		
utforBetaling (step 2)	Confirm and process payment	Payment completed		Payment completed and aventer status changed to '0'	Pass	Ira	2018-03-07 13:30:00		
hentSaldi (step 3)	Check if saldo was updated after completed payment	Saldo is updated	personnummer: 01010110523	Saldo is updated	Pass	Ira	2018-03-06 12:56:00		
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	01010110523; HeiHei tilKonto: 105010123456; dato: 2018-02-28; belop: 100; melding: GAVE; kontonr: 22334412344	User logged in	Pass	Maja	2018-03-05 13:30:00		
utforBetalingFail (step 1)	Register a payment with invalid data	Feil/contains not ok		Payment is registered	Fail	Ira	2018-03-06 12:56:00		
utforBetalingFail (step 2)	Complete and process payment with invalid data	Feil	TxD:10	Payment completed and aventer status changed to '0'	Fail	Ira	2018-03-07 12:56:00		
utforBetalingFail (step 3)	Check if saldo was updated after completed payment	Saldo is not updated	personnummer: 01010110523	Saldo is updated, but instead of minus 100 it actually added 100	Fail	Ira	2018-03-08 12:56:00		

Test Info		Test Summary							
Test Scenario	As a user I want to check my transaction history for a given period SoapUI 5.4.0	Total Passed	6	Actual Result		Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	01010110523; HeiHei kontonr: 105010123456; fraDato: 2012-12-12; tilDato: 2016-03-15	User logged in	Pass	Maja	2018-03-05 13:30:00		
hentTransaksjoner	Retrieve information on transactions	Transactions displayed		Transaction for chosen period are displayed	Pass	Ira	2018-03-03 14:00:00		
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	01010110523; HeiHei kontonr: 105010123456; fraDato: 2012-11-12; tilDato: 2012-11-12	User logged in	Pass	Maja	2018-03-05 13:30:00		
hentTransaksjoner_ToJSONArray	Information on transactions is not retrieved	No transactions displayed ("transaksjoner":[])	2012-11-12; tilDato: 2012-11-12	No transactions are displayed ("transaksjoner":[])	Pass	Maria	2018-01-05 13:00:00		

Test Info		Test Summary							
Test Scenario	As a user I want to check my transactions SoapUI 5.4.0	Total Passed	4	Actual Result		Status	Tester	Date/Time	Comments
InitDB	Initializes database to its original state	Default database restored		Default database restored	Pass	Ira	2018-03-03 14:00:00		
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	01010110523; HeiHei tilKonto: 20102012345; dato: 2018-02-28; belop: 1000000; melding: GAVE; kontonr: 105010123456	User logged in	Pass	Maja	2018-03-05 13:30:00		
hentBetaling (step 1)	Register a payment	Payment is registered and aventer status is equal 1		Payment is registered	Pass	Ira	2018-03-06 13:30:00		
hentBetaling (step 2)	Retrieves payments with aventer status equal 1 for user that is logged in	Shows payments with aventer status equal 1		Shows registered payment with aventer status equal 1	Pass	Ira	2018-03-07 13:30:00		

Test Info		Test Summary					
Test Scenario	As a user I want to manage my personal information	Total Passed	10	Status		Date/Time	
Test Environment	SoapUI 5.4.0	Total Failed	1	Tester			
InitDB	Initializes database to its original state	Default database restored	Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	User logged in	Pass	Maja	2018-03-05 13:30:00	
endrekundeinfo	Edit customer's details	Details changed ("OK")	Details changed ("OK")	Pass	Maria	2018-03-01 13:00:00	Kode mangler regex
hentKundeInfo	View information about the currently logged in customer	Displayed information about the customer	Displayed information about the customer	Pass	Maja	2018-03-03 14:00:00	
InitDB	Initializes database to its original state	Default database restored	Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	User logged in	Pass	Maja	2018-03-05 13:30:00	
endrekundeinfo_NewPostNr	Edit customer's details	Details changed ("OK")	Details changed ("OK")	Pass	Maria	2018-03-01 14:00:00	Kode mangler regex
hentKundeInfo	View information about the currently logged in customer	Displayed information about the customer	Displayed information about the customer	Pass	Maja	2018-03-03 14:00:00	
InitDB	Initializes database to its original state	Default database restored	Default database restored	Pass	Ira	2018-03-03 14:00:00	
logginn	Log in to the TestingBank application with valid personnummer and password	User is logged in	User logged in	Pass	Maja	2018-03-05 13:30:00	
endrekundeinfo_Fail	Edit customer's details	Fail	OK	Fail	Maria	2018-03-01 13:00:00	Mangler feilhåndtering. Det var ikke være mulig å endre kundeinformasjon med manglende informasjon

2.2 SoapUI

- ▼ REST Project 1
 - ▼ http://localhost:8888
 - [/TestingBank/API/loggInn.php]
 - ▼ TestingBank [/TestingBank/API/InitDB.php]
 - ▼ TestingBank
 - RE
ST InitDB
 - ▼ TestingBank [/TestingBank/API/loggInnAdmin.php]
 - ▼ TestingBank
 - RE
ST loggInnAdmin
 - ▼ TestingBank [/TestingBank/API/loggInn.php]
 - ▼ TestingBank
 - RE
ST loggInn

- ▼  REST Project 1
 -  http://localhost:8888
 - ▼  Bank
 -  hentSaldi
 -  hentBetalinger
 -  utførBetaling
 -  utførBetalingFeil
 -  hentTransaksjoner
 -  hentTransaksjoner_TomtArray
 -  loggInn
 -  hentKundelInfo
 -  registrerBetaling
 -  registrerBetalingFeil
 -  endreKundelInfo_Feil
 -  endreKundelInfo_NewPostNr
 -  endreKundelInfo
 -  hentKonti

- ▶ ✓ loggInnAdmin
- ▶ ✓ adminHentKonti
- ▶ ✓ adminSlettKonto
- ▶ ✓ adminSlettKontoFeil
- ▶ ✓ adminEndreKunde
- ▶ ✓ adminEndreKundeFeil
- ▶ ✓ adminRegistrerKunde
- ▶ ✓ adminRegistrerKundeFeil
- ▶ ✓ hentAlleKunder
- ▶ ✓ adminEndreKonto
- ▶ ✓ adminEndreKonto_FeilKontoNummer
- ▶ ✓ adminEndreKonto_FeiliKontoNr
- ▶ ✓ adminEndreKonto_FeiliPersNr
- ▶ ✓ adminEndreKontoFail
- ▶ ✓ adminRegistrerKonto
- ▶ ✓ adminRegistrerKonto_FeilKontoNr
- ▶ ✓ adminRegistrerKonto_Feil
- ▶ ✓ adminRegistrerKonto_FeilPersNr
- ▶ ✓ adminRegistrerKonto_FeilSaldo
- ▶ ✓ adminSlettKunde
- ▶ ✓ adminSlettKunde_Feil

- ▼  Bank
 - ▼  hentSaldi
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  loggInn
 -  Delay [1000]
 -  hentSaldi
 - ▼  hentBetalinger
 - ▼  Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInn
 -  Delay [1000]
 -  registrerBetaling
 -  hentBetalinger

- ▼ ✓ utforBetaling
 - ▼ Test Steps (6)
 -   TestingBank – InitDB
 -   TestingBank – loggInn
 -  Delay [1000]
 -   registrerBetaling
 -   utforBetaling
 -   hentSaldi
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ utforBetalingFeil
 - ▼ Test Steps (6)
 -   TestingBank – InitDB
 -   TestingBank – loggInn
 -  Delay [1000]
 -   registrerBetaling
 -   utforBetaling
 -   hentSaldi
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ hentTransaksjoner
 - ▼ Test Steps (4)
 -   TestingBank – InitDB
 -   TestingBank – loggInn
 -  Delay [1000]
 -   hentTransaksjoner

- ▼ ✓ hentTransaksjoner_TomtArray
 - ▼ Test Steps (4)
 - TestingBank – InitDB
 - TestingBank – loggInn
 - Delay [1000]
 - hentTransaksjoner
 - Load Tests (0)
 - Security Tests (0)
- ▼ ✓ loggInn
 - ▼ Test Steps (3)
 - validPersnumberAndPassword
 - validPersnumberAndWrongPassword
 - wrongPersnumberAndValidPassword
 - Load Tests (0)
 - Security Tests (0)
- ▼ ✓ hentKundeInfo
 - ▼ Test Steps (4)
 - TestingBank – InitDB
 - TestingBank – loggInn
 - Delay [1000]
 - hentKundeInfo
 - Load Tests (0)
 - Security Tests (0)

- ▼  **registerBetaling**
 - ▼  **Test Steps (5)**
 -  **InitDB**
 -  **logInn**
 -  **Delay [1000]**
 -  **registerBetaling**
 -  **hentBetalinger**
 -  **Load Tests (0)**
 -  **Security Tests (0)**
- ▼  **registerBetalingFeil**
 - ▼  **Test Steps (3)**
 -  **TestingBank – InitDB**
 -  **TestingBank – logInn**
 -  **registerBetalingFeil**
 -  **Load Tests (0)**
 -  **Security Tests (0)**
- ▼  **endreKundeInfo_Feil**
 - ▼  **Test Steps (4)**
 -  **TestingBank – InitDB**
 -  **TestingBank – logInn**
 -  **Delay [1000]**
 -  **endreKundeInfo_Feil**
 -  **Load Tests (0)**
 -  **Security Tests (0)**

- ▼ ✓ endreKundeInfo_NewPostNr
 - ▼  Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInn
 -  Delay [1000]
 -  endreKundeInfo_NewPostNr
 -  hentKundeInfo
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ endreKundeInfo
 - ▼  Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInn
 -  Delay [1000]
 -  endreKundeInfo
 -  hentKundeInfo
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ hentKonti
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInn
 -  Delay [1000]
 -  hentKonti
 -  Load Tests (0)
 -  Security Tests (0)

- ▼  Admin
 - ▼  loggInnAdmin
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  CorrectNameAndPassword
 -  WrongNameAndCorrectPassword
 -  CorrectNameAndWrongPassword
 -  Load Tests (0)
 -  Security Tests (0)
 - ▼  adminHentKonti
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  hentKonti
 -  Load Tests (0)
 -  Security Tests (0)
 - ▼  adminSlettKonto
 - ▼  Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminSlettKonto
 -  adminHentKonti
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminSlettKontoFeil
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminSlettKontoFeil
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminEndreKunde
 - ▼  Test Steps (5)
 -  InitDB
 -  loggInnAdmin
 -  Delay [1000]
 -  adminEndreKunde
 -  hentAlleKunder
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminEndreKundeFeil
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKunde
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminRegistrerKunde
 - ▼ Test Steps (5)
 -  InitDB
 -  loggInnAdmin
 -  Delay [1000]
 -  adminRegisterKunde
 -  hentAlleKunder
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminRegistrerKundeFeil
 - ▼ Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminRegisterKundeFeil
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ hentAlleKunder
 - ▼ Test Steps (4)
 -  loggInnAdmin
 -  InitDB
 -  Delay [1000]
 -  hentAlleKunde
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminEndreKonto
 - ▼ ⚒ Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKonto
 -  hentKonti
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminEndreKonto_FeilKontoNummer
 - ▼ ⚒ Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKonto_Feil
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminEndreKonto_FeiliKontoNr
 - ▼ ⚒ Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKonto_Feil3_KontoNr
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminEndreKonto_FeiliPersNr
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKonto_Feil4_PersNr
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminEndreKontoFail
 - ▼  Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminEndreKonto
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminRegistrerKonto
 - ▼  Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminRegistererKonto
 -  hentKonti
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminRegistererKonto_FeilKontoNr
 - ▼ Test Steps (5)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminRegistererKonto_FeilKontoNr
 -  hentKonti
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminRegistererKonto_Feil
 - ▼ Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminRegistererKonto_FalseOK
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminRegistererKonto_FeilPersNr
 - ▼ Test Steps (4)
 -  TestingBank – InitDB
 -  TestingBank – loggInnAdmin
 -  Delay [1000]
 -  adminRegistererKonto_FeilPersNr
 -  Load Tests (0)
 -  Security Tests (0)

- ▼ ✓ adminRegistrerKonto_FeilSaldo
 - ▼ Test Steps (4)
 -  TestingBank - InitDB
 -  TestingBank - loggInnAdmin
 -  Delay [1000]
 -  adminRegistererKonto_FeilSaldo
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminSlettKunde
 - ▼ Test Steps (5)
 -  TestingBank - InitDB
 -  TestingBank - loggInnAdmin
 -  Delay [1000]
 -  AdminSlettKunde
 -  hentAlleKunde
 -  Load Tests (0)
 -  Security Tests (0)
- ▼ ✓ adminSlettKunde_Feil
 - ▼ Test Steps (4)
 -  TestingBank - InitDB
 -  TestingBank - loggInnAdmin
 -  Delay [1000]
 -  AdminSlettKunde_Feil
 -  Load Tests (0)
 -  Security Tests (0)





3. System Testing

3.1 Katalon

The screenshot shows a software interface for managing test suites. At the top, there's a header bar with the title "Test Suites" on the left and icons for folder and plus sign on the right. Below this, the main content area displays a list of test cases under a suite named "TestingBank". The test cases are listed in a bulleted format:

- LogInCorrectPersNrAndWrongPassword
- LogInWrongPersNrAndCorrectPassword
- LogInValidData
- registrerBetaling
- registrerBetalingFeil2
- hentTransaksjoner
- hentTransaksjonerFeilDato
- endreKundelInfo
- endreKundelInfoFeil

- Admin_Login_Valid_User&Invalid_Password
- Admin_Login_Invalid_User&Valid_Password
- AdminLoginValidData
- adminRegistrerOgEndreKunde
- admin_Registrer_Og_Endre_Kunde_Feil
- adminSlettKunde
- admin_Registrer_og_Endre_Konto
- adminRegistrerogEndrerKontoFeilPersNr
- admin_Registrer_og_Endre_Konto_Feil
- **adminSlettKonto**

Passed: 14

Failed: 5

```
[info] Playing test case TestingBank / LogInCorrectPersNrAndWrongPassword
[info] Time: Wed Mar 14 2018 13:30:53 GMT+0100 (CET) Timestamp: 1521030653006
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Time: Wed Mar 14 2018 13:30:53 GMT+0100 (CET) Timestamp: 1521030653026
[info] Test case passed
[info] Playing test case TestingBank / LogInWrongPersNrAndCorrectPassword
[info] Time: Wed Mar 14 2018 13:30:54 GMT+0100 (CET) Timestamp: 1521030654025
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
[info] Executing: | click | link=Logg inn | |
[info] Executing: | click | id=personNr | |
[info] Executing: | type | id=personNr | 0101011052 | 
[info] Executing: | type | id=passord | HeiHei | 
[info] Executing: | click | id=loggInn | |
[info] Time: Wed Mar 14 2018 13:30:54 GMT+0100 (CET) Timestamp: 1521030654871
[info] Test case passed
[info] Playing test case TestingBank / LogInValidData
[info] Time: Wed Mar 14 2018 13:30:55 GMT+0100 (CET) Timestamp: 1521030655534
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/index.php | |
[info] Executing: | click | link=Logg inn | |
[info] Executing: | click | id=personNr | |
[info] Executing: | type | id=personNr | 01010110523 | 
[info] Executing: | click | id=passord | |
[info] Executing: | type | id=passord | HeiHei |
```

```
[info] Executing: | click | id=loggInn | |
[info] Time: Wed Mar 14 2018 13:30:56 GMT+0100 (CET) Timestamp: 1521030656383
[info] Test case passed
[info] Playing test case TestingBank / registrerBetalinger
[info] Time: Wed Mar 14 2018 13:30:57 GMT+0100 (CET) Timestamp: 1521030657055
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
[info] Executing: | click | link=Logg inn | |
[info] Executing: | click | id=personNr | |
[info] Executing: | type | id=personNr | 01010110523 |
[info] Executing: | click | id=passord | |
[info] Executing: | type | id=passord | HeiHei |
[info] Executing: | click | id=loggInn | |
[info] Executing: | click | link=Register betaling | |
[info] Executing: | click | id=tilKonto | |
[info] Executing: | type | id=tilKonto | 22334412345 |
[info] Executing: | verifyValue | id=tilKonto | 22334412345 |
[info] Executing: | click | id=dato | |
[info] Executing: | type | id=dato | 2018-03-08 |
[info] Executing: | verifyValue | id=dato | 2018-03-08 |
[info] Executing: | click | id=belop | |
[info] Executing: | type | id=belop | 100 |
[info] Executing: | verifyValue | id=belop | 100 |
[info] Executing: | click | id=melding | |
[info] Executing: | type | id=melding | GAVE |
[info] Executing: | verifyValue | id=melding | GAVE |
[info] Executing: | click | id=regBetalinger | |
[info] Executing: | click | //div[@id='listBetalinger']/table/tbody/tr/td[6]/button | |
```

```
[info] Time: Wed Mar 14 2018 13:30:58 GMT+0100 (CET) Timestamp: 1521030658904
[info] Test case passed
[info] Playing test case TestingBank / registrerBetalingFeil2
[info] Time: Wed Mar 14 2018 13:30:59 GMT+0100 (CET) Timestamp: 1521030659572
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php |
[info] Executing: | click | link=Logg inn |
[info] Executing: | click | id=personNr |
[info] Executing: | type | id=personNr | 01010110523 |
[info] Executing: | click | id=password |
[info] Executing: | type | id=password | HeiHei |
[info] Executing: | click | id=loggInn |
[info] Executing: | click | link=Register betaling |
[info] Executing: | click | id=tilKonto |
[info] Executing: | type | id=tilKonto | 22334412345 |
[info] Executing: | click | id=dato |
[info] Executing: | type | id=dato | 2019-01-01 |
[info] Executing: | click | id=belop |
[info] Executing: | type | id=belop | -100 |
[info] Executing: | click | id=melding |
[info] Executing: | type | id=melding | Ira |
[info] Executing: | click | id=regBetaling |
[info] Executing: | verifyAlertPresent | id=regBetaling |
[error] did not match
[info] Executing: | click | //div[@id='listBetalinger']/table/tbody/tr/td[6]/button |
[info] Time: Wed Mar 14 2018 13:31:01 GMT+0100 (CET) Timestamp: 1521030661103
[info] Test case passed
[info] Playing test case TestingBank / hentTransaksjoner
```

```
[info] Time: Wed Mar 14 2018 13:31:02 GMT+0100 (CET) Timestamp: 1521030662087
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/transaksjon.php | |
[info] Executing: | click | id=fraDato | |
[info] Executing: | type | id=fraDato | 2012-01-01 |
[info] Executing: | verifyValue | id=fraDato | 2012-01-01 |
[info] Executing: | click | id=tilDato | |
[info] Executing: | type | id=tilDato | 2012-12-30 |
[info] Executing: | verifyValue | id=tilDato | 2012-12-30 |
[info] Executing: | click | id=sok | |
[info] Time: Wed Mar 14 2018 13:31:02 GMT+0100 (CET) Timestamp: 1521030662518
[info] Test case passed
[info] Playing test case TestingBank / hentTransaksjonerFeilDato
[info] Time: Wed Mar 14 2018 13:31:03 GMT+0100 (CET) Timestamp: 1521030663098
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/transaksjon.php | |
[info] Executing: | click | link=Transaksjoner | |
[info] Executing: | click | id=fraDato | |
[info] Executing: | type | id=fraDato | 2018-03-12 |
[info] Executing: | click | id=tilDato | |
[info] Executing: | type | id=tilDato | 2018-01-01 |
[info] Executing: | click | id=sok | |
[info] Executing: | verifyAlertPresent | | |
[error] did not match
[info] Time: Wed Mar 14 2018 13:31:03 GMT+0100 (CET) Timestamp: 1521030663685
[info] Test case passed
[info] Playing test case TestingBank / endreKundeInfo
```

```
[info] Time: Wed Mar 14 2018 13:31:04 GMT+0100 (CET) Timestamp: 1521030664608
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/kundeInfo.php | |
[info] Executing: | click | link=Kunde-info | |
[info] Executing: | click | id=fornavn | |
[info] Executing: | type | id=fornavn | Lene |
[info] Executing: | assertValue | id=fornavn | Lene |
[info] Executing: | click | id=etternavn | |
[info] Executing: | click | id=endre | |
[info] Executing: | click | id=fornavn | |
[info] Executing: | type | id=fornavn | Lene1 |
[info] Executing: | assertValue | id=fornavn | Lene1 |
[info] Executing: | click | id=endre | |
[info] Executing: | click | id=fornavn | |
[info] Executing: | type | id=fornavn | Lene |
[info] Executing: | assertValue | id=fornavn | Lene |
[info] Executing: | click | id=endre | |
[info] Time: Wed Mar 14 2018 13:31:05 GMT+0100 (CET) Timestamp: 1521030665904
[info] Test case passed
[info] Playing test case TestingBank / endreKundeInfoFeil
[info] Time: Wed Mar 14 2018 13:31:06 GMT+0100 (CET) Timestamp: 1521030666631
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/utforBetalinger.php | |
[info] Executing: | click | link=Kunde-info | |
[info] Executing: | click | id=fornavn | |
[info] Executing: | click | id=fornavn | |
[info] Executing: | doubleClick | id=fornavn | |
```

```
[info] Executing: | type | id=fornavn | |
[info] Executing: | click | id=etternavn | |
[info] Executing: | click | id=etternavn | |
[info] Executing: | doubleClick | id=etternavn | |
[info] Executing: | type | id=etternavn | |
[info] Executing: | click | id=adresse | |
[info] Executing: | click | id=adresse | |
[info] Executing: | doubleClick | id=adresse | |
[info] Executing: | click | id=adresse | |
[info] Executing: | click | id=adresse | |
[info] Executing: | doubleClick | id=adresse | |
[info] Executing: | click | id=adresse | |
[info] Executing: | type | id=adresse | |
[info] Executing: | click | id=postnr | |
[info] Executing: | click | id=postnr | |
[info] Executing: | doubleClick | id=postnr | |
[info] Executing: | type | id=postnr | |
[info] Executing: | click | id=poststed | |
[info] Executing: | click | id=poststed | |
[info] Executing: | doubleClick | id=poststed | |
[info] Executing: | click | id=poststed | |
[info] Executing: | type | id=poststed | |
[info] Executing: | click | id=telefonnr | |
```

```
[info] Executing: | doubleClick | id=passord | |
[info] Executing: | type | id=passord | |
[info] Executing: | click | id=endre | |
[info] Executing: | verifyAlertPresent | id=endre | |
[error] did not match
[info] Time: Wed Mar 14 2018 13:31:08 GMT+0100 (CET) Timestamp: 1521030668460
[info] Test case passed
[info] Playing test case TestingBank / Admin_Login_Valid_User&Invalid_Password
[info] Time: Wed Mar 14 2018 13:31:09 GMT+0100 (CET) Timestamp: 1521030669143
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
[info] Executing: | click | link=Admin | |
[info] Executing: | click | id=bruker | |
[info] Executing: | type | id=bruker | Admin |
[info] Executing: | verifyValue | id=bruker | Admin |
[info] Executing: | click | id=passord | |
[info] Executing: | type | id=passord | Admin1234 |
[info] Executing: | verifyValue | id=passord | Admin1234 |
[info] Executing: | click | id=loggInn | |
[info] Time: Wed Mar 14 2018 13:31:09 GMT+0100 (CET) Timestamp: 1521030669764
[info] Test case passed
[info] Playing test case TestingBank / Admin_Login_Invalid_User&Valid_Password
[info] Time: Wed Mar 14 2018 13:31:10 GMT+0100 (CET) Timestamp: 1521030670658
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
[info] Executing: | click | link=Admin | |
[info] Executing: | click | id=bruker | |
```

```
[info] Executing: | type | id=bruker | Ira |
[info] Executing: | verifyValue | id=bruker | Ira |
[info] Executing: | click | id=passord | |
[info] Executing: | type | id=passord | Admin |
[info] Executing: | verifyValue | id=passord | Admin |
[info] Executing: | click | id=loggInn | |
[info] Time: Wed Mar 14 2018 13:31:11 GMT+0100 (CET) Timestamp: 1521030671260
[info] Test case passed
[info] Playing test case TestingBank / AdminLoginValidData
[info] Time: Wed Mar 14 2018 13:31:12 GMT+0100 (CET) Timestamp: 1521030672175
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
[info] Executing: | click | link=Admin | |
[info] Executing: | click | id=bruker | |
[info] Executing: | type | id=bruker | Admin |
[info] Executing: | verifyValue | id=bruker | Admin |
[info] Executing: | click | id=passord | |
[info] Executing: | type | id=passord | Admin |
[info] Executing: | verifyValue | id=passord | Admin |
[info] Executing: | click | id=loggInn | |
[info] Time: Wed Mar 14 2018 13:31:12 GMT+0100 (CET) Timestamp: 1521030672809
[info] Test case passed
[info] Playing test case TestingBank / adminRegistrerOgEndreKunde
[info] Time: Wed Mar 14 2018 13:31:13 GMT+0100 (CET) Timestamp: 1521030673694
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/loggInnAdmin.php | |
[info] Executing: | click | id=bruker | |
```

```
[info] Executing: | click | id=bruker | |
[info] Executing: | doubleClick | id=bruker | |
[info] Executing: | type | id=bruker | Admin |
[info] Executing: | click | id=password | |
[info] Executing: | click | id=password | |
[info] Executing: | doubleClick | id=password | |
[info] Executing: | type | id=password | Admin |
[info] Executing: | click | id=loggInn | |
[info] Executing: | click | link=Registrer kunde | |
[info] Executing: | click | id=personnummer | |
[info] Executing: | type | id=personnummer | 20108824000 |
[info] Executing: | click | id=fornavn | |
[info] Executing: | type | id=fornavn | Iryna |
[info] Executing: | click | id=etternavn | |
[info] Executing: | type | id=etternavn | Martynchuk |
[info] Executing: | click | id=adresse | |
[info] Executing: | type | id=adresse | Wilses gate |
[info] Executing: | click | id=postnr | |
[info] Executing: | type | id=postnr | 0178 |
[info] Executing: | click | id=poststed | |
[info] Executing: | type | id=poststed | Oslo |
[info] Executing: | click | id=telefonnr | |
[info] Executing: | type | id=telefonnr | 92120940 |
[info] Executing: | click | id=password | |
[info] Executing: | type | id=password | 123456 |
```

```
[info] Executing: | click | xpath=(//a[contains(text(),'Endre'))][4] ||  
[info] Time: Wed Mar 14 2018 13:31:15 GMT+0100 (CET) Timestamp: 1521030675796  
[info] Test case passed  
[info] Playing test case TestingBank / admin_Registrer_Og_Endre_Kunde_Feil  
[info] Time: Wed Mar 14 2018 13:31:16 GMT+0100 (CET) Timestamp: 1521030676716  
[info] OS: macOS Version: 10.13.3  
[info] Browser: Chrome Version: 64.0  
[info] Executing: | open | http://localhost:8888/TestingBank/View/adminRegisterKunde.php ||  
[info] Executing: | type | id=personnummer | 2010882400 |  
[info] Executing: | click | id=fornavn | |  
[info] Executing: | type | id=fornavn | Iryna |  
[info] Executing: | click | id=etternavn | |  
[info] Executing: | type | id=etternavn | Martynchuk |  
[info] Executing: | click | id=adresse | |  
[info] Executing: | type | id=adresse | Wilses gate |  
[info] Executing: | click | id=postnr | |  
[info] Executing: | type | id=postnr | 0178 |  
[info] Executing: | click | id=poststed | |  
[info] Executing: | type | id=poststed | Oslo |  
[info] Executing: | click | id=telefonnr | |  
[info] Executing: | type | id=telefonnr | 92120940 |  
[info] Executing: | click | id=password | |  
[info] Executing: | type | id=password | 123456 |  
[info] Executing: | click | id=regKunde | |  
[info] Executing: | type | id=password2 | |  
[info] Executing: | click | xpath=(//a[contains(text(),'Endre'))][4] ||  
[info] Executing: | verifyAlertPresent | xpath=(//a[contains(text(),'Endre'))][4] ||  
[error] did not match  
[info] Time: Wed Mar 14 2018 13:31:18 GMT+0100 (CET) Timestamp: 1521030678046
```

```
[info] Test case passed

[info] Playing test case TestingBank / adminSlettKunde

[info] Time: Wed Mar 14 2018 13:31:18 GMT+0100 (CET) Timestamp: 1521030678734

[info] OS: macOS Version: 10.13.3

[info] Browser: Chrome Version: 64.0

[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |

[info] Executing: | click | link=Admin | |

[info] Executing: | click | id=bruker | |

[info] Executing: | click | id=bruker | |

[info] Executing: | doubleClick | id=bruker | |

[info] Executing: | type | id=bruker | Admin |

[info] Executing: | click | id=password | |

[info] Executing: | click | id=password | |

[info] Executing: | doubleClick | id=password | |

[info] Executing: | type | id=password | Admin |

[info] Executing: | click | id=loggInn | |

[info] Executing: | click | link=Endre kunde | |

[info] Executing: | click | link=Slett | |

[info] Executing: | chooseOkOnNextConfirmation | | |

[info] Executing: | verifyTextPresent | OK | |

[info] Time: Wed Mar 14 2018 13:31:23 GMT+0100 (CET) Timestamp: 1521030683244

[info] Test case passed

[info] Playing test case TestingBank / admin_Registrer_og_Endre_Konto

[info] Time: Wed Mar 14 2018 13:31:24 GMT+0100 (CET) Timestamp: 1521030684258

[info] OS: macOS Version: 10.13.3

[info] Browser: Chrome Version: 64.0

[info] Executing: | open | http://localhost:8888/TestingBank/View/adminRegisterKonto.php | |

[info] Executing: | click | id=kontoNr | |

[info] Executing: | type | id=kontoNr | 12345678912 |
```

```
[info] Executing: | click | id=type | |
[info] Executing: | type | id=type | Spare |
[info] Executing: | click | id=valuta | |
[info] Executing: | type | id=valuta | NOK |
[info] Executing: | click | id=personnummer | |
[info] Executing: | type | id=personnummer | 01010110523 |
[info] Executing: | click | id=regKonto | |
[info] Executing: | click | link=Endre konto | |
[info] Executing: | click | id=saldo3 | |
[info] Executing: | type | id=saldo3 | .00 |
[info] Executing: | verifyValue | id=saldo3 | .00 |
[info] Executing: | click | id=kontonummer3 | |
[info] Executing: | click | id=saldo3 | |
[info] Executing: | click | id=type3 | |
[info] Executing: | click | id=valuta3 | |
[info] Executing: | click | id=personnummer3 | |
[info] Executing: | click | id=personnummer3 | |
[info] Executing: | click | id=type3 | |
[info] Executing: | click | id=saldo3 | |
[info] Executing: | type | id=saldo3 | 100.00 |
[info] Executing: | verifyValue | id=saldo3 | 100.00 |
[info] Executing: | click | xpath=(//a[contains(text(),'Endre'))][5] | |
[info] Time: Wed Mar 14 2018 13:31:26 GMT+0100 (CET) Timestamp: 1521030686003
```

```
[info] Test case passed

[info] Playing test case TestingBank / adminRegistrerogEndrerKontoFeilPersNr

[info] Time: Wed Mar 14 2018 13:31:26 GMT+0100 (CET) Timestamp: 1521030686778

[info] OS: macOS Version: 10.13.3

[info] Browser: Chrome Version: 64.0

[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |

[info] Executing: | click | link=Admin | |

[info] Executing: | click | id=bruker | |

[info] Executing: | click | id=bruker | |

[info] Executing: | doubleClick | id=bruker | |

[info] Executing: | type | id=bruker | Admin |

[info] Executing: | click | id=password | |

[info] Executing: | click | id=password | |

[info] Executing: | doubleClick | id=password | |

[info] Executing: | type | id=password | Admin |

[info] Executing: | click | id=loggInn | |

[info] Executing: | click | link=Register konto | |

[info] Executing: | click | id=kontoNr | |

[info] Executing: | click | id=kontoNr | |

[info] Executing: | doubleClick | id=kontoNr | |

[info] Executing: | type | id=kontoNr | 12345678909 |

[info] Executing: | click | id=type | |

[info] Executing: | type | id=type | Spare |

[info] Executing: | click | id=valuta | |

[info] Executing: | type | id=valuta | NOK |

[info] Executing: | click | id=personnummer | |

[info] Executing: | type | id=personnummer | 12345678909 |

[info] Executing: | click | id=regKonto | |

[info] Executing: | verifyTextPresent | Personnummer finnes ikke | |
```

```
[info] Time: Wed Mar 14 2018 13:31:28 GMT+0100 (CET) Timestamp: 1521030688349
[info] Test case passed
[info] Playing test case TestingBank / admin_Registrer_og_Endre_Konto_Feil
[info] Time: Wed Mar 14 2018 13:31:29 GMT+0100 (CET) Timestamp: 1521030689294
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/View/adminRegisterKonto.php | |
[info] Executing: | click | id=kontoNr | |
[info] Executing: | type | id=kontoNr | 12345678910 |
[info] Executing: | click | id=type | |
[info] Executing: | type | id=type | Spare |
[info] Executing: | click | id=personnummer | |
[info] Executing: | type | id=personnummer | 12345678901 |
[info] Executing: | click | id=regKonto | |
[info] Executing: | verifyAlert | id=regKonto | |
[error] did not match
[info] Executing: | click | link=Endre konto | |
[info] Executing: | click | id=saldo3 | |
[info] Executing: | type | id=saldo3 | -100.00 |
[info] Executing: | click | xpath=(//a[contains(text(),'Endre'))][5] | |
[info] Executing: | verifyAlert | xpath=(//a[contains(text(),'Endre'))][5] | |
[error] did not match
[info] Time: Wed Mar 14 2018 13:31:30 GMT+0100 (CET) Timestamp: 1521030690508
[info] Test case passed
[info] Playing test case TestingBank / adminSlettKonto
[info] Time: Wed Mar 14 2018 13:31:31 GMT+0100 (CET) Timestamp: 1521030691310
[info] OS: macOS Version: 10.13.3
[info] Browser: Chrome Version: 64.0
[info] Executing: | open | http://localhost:8888/TestingBank/Index.php | |
```

```
[info] Executing: | click | link=Admin | |
[info] Executing: | click | id=bruker | |
[info] Executing: | click | id=bruker | |
[info] Executing: | doubleClick | id=bruker | |
[info] Executing: | type | id=bruker | Admin |
[info] Executing: | click | id=password | |
[info] Executing: | click | id=password | |
[info] Executing: | doubleClick | id=password | |
[info] Executing: | type | id=password | Admin |
[info] Executing: | click | id=loggInn | |
[info] Executing: | click | link=Endre konto | |
[info] Executing: | click | link=Slett | |
[info] Executing: | chooseOkOnNextConfirmation | | |
[info] Executing: | verifyTextPresent | OK | |
[info] Time: Wed Mar 14 2018 13:31:34 GMT+0100 (CET) Timestamp: 1521030694665
[info] Test case passed
```

3.2 MTM (Microsoft Test Management)

Features					
New	Work Item Type	Title	State	Effort	Busin...
+ 1	Feature	CustomerLogin	... ● Active		Business
+	User Story	As a user I want to be able to login with personal number and password from the main page	... ● New		Business
2	Feature	CustomerTransactionsManagement	● New		Business
	User Story	As a user I want to be able to check my saldo	● New		Business
	User Story	As a user I want to be able to check my transaction history from a given period	● New		Business
	User Story	As a user I want to be able to confirm a transaction	● New		Business
	Bug	User shouldn't be allowed to confirm the payment with the date in the past	● New		Business
	User Story	As a user I want to be able to register a transaction	● New		Business
	Bug	User shouldn't be allowed to register payment with date in the past	● New		Business
	Bug	User shouldn't be allowed to register negative amount	● New		Business
3	Feature	CustomerLogOut	● New		Business
	User Story	As a user I want to log out from the system	● New		Business
4	Feature	CustomerInformationManagement	● New		Business
	User Story	As a user I want to change my personal information	● New		Business
	Bug	User shouldn't be allowed to make invalid changes	● New		Business
	Bug	User should not be allowed to leave all the customer details fields empty and should not be allowed to sa...	● New		Business
	User Story	As a user I want to go back to the main page	● New		Business
5	Feature	AdminLogin	● New		Business
	User Story	As an administrator I want to login with my username and password	● New		Business
Features					
New	Work Item Type	Title	State	Effort	Busin...
+ 6	Feature	AdminAccountManagement	● New		Business
	User Story	As an administrator I want to register new account	● New		Business
	Bug	No error message is displayed	● New		Business
	Bug	No error message is displayed	● New		Business
	User Story	As an administrator I want to register new account with international ID	● New		Business
	Bug	Allows to register account with missing information (including missing account number)	● New		Business
	User Story	As an administrator I want to view all existing accounts	● New		Business
	User Story	As an administrator I want to edit all the account details	● New		Business
	Bug	Account details changed with empty fields submitted	● New		Business
	Bug	Should not be possible to save account information with invalid saldo	... ● New		Business
	User Story	As an administrator I want to delete an existing account	● New		Business
7	Feature	AdminCustomerInformationManagement	● New		Business
	User Story	As an administrator I want to register a new customer	● New		Business
	Bug	Should not be possible to register account with missing information	● New		Business
	Bug	Should not be possible to register new account with invalid personal number	● New		Business
	Bug	No error message on invalid phone number or address	● New		Business
	Bug	Should not be possible to register new customer with invalid information	● New		Business
	User Story	As an administrator I was to view information about all existing customers	● New		Business
	User Story	As an administrator I want to update customer information	● New		Business
	Bug	No error messages are displayed when filling in invalid information	● New		Business
	Bug	Should not be able to edit and save customer information with invalid details	● New		Business
	Bug	Should be impossible to save changes leaving any of the fields empty	● New		Business
	Bug	Error messages are not displayed	● New		Business
	User Story	As an administrator I want to delete a customer	● New		Business
8	Feature	AdminLogOut	● New		Business
	User Story	As an admin I want to log out	● New		Business

Test plan 5: Test plan for login

Suite hierarchy

Static suite: Test plan for login (ID: 6)

Requirement-based suite: 3 : 1. As a user I want to be able to login with personal number and password from the main page (ID: 2)

Test suite 2: 3 : 1. As a user I want to be able to login with personal number and password from the main page

Test cases (3)

Test case 10: Login with valid credentials

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	LoginCredentials.png (187K) UserSaldo.png (252K)

LINKS

ID	WorkItemType	Link type	Title
3	User Story	Tests	As a user I want to be able to login with personal number and password from the main page

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315699	lørdag 10. mars 2018	0	

Test case 17: Login with invalid personnummer

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank app appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in wrong personnummer and correct password	User is denied the access	WrongPersonnummer.png (672K)

LINKS

ID	WorkItemType	Link type	Title
3	User Story	Tests	As a user I want to be able to login with personal number and password from the main page

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test case 18: Login with invalid password and correct personnummer

13.3.2018	Test suite: 3 : 1. As a user I want to be able to login with personal number and password from the main page (Suite ID: 7)					
STEPS						
#	Action	Expected value	Attachments			
1	Type in following URL http://localhost:8888/TestingBank/index.php	User is redirected to the main page	TestingBankMainPage.png (204K)			
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)			
3	Type in correct personnummer and invalid password	User is denied access to the application	WrongPassword.png (218K)			
LINKS						
ID	WorkItemType	Link type	Title			
3	User Story	Tests	As a user I want to be able to login with personal number and password from the main page			
LATEST TEST OUTCOME						
Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test plan 22: Test plan for customer administration

Suite hierarchy

Static suite: Test plan for customer administration (ID: 23)

Requirement-based suite: 20 : As a user I want to change my personal information (ID: 24)

Requirement-based suite: 21 : As a user I want to go back to the the main page (ID: 25)

Test suite 24: 20 : As a user I want to change my personal information

Test cases (3)

Test case 28: Change all personal information with details in correct format

STEPS

#	Action	Expected value	Attachments
1	Type in URL: http://localhost:8888/TestingBank/index.php	TestingBank app main page app ears	TestingBankMainPage.png (204 K)
2	Click on the green Logg inn button	User is redirected to log in page	LoginPage.png (575K)
3	Type in valid login credentials: 01010110523 HeiHei and click Logg inn button	User is logged in and redirected to the user saldo page	UserSaldo.png (252K)
4	Click on the Kunde-info button in the top menu	User is redirected to Kunde-inf o page	KundeInfo.png (242K)
5	Change all details as following Fornavn: Maja; Etternavn: Kiszka; Adresse:Thereses Gate; Postnr: 0452; Poststed: Oslo; Telefonnr:450999900; Passord:123456 and click the butto n Endre info	Customer details are changed	CustomerDetailsChanged.png (248K)

LINKS

ID	WorkItemType	Link type	Title
20	User Story	Tests	As a user I want to change my personal information

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

Test case 29: Change all details with incorrect format

STEPS

#	Action	Expected value	Attachments
1	Type in URL: http://localhost:8888/TestingBank/index.php	TestingBank app main page app ears	TestingBankMainPage.png (204 K)
2	Click on the green Logg inn button	User is redirected to log in page	LoginPage.png (575K)
3	Type in valid login credentials: 01010110523 HeiHei and click Logg inn button	User is logged in and redirected to the user saldo page	UserSaldo.png (252K)
4	Click on the Kunde-info button in the top menu	User is redirected to Kunde-inf o page	KundeInfo.png (242K)
5	Change all details as following Fornavn: 1234; Etternavn: 1234; Adresse: 1234; Postnr: Oslo; Poststed: 1234; Telefon nr:Oslo; Passord:123456 and click the button Endre info	User is denied to make invalid changes	IncorrectChanges.png (721K)

LINKS

ID	WorkItemType	Link type	Title
20	User Story	Tests	As a user I want to change my personal information
152	Bug	Tests	User shouldn't be allowed to make invalid changes

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

13.3.2018

Test suite: 20 : As a user I want to change my personal information (Suite ID: 24)

Test case [156](#): Change the details and leave all the fields empty

STEPS

#	Action	Expected value	Attachments
1	Type in URL: http://localhost:8888/TestingBank/index.php	TestingBank app main page app ears	TestingBankMainPage.png (204K)
2	Click on the green Logg inn button	User is redirected to log in page	LoginPage.png (575K)
3	Type in valid login credentials: 01010110523 HeiHei and click Logg inn button	User is logged in and redirected to the user saldo page	UserSaldo.png (252K)
4	Click on the Kunde-info button in the top menu	User is redirected to Kunde-info page	KundeInfo.png (242K)
5	Delete all the user info and leave all the fields empty	User is denied to make changes with all the fields empty	emptyDetails.png (191K)
6	Click again on the Kunde-info button on the top menu to see changes	No changes were made	AskerOnly.png (140K)

LINKS

ID	WorkItemType	Link type	Title
20	User Story	Tests	As a user I want to change my personal information
157	Bug	Tests	User should not be allowed to leave all the customer details fields empty and should not be allowed to save those changes

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

13.3.2018

Test suite: 21 : As a user I want to go back to the the main page (Suite ID: 25)

Test plan [22](#): Test plan for customer administration

Suite hierarchy

Static suite: Test plan for customer administration (ID: [23](#))Requirement-based suite: 20 : As a user I want to change my personal information (ID: [24](#))Requirement-based suite: 21 : As a user I want to go back to the the main page (ID: [25](#))

Test suite [25](#): 21 : As a user I want to go back to the the main page

Test cases (1)

Test case [30](#): Return to the main page

STEPS

#	Action	Expected value	Attachments
1	Type in URL: http://localhost:8888/TestingBank/index.php	TestingBank app main page app ears	TestingBankMainPage.png (204K)
2	Click on the green Logg inn button	User is redirected to log in page	LoginPage.png (575K)
3	Type in valid login credentials: 01010110523 HeiHei and click Logg inn button	User is logged in and redirected to the user saldo page	UserSaldo.png (252K)
4	Click on the Kunde-info button in the top menu	User is redirected to Kunde-inf o page	KundeInfo.png (242K)
5	Click on the green button Tilbake	User is redirected to the main sa ldo page	GoBack.png (216K)

LINKS

ID	WorkItemType	Link type	Title
21	User Story	Tests	As a user I want to go back to the main page

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test plan 42: Test plan for customer transaction management

Suite hierarchy

Static suite: Test plan for customer transaction management (ID: 43)

Requirement-based suite: 38 : As a user I want to be able to register a transaction (ID: 44)

Requirement-based suite: 39 : As a user I want to be able to confirm a transaction (ID: 45)

Requirement-based suite: 40 : As a user I want to be able to check my transaction history from a given period (ID: 46)

Requirement-based suite: 41 : As a user I want to be able to check my saldo (ID: 47)

Test suite 44: 38 : As a user I want to be able to register a transaction

Test cases (3)

Test case 48: Register a valid transaction for further processing

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank app appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on Registrer Betaling button in the upper menu	User is redirected to the Registrer Betaling page	RegistrerBetaling.png (225K)
5	Choose Kontonr from the list: 105020123456, Til kontonummer: 105000012345, today's date, beløp:999, Melding: m iiddag, and then click on the green button - Registrer Betaling	User is being redirected to Utfør betaling page where he can confirm the payment	utførBetaling.png (176K)

LINKS

ID	WorkItemType	Link type	Title
38	User Story	Tests	As a user I want to be able to register a transaction

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test case 49: Register a transaction with past date

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	LoginCredentials.png (187K) UserSaldo.png (252K)
4	Choose Kontonr from the list: 105020123456, Til kontonummer: 105000012345, betalings dato: 2017-03-09, beløp:1 000, Melding: wrong date, and then click on the green butt on - Registrer Betaling	User is denied to register the payment, as payments with past date's are not allowed	pastDate.png (229K)

LINKS

ID	WorkItemType	Link type	Title
38	User Story	Tests	As a user I want to be able to register a transaction
150	Bug	Tests	User shouldn't be allowed to register payment with date in the past

LATEST TEST OUTCOME

13.3.2018	Test suite: 38 : As a user I want to be able to register a transaction (Suite ID: 44)					
Outcome Failed	Tester s315589	Configuration Windows 10	Run by s315589	Date completed tirsdag 13. mars 2018	Duration in seconds 0	Build number

Test case [154](#): Register transaction with future date and negative amount

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204 K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei and click Logg Inn button	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on Registrer Betaling button in the upper menu	User is redirected to the Registrer Betaling page	RegistrerBetaling.png (225K)
5	Choose Kontonr from the list:105020123456, Til kontonummer: 1020102011234, today's date, beløp:-10, Melding: feilfeilfeil, and then click on the green button - Registrer Betaling	User is denied to register the payment	minusAmount.png (105K)

LINKS

ID	WorkItemType	Link type	Title
38	User Story	Tests	As a user I want to be able to register a transaction
155	Bug	Tests	User shouldn't be allowed to register negative amount

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

Test plan 42: Test plan for customer transaction management

Suite hierarchy

Static suite: Test plan for customer transaction management (ID: 43)

Requirement-based suite: 38 : As a user I want to be able to register a transaction (ID: 44)

Requirement-based suite: 39 : As a user I want to be able to confirm a transaction (ID: 45)

Requirement-based suite: 40 : As a user I want to be able to check my transaction history from a given period (ID: 46)

Requirement-based suite: 41 : As a user I want to be able to check my saldo (ID: 47)

Test suite 45: 39 : As a user I want to be able to confirm a transaction

Test cases (2)

Test case 50: Confirm and process payment

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on the Utfør betaling in the upper menu	User is redirected to Utfør betaling page where all awaiting payments are listed	confirmPayment.png (221K)
5	Click on the green button Utfør betaling to process the payment	Payment is confirmed and user is redirected to the same page where other payments awaiting confirmation(if any) are listed	confirmPayment2.png (218K)

LINKS

ID	WorkItemType	Link type	Title
39	User Story	Tests	As a user I want to be able to confirm a transaction

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test case 51: Confirm and process payment with wrong date

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on the Utfør betaling in the upper menu	User is redirected to Utfør betaling page where all awaiting payments are listed	confirmPayment.png (221K)
5	Click on the green button Utfør betaling to process payment which has incorrect date	Payment is not being processed	confirmIncorrectPayment.png (193K)

LINKS

ID	WorkItemType	Link type	Title
39	User Story	Tests	As a user I want to be able to confirm a transaction
151	Bug	Tests	User shouldn't be allowed to confirm the payment with the date in the past

13.3.2018	Test suite: 39 : As a user I want to be able to confirm a transaction (Suite ID: 45)					
LATEST TEST OUTCOME						
Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number

[Failed](#)

s315589 Windows 10 s315589 tirsdag 13. mars 2018 0

13.3.2018	Test suite: 40 : As a user I want to be able to check my transaction history from a given period (Suite ID: 46)
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Test plan [42](#): Test plan for customer transaction management

Suite hierarchy

Static suite: Test plan for customer transaction management (ID: [43](#))

Requirement-based suite: 38 : As a user I want to be able to register a transaction (ID: [44](#))

Requirement-based suite: 39 : As a user I want to be able to confirm a transaction (ID: [45](#))

Requirement-based suite: 40 : As a user I want to be able to check my transaction history from a given period (ID: [46](#))

Requirement-based suite: 41 : As a user I want to be able to check my saldo (ID: [47](#))

Test suite [46](#): 40 : As a user I want to be able to check my transaction history from a given period

Test cases (1)

Test case [52](#): List all processed transactions

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank app ears	TestingBankMainPage.png (204 K)
2	Click on the green button - Logg inn	User is redirected to the login pa ge	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on the Transaksjoner button in the upper menu	User is redirected to Transaksjo ner page where he can choose tr ansactions by date and account	chooseTransaction.png (229K)
5	Choose the 105010123456 account and type 1999-10-10 as fra dato and today's date as til dato	All transactions processed in thi s period are listed	allTransactions.png (309K)

LINKS

ID	WorkItemType	Link type	Title
40	User Story	Tests	As a user I want to be able to check my transaction history from a given period

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test plan [42](#): Test plan for customer transaction management

Suite hierarchy

Static suite: Test plan for customer transaction management (ID: [43](#))

Requirement-based suite: 38 : As a user I want to be able to register a transaction (ID: [44](#))

Requirement-based suite: 39 : As a user I want to be able to confirm a transaction (ID: [45](#))

Requirement-based suite: 40 : As a user I want to be able to check my transaction history from a given period (ID: [46](#))

Requirement-based suite: 41 : As a user I want to be able to check my saldo (ID: [47](#))

Test suite [47](#): 41 : As a user I want to be able to check my saldo

Test cases (2)

Test case [53](#): Check saldo after login

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page where he can see updated saldo	UserSaldo.png (252K)
4			

LINKS

ID	WorkItemType	Link type	Title
41	User Story	Tests	As a user I want to be able to check my saldo

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

Test case [54](#): Check saldo from other place than after login

STEPS

#	Action	Expected value	Attachments
1	Type in following URL http://localhost:8888/TestingBank/index.php	Main page of TestingBank appears	TestingBankMainPage.png (204K)
2	Click on the green button - Logg inn	User is redirected to the login page	LoginPage.png (575K)
3	Type in login credentials 01010110523 HeiHei	User is logged in and redirected to this user's saldo page	UserSaldo.png (252K)
4	Click on any other button on the upper menu, for example on Transaksjoner button	User is directed to Transaksjone chooseTransaction.png (229K) page	
5	From the Transaksjoner page, click on the Saldo button on the upper menu	User is redirected to the Saldo page UserSaldo.png (252K) where he can see updated saldo	

LINKS

ID	WorkItemType	Link type	Title
41	User Story	Tests	As a user I want to be able to check my saldo

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	tirsdag 13. mars 2018	0	

Test plan [33](#): Test plan for customer log out

Suite hierarchy

Static suite: Test plan for customer log out (ID: [34](#))

Requirement-based suite: 32 : As a user I want to log out from the system (ID: [35](#))

Test suite [35](#): 32 : As a user I want to log out from the system

Test cases (1)

Test case [36](#): Logout permanently from the system

STEPS

#	Action	Expected value	Attachments
1	Type in URL: http://localhost:8888/TestingBank/index.php	User is redirected to the Testing Bank app	TestingBankMainPage.png (204 K)
2	Click on the green Log in button	User is redirected to log in page	LoginPage.png (575K)
3	Type in valid login credentials 01010110523 and HeiHei as password	User is logged in and redirected to saldo-main page	UserSaldo.png (252K)
4	Click on the log out button in the upper right corner	User is logged out and redirected to the TestingBank main page	TestingBankMainPage.png (204 K)

LINKS

ID	WorkItemType	Link type	Title
32	User Story	Tests	As a user I want to log out from the system

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315589	Windows 10	s315589	fredag 9. mars 2018	0	

Test plan [61](#): Test plan for admin login

Suite hierarchy

Static suite: Test plan for admin login (ID: [62](#))

Requirement-based suite: 9 : As an administrator I want to login with my username and password (ID: [63](#))

Test suite [62](#): Test plan for admin login

Properties

State:	In Progress
Type:	Static Suite
Configurations:	Windows 10

Test cases (3)

Test case [64](#): Login as an admin with correct username and password

STEPS

#	Action	Expected value	Attachments
1	Write in URL http://localhost:8888/TestingBank/Index.php	First page of Bank Application is displayed	399eaeb7dc3bac1cd37a439bf02fb4.png (56K)
2	Go to a Admin login page by clicking "Admin" button	Admin login page is displayed	a4cf6a16cc0d965fd8d94d923289014a.png (31K)
3	Typing in username and password	No error messages are displayed	934883ca91cecadb26b4b88ce14651e.png (34K)
4	Pressing login button and coming to the first page of the Admin page	First page of the Admin web page (Admin Kunde) is displayed	58de72a3cd9268c8a84d12048b540738.png (47K)

LINKS

ID	WorkItemType	Link type	Title
2	User Story	Tests	As an administrator I want to login with my username and password

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Saturday, March 10, 2018	0	

Test case [65](#): Login with invalid username

STEPS

#	Action	Expected value	Attachments
1	Write in URL http://localhost:8888/TestingBank/Index.php	First page of Bank Application is displayed	399eaeb7dc3bac1cd37a439bf02fb4.png (56K)
2	Go to a Admin login page by clicking "Admin" button	Admin login page is displayed	a4cf6a16cc0d965fd8d94d923289014a.png (31K)
3	Type incorrect username and correct password	No error messages are displayed	c3cach5ddb4519bfbc1da38501675ad5.png (60K)
4	Press "Logg inn" button	Receive an error message: "Feil personnummer / passord!"	eb5d92b31690e335824d25367884c9ad-1.png (38K)

LINKS

ID	WorkItemType	Link type	Title
2	User Story	Tests	As an administrator I want to login with my username and password

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Saturday, March 10, 2018	0	

Passed s315699 Windows 10 s315699 Saturday, March 10, 2018 0

Test case [66](#): Login with invalid password

STEPS

#	Action	Expected value	Attachments
1	Write in URL http://localhost:8888/TestingBank/Index.php	First page of Bank Application is displayed	399eaacb7dc3baca1cd37a439bf02fb4.png (56K)
2	Go to a Admin login page by clicking "Admin" button	Admin login page is displayed	a4cff6a16cc0d965fd8d944923289014a.png (31K)
3	Type in correct username and incorrect password	Username and password are typed in. No error messages are displayed	91c8c92697fbhdff60689b9a64d785dea.png (60K)
4	Press "Logg inn" button	Receive an error message: "Feil personnummer / passord!"	8c0a7394c0bd6a9ff64b16e762a09c0.png (65K)

LINKS

ID	WorkItemType	Link type	Title
9	User Story	Tests	As an administrator I want to login with my username and password

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Saturday, March 10, 2018	0	

Test plan [136](#): Test plan for admin account management

Suite hierarchy

Static suite: Test plan for admin account management (ID: [137](#))
Requirement-based suite: 12 : As an administrator I want to register new account (ID: [138](#))
Requirement-based suite: 13 : As an administrator I want to view all existing accounts (ID: [139](#))
Requirement-based suite: 14 : As an administrator I want to edit all the account details (ID: [140](#))
Requirement-based suite: 16 : As an administrator I want to delete an existing account (ID: [142](#))

Test suite [137](#): Test plan for admin account management

Properties

State:	In Progress
Type:	Static Suite
Configurations:	Windows 10

Test plan [136](#): Test plan for admin account management

Suite hierarchy

Static suite: Test plan for admin account management (ID: [137](#))

Requirement-based suite: 12 : As an administrator I want to register new account (ID: [138](#))

Requirement-based suite: 13 : As an administrator I want to view all existing accounts (ID: [139](#))

Requirement-based suite: 14 : As an administrator I want to edit all the account details (ID: [140](#))

Requirement-based suite: 16 : As an administrator I want to delete an existing account (ID: [142](#))

Test suite [138](#): 12 : As an administrator I want to register new account

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	12 : As an administrator I want to register new account
Configurations:	Windows 10

Test cases (3)

Test case [71](#): Registering new account with valid data

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2	Go to the page for account registration by pressing "Register konto" button	Page for account registration is displayed	f419a68a0cb48012260012d2a079d4ef.png (64K)
3	Valid data for account registration is typed in	No error messages are displayed	9fc6ba782b17016c0ec9b8ac19f639a.png (70K)
4	Click "Register konto" button	First page of the Admin webpage is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)

LINKS

ID	WorkItemType	Link type	Title
12	User Story	Tests	As an administrator I want to register new account

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [73](#): Register account with wrong personal number

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2	Go to the page for account registration by pressing "Register konto" button	Page for account registration is displayed	f419a68a0cb48012260012d2a079d4ef.png (64K)
3	Put in information with wrong personal number	Error message is displayed	97a3d4791025938876c14a09a78c2c0e.png (70K)
4	Click "Register konto" button	Receive error message: "Personnummer finnes ikke!"	34c6c98d4a6c3ffa21ea61af076f7d28.png (74K)

LINKS

ID	WorkItemType	Link type	Title
12	User Story	Tests	As an administrator I want to register new account
79	Bug	Tests	No error message is displayed

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [74](#): Register account with missing data**STEPS**

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2	Go to the page for account registration by pressing "Register konto" button	Page for account registration is displayed	f419a68a0cb48012260012d2a079d4ef.png (64K)
3	Valid personal number is typed in with rest of the information missing	Error messages are displayed	82a741319992691bc3753605dd450b23.png (66K)
4	Click "Register konto" button	Error messages are displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)

LINKS

ID	WorkItemType	Link type	Title
12	User Story	Tests	As an administrator I want to register new account
80	Bug	Tests	Allows to register account with missing information (including missing account number)

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [136](#): Test plan for admin account management

Suite hierarchy

Static suite: Test plan for admin account management (ID: [137](#))

Requirement-based suite: 12 : As an administrator I want to register new account (ID: [138](#))

Requirement-based suite: 13 : As an administrator I want to view all existing accounts (ID: [139](#))

Requirement-based suite: 14 : As an administrator I want to edit all the account details (ID: [140](#))

Requirement-based suite: 16 : As an administrator I want to delete an existing account (ID: [142](#))

Test suite [139](#): 13 : As an administrator I want to view all existing accounts

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	13 : As an administrator I want to view all existing accounts
Configurations:	Windows 10

Test cases (1)

Test case [78](#): As an admin I want to view all existing accounts

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3cd9268e8a8d412048b540738.png (47K)
2	Go to the page for changing account information by pressing "Endre konto" button	Information about all existing accounts is displayed	acc83fcfd4811306ae251ac428d53976.png (115K)

LINKS

ID	WorkItemType	Link type	Title
13	User Story	Tests	As an administrator I want to view all existing accounts

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [136](#): Test plan for admin account management

Suite hierarchy

Static suite: Test plan for admin account management (ID: [137](#))

Requirement-based suite: 12 : As an administrator I want to register new account (ID: [138](#))

Requirement-based suite: 13 : As an administrator I want to view all existing accounts (ID: [139](#))

Requirement-based suite: 14 : As an administrator I want to edit all the account details (ID: [140](#))

Requirement-based suite: 16 : As an administrator I want to delete an existing account (ID: [142](#))

Test suite [140](#): 14 : As an administrator I want to edit all the account details

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	14 : As an administrator I want to edit all the account details
Configurations:	Windows 10

Test cases (3)

Test case [84](#): Change account details leaving some fields empty

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2	Go to the page for changing account information by pressing "Endre konto" button	Page will information about all existing accounts is displayed	acc83fcfd4811306ac251ac428d53976.png (115K)
3	Change information about the first account on the list leaving fields empty where it is possible	Error messages are displayed	c828def9320310c2ee1che4193dc6ala.png (114K)
4	Save changes by pressing "Endre" button	Account details are not updated. Error messages are displayed	ba8a60b1c97007bea12ed6ace7b1baa7.png (113K)

LINKS

ID	WorkItemType	Link type	Title
14	User Story	Tests	As an administrator I want to edit all the account details
85	Bug	Tests	Account details changed with empty fields submitted

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [86](#): Change account information with valid data

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2	Go to the page for changing account information by pressing "Endre konto" button	Page will information about all existing accounts is displayed	ba8a60b1c97007bea12ed6ace7b1baa7.png (113K)
3	Type in valid account information	No error messages displayed	acc83fcfd4811306ac251ac428d53976.png (115K)
4	Save changes by pressing "Endre" button	Changes are saved and displayed	056flacs09880692c11ca73c17852978.png (115K)

LINKS

ID	WorkItemType	Link type	Title

14	User Story	Tests	As an administrator I want to edit all the account details
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LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [87](#): Edit account information with invalid saldo**STEPS**

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3cd9268e8a8dd12048b540738.png (47K)
2	Go to the page for changing account information by pressing "Endre konto" button	Page will information about all existing accounts is displayed	acc83fcfd4811306ac251ac428d53976.png (115K)
3	Change information about the first account on the list by typing in saldo as a text	Error messages are displayed	cac80095fdbd54fb40dbd832189184b77.png (117K)
4	Save changes by pressing "Endre" button	Account details are not updated. Error messages are displayed	384cae20845941e70306c40b6d26451.png (115K)

LINKS

ID	WorkItemType	Link type	Title
14	User Story	Tests	As an administrator I want to edit all the account details
88	Bug	Tests	Should not be possible to save account information with invalid saldo

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [136](#): Test plan for admin account management

Suite hierarchy

Static suite: Test plan for admin account management (ID: [137](#))

Requirement-based suite: 12 : As an administrator I want to register new account (ID: [138](#))

Requirement-based suite: 13 : As an administrator I want to view all existing accounts (ID: [139](#))

Requirement-based suite: 14 : As an administrator I want to edit all the account details (ID: [140](#))

Requirement-based suite: 16 : As an administrator I want to delete an existing account (ID: [142](#))

Test suite [142](#): 16 : As an administrator I want to delete an existing account

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	16 : As an administrator I want to delete an existing account
Configurations:	Windows 10

Test cases (1)

Test case [23](#): Delete existing account

STEPS

#	Action	Expected value	Attachments
1	Do to the admin page for viewing and changing account information: http://localhost:8888/TestingBank/View/adminEndreKonto.php	Admin page for viewing and changing account information is displayed	384cae20845941c70306c40b6d26451.png (115K)
2	Press "Slett" button to delete first account on the list	Confirmation request is displayed	80753846ec25274ff6467baaac698d950.png (125K)
3	Press "OK"	First account nr. 105010123456 is deleted	1a52eac65da453c7defd0d8507c919.png (105K)

LINKS

ID	WorkItemType	Link type	Title
16	User Story	Tests	As an administrator I want to delete an existing account

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [144](#): Test plan for admin customer management

Suite hierarchy

Static suite: Test plan for admin customer management (ID: [145](#))

Requirement-based suite: 95 : As an administrator I want to register a new customer (ID: [146](#))

Requirement-based suite: 96 : As an administrator I want to update customer information (ID: [147](#))

Requirement-based suite: 97 : As an administrator I want to delete a customer (ID: [148](#))

Requirement-based suite: 98 : As an administrator I was to view information about all existing customers (ID: [149](#))

Test suite [145](#): Test plan for admin customer management

Properties

State:	In Progress
Type:	Static Suite
Configurations:	Windows 10

Test plan [144](#): Test plan for admin customer management

Suite hierarchy

Static suite: Test plan for admin customer management (ID: [145](#))

Requirement-based suite: 95 : As an administrator I want to register a new customer (ID: [146](#))

Requirement-based suite: 96 : As an administrator I want to update customer information (ID: [147](#))

Requirement-based suite: 97 : As an administrator I want to delete a customer (ID: [148](#))

Requirement-based suite: 98 : As an administrator I was to view information about all existing customers (ID: [149](#))

Test suite [146](#): 95 : As an administrator I want to register a new customer

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	95 : As an administrator I want to register a new customer
Configurations:	Windows 10

Test cases (4)

Test case [112](#): Register new customer with correct data

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58de72a3cd9268e8a8dd12048b540738.png (47K)
2	Go to the page for customer registration by pressing "Registrer kunde" button	Page for customer registration is displayed	298adfc092500c698596a79d83ca6010.png (76K)
3	Type in correct information about the new customer	No error messages are displayed	62bc6d11ade24ff3ef7d16ce27e9ab19.png (83K)
4	Click "Registrer kunde" button to register new customer	New account is registered. Information about it and all existing accounts is displayed	c9a51a2612b7dd3699d05ac14dc962a.png (82K)

LINKS

ID	WorkItemType	Link type	Title
95	User Story	Tests	As an administrator I want to register a new customer

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [113](#): Register new customer with missing information

STEPS

#	Action	Expected value	Attachments
1	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php	Form for registering new customer is displayed	298adfc092500c698596a79d83ca6010.png (76K)
2	Fill in only personal number(personnummer) leaving all other fields open	Error messages are displayed	107342a98bcec8ab086b701275c45dc4.png (76K)
3	Press "Registrer kunde" button to register a new customer	Error messages are displayed and new customer is not registered	a3f5c2b779ddb2143fc7c681edf858cc.png (88K)

LINKS

ID	WorkItemType	Link type	Title
95	User Story	Tests	As an administrator I want to register a new customer

114	Bug	Tests	Should not be possible to register account with missing information
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LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [115](#): Register new customer with invalid personal number

STEPS

#	Action	Expected value	Attachments
1	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php	Webpage for customer registration is displayed	298adfc092500c698596a79d83ea6010.png (76K)
2	Fill in all information using wrong format for personal number(personnummer)	Error message is displayed	e39a51779628440c769ab44f2cc9ca98.png (92K)
3	Press "Registrer kunde" button to register a new customer	Error message is displayed and new customer is not registered	af830c7c6052c3d76672737710ceccff.png (97K)

LINKS

ID	WorkItemType	Link type	Title
95	User Story	Tests	As an administrator I want to register a new customer
116	Bug	Tests	Should not be possible to register new account with invalid personal number

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [117](#): Register new customer with invalid data but valid personal number

STEPS

#	Action	Expected value	Attachments
1	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php	Form for registering new customer is displayed	298adfc092500c698596a79d83ea6010.png (76K)
2	Fill in form with invalid data but valid personal number	Error messages are displayed for every field	127da9d58c39198c2aa855ac8129e01a.png (97K)
3	Press "Registrer kunde" button to register new account	Error messages are displayed. New account is not registered	25d9a73c7c63a1flea608cc616f1151d.png (106K)

LINKS

ID	WorkItemType	Link type	Title
95	User Story	Tests	As an administrator I want to register a new customer
118	Bug	Tests	No error message on invalid phone number or address
119	Bug	Tests	Should not be possible to register new customer with invalid information

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [144](#): Test plan for admin customer management

Suite hierarchy

Static suite: Test plan for admin customer management (ID: [145](#))

Requirement-based suite: 95 : As an administrator I want to register a new customer (ID: [146](#))

Requirement-based suite: 96 : As an administrator I want to update customer information (ID: [147](#))

Requirement-based suite: 97 : As an administrator I want to delete a customer (ID: [148](#))

Requirement-based suite: 98 : As an administrator I was to view information about all existing customers (ID: [149](#))

Test suite [147](#): 96 : As an administrator I want to update customer information

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	96 : As an administrator I want to update customer information
Configurations:	Windows 10

Test cases (3)

Test case [125](#): Update information for of a particular customer

STEPS

#	Action	Expected value	Attachments
1	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php	List with all existing customers is displayed	c5d9a73c7c63a1flea608cc616f1151d-1.png (106K)
2	Edit information of the first customer on the list with valid information	No error messages are displayed	d5fb7d831f71fa4215a5c774b5c5117c.png (110K)
3	Press "Endre" button to save changes	Changes are saved and displayed	c316641fb447095267fb43ed9034f3a1.png (114K)

LINKS

ID	WorkItemType	Link type	Title
96	User Story	Tests	As an administrator I want to update customer information

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [126](#): Update customer information with invalid data

STEPS

#	Action	Expected value	Attachments
1	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php	List with all existing customers is displayed	c316641fb447095267fb43ed9034f3a1.png (114K)
2	Edit information of the first customer on the list with invalid information	Error messages are displayed	cc614bd442bb72cah1614fbbee86b649.png (81K)
3	Press "Endre" button to save changes	Error messages are displayed. Changes are not saved	17dfd0acc759dfddbc43252e00316f12.png (107K)

LINKS

ID	WorkItemType	Link type	Title
96	User Story	Tests	As an administrator I want to update customer information
127	Bug	Tests	No error messages are displayed when filling in invalid information
128	Bug	Tests	Should not be able to edit and save customer information with invalid details

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test case [129](#): Updating customer information leaving all editable fields empty

STEPS

#	Action	Expected value	Attachments
1	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php	List with all existing customers is displayed	17dfd0acc759dfddbc43252e00316f12.png (107K)
2	Edit information of the first customer on the list leaving all editable fields empty	Error messages are displayed	08e734915521c10c14dbfa7200927aad.png (106K)
3	Press "Endre" button to save changes	Error messages are displayed. Customer information is not updated	6a468fcfc6860d57069b5ff43105686.png (104K)

LINKS

ID	WorkItemType	Link type	Title
96	User Story	Tests	As an administrator I want to update customer information
130	Bug	Tests	Should be impossible to save changes leaving any of the fields empty
131	Bug	Tests	Error messages are not displayed

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Failed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [144](#): Test plan for admin customer management

Suite hierarchy

Static suite: Test plan for admin customer management (ID: [145](#))

Requirement-based suite: 95 : As an administrator I want to register a new customer (ID: [146](#))

Requirement-based suite: 96 : As an administrator I want to update customer information (ID: [147](#))

Requirement-based suite: 97 : As an administrator I want to delete a customer (ID: [148](#))

Requirement-based suite: 98 : As an administrator I was to view information about all existing customers (ID: [149](#))

Test suite [148](#): 97 : As an administrator I want to delete a customer

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	97 : As an administrator I want to delete a customer
Configurations:	Windows 10

Test cases (1)

Test case [135](#): Delete a customer

STEPS

#	Action	Expected value	Attachments
1	Go to the page for managing customer information http://lo/calhost:8888/TestingBank/View/adminKunde.php	List with all existing customers is displayed	25d9a73c7c63a1f1ea608cc616f1151d-1.png (106K)
2	Press "Slett" to delete the first customer on the list	Confirmation request is displayed	c9ba369f531a64d1ac885b7a55c9b9a4.png (114K)
3	Click "OK" to delete customer	List with all existing customers is displayed. First Customer on the list is deleted	50cc720cc075a9bf660a5aa1b62f653a-1.png (99K)

LINKS

ID	WorkItemType	Link type	Title
97	User Story	Tests	As an administrator I want to delete a customer

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [144](#): Test plan for admin customer management

Suite hierarchy

Static suite: Test plan for admin customer management (ID: [145](#))

Requirement-based suite: 95 : As an administrator I want to register a new customer (ID: [146](#))

Requirement-based suite: 96 : As an administrator I want to update customer information (ID: [147](#))

Requirement-based suite: 97 : As an administrator I want to delete a customer (ID: [148](#))

Requirement-based suite: 98 : As an administrator I was to view information about all existing customers (ID: [149](#))

Test suite [149](#): 98 : As an administrator I was to view information about all existing customers

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	98 : As an administrator I was to view information about all existing customers
Configurations:	Windows 10

Test cases (1)

Test case [108](#): View information about all existing customers

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	Information about all existing customers is displayed	58de72a3ed9268e8a8dd12048b540738.png (47K)
2			

LINKS

ID	WorkItemType	Link type	Title
98	User Story	Tests	As an administrator I was to view information about all existing customers

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Tuesday, March 13, 2018	0	

Test plan [101](#): Test plan for admin log out

Suite hierarchy

Static suite: Test plan for admin log out (ID: [102](#))

Requirement-based suite: 100 : As an admin I want to log out (ID: [103](#))

Test suite [103](#): 100 : As an admin I want to log out

Properties

State:	In Progress
Type:	Requirement-based Suite
Requirement:	100 : As an admin I want to log out
Configurations:	Windows 10

Test cases (1)

Test case [104](#): Log out from the administrator account

STEPS

#	Action	Expected value	Attachments
1	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php	First page of the Admin webpage (Admin Kunde) is displayed	58dc72a3ed9268e8a8dd12048b540738.png (47K)
2	Press "Log ut" button to log out	Administrator is logged out from the account. First page of Banking application is displayed (http://localhost:8888/TestingBank/Index.php)	399caeb7dc3baca1cd37a439bf02fb4.png (56K)

LINKS

ID	WorkItemType	Link type	Title
100	User Story	Tests	As an admin I want to log out

LATEST TEST OUTCOME

Outcome	Tester	Configuration	Run by	Date completed	Duration in seconds	Build number
Passed	s315699	Windows 10	s315699	Sunday, March 11, 2018	0	

BUG 151

151 User shouldn't be allowed to confirm the payment with the date in the past

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ Æ

13.03.2018 11.02 Bug filed on "Confirm and process payment with wrong date"

Step no.	Result	Title
1.	Passed	Type in following URL http://localhost:8888/TestingBank/index.php Expected Result Main page of TestingBank appears
2.	Passed	Click on the green button - Logg inn Expected Result User is redirected to the login page
3.	Passed	Type in login credentials 01010110523 HeiHei Expected Result User is logged in and redirected to this user's saldo page
4.	Passed	Click on the Utøver betaling in the upper menu Expected Result User is redirected to Utøver betaling page where all awaiting payments are listed
5.	Failed	Click on the green button Utøver betaling to process payment which has incorrect date Expected Result Payment is not being processed

Test Configuration: Windows 10

BUG 150

150 User shouldn't be allowed to register payment with date in the past

Unassigned 0 Add tag

Save & Close

Repro Steps

B I U A Ø Ø

13.03.2018 11:00 Bug filed on "Register a transaction with past date"

Step no.	Result	Title
1.	Passe	Type in following URL http://localhost:8888/TestingBank/index.php Expected Result Main page of TestingBank appears
2.	Passe	Click on the green button - Logg inn Expected Result User is redirected to the login page
3.	Passe	Type in login credentials 01010110523 HeiHei Expected Result User is logged in and redirected to this user's saldo page
4.	Failed	Choose Kontonr from the list:105020123456, Til kontonummer: 105000012345, betalings dato: 2017-03-09, beløp:1000, Melding: wrong date, and then click on the green button - Register Betaling Expected Result User is denied to register the payment, as payments with past date's are not allowed

Test Configuration: Windows 10

BUG 155

155 User shouldn't be allowed to register negative amount

Unassigned 0 Add tag

Save & Close

Repro Steps

B I U A Ø Ø

13.03.2018 12:05 Bug filed on "Register transaction with future date and minus amount"

Step no.	Result	Title
1.	Passe	Type in following URL http://localhost:8888/TestingBank/index.php Expected Result Main page of TestingBank appears
2.	Passe	Click on the green button - Logg inn Expected Result User is redirected to the login page
3.	Passe	Type in login credentials 01010110523 HeiHei and click Logg Inn button Expected Result User is logged in and redirected to this user's saldo page
4.	Passe	Click on Registrer Betaling button in the upper menu Expected Result User is redirected to the Registrer Betaling page
5.	Failed	Choose Kontonr from the list:105020123456, Til kontonummer: 1020102011234, today's date, beløp:-10, Melding: feilfeilfeil, and then click on the green button - Registrer Betaling Expected Result User is denied to register the payment Comments: System should refuse to accept payment with negative amount

Test Configuration: Windows 10

BUG 152

152 User shouldn't be allowed to make invalid changes

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

13.03.2018 11.08 Bug filed on "Change all details with incorrect format"

Step no.	Result	Title
1.	Passed	Type in URL: http://localhost:8888/TestingBank/index.php Expected Result TestingBank app main page appears
2.	Passed	Click on the green Logg inn button Expected Result User is redirected to log in page
3.	Passed	Type in valid login credentials: 01010110523 HeiHri and click Logg inn button Expected Result User is logged in and redirected to the user saldo page
4.	Passed	Click on the Kunde-info button in the top menu Expected Result User is redirected to Kunde-info page
5.	Failed	Change all details as following Fornavn: 1234; Etternavn: 1234; Adresse: 1234; Postnr: Oslo; Poststed: 1234; Telefonnr:Oslo; Password:123456 and click the button Endre info Expected Result User is denied to make invalid changes Comments: User shouldn't be allowed to make invalid changes like typing in numbers in Fornavn and Etternavn fields or letters in Telefonnr

Test Configuration: Windows 10

BUG 157

157 User should not be allowed to leave all the customer details fields empty and should not be allowed to save those changes

s315589 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

13.03.2018 12.16 Bug filed on "Change the details and leave all the fields empty"

Step no.	Result	Title
1.	Passed	Type in URL: http://localhost:8888/TestingBank/index.php Expected Result TestingBank app main page appears
2.	Passed	Click on the green Logg inn button Expected Result User is redirected to log in page
3.	Passed	Type in valid login credentials: 01010110523 HeiHei and click Logg inn button Expected Result User is logged in and redirected to the user saldo page
4.	Passed	Click on the Kunde-info button in the top menu Expected Result User is redirected to Kunde-info page
5.	Failed	Delete all the user info and leave all the fields empty Expected Result User is denied to make changes with all the fields empty Comments: User shouldn't be allowed to leave all the fields empty
6.	Failed	Click again on the Kunde-info button on the top menu to see changes Expected Result No changes were made Comments: Changes should not be saved, only Poststed - Asker appears again

Test Configuration: Windows 10

BUG 79

79 No error message is displayed

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø È È È È

3/10/2018 10:52 PM Bug filed on "Register account with wrong personal number"

Step no.	Result	Title
1.	Passed	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php Expected Result First page of the Admin webpage (Admin Kunde) is displayed
2.	Passed	Go to the page for account registration by pressing "Register konto" button Expected Result Page for account registration is displayed
3.	Failed	Put in information with wrong personal number Expected Result Error message is displayed
4.	Passed	Click "Register konto" button Expected Result Receive error message: "Personnummer finnes ikke!"

Test Configuration: Windows 10

BUG 153

153 No error message is displayed

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø È È È È

3/13/2018 11:50 AM Bug filed on "Register account with wrong personal number"

Step no.	Result	Title
1.	Passed	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php Expected Result First page of the Admin webpage (Admin Kunde) is displayed
2.	Passed	Go to the page for account registration by pressing "Register konto" button Expected Result Page for account registration is displayed
3.	Failed	Put in information with wrong personal number Expected Result Error message is displayed Comments: No error message is displayed
4.	Passed	Click "Register konto" button Expected Result Receive error message: "Personnummer finnes ikke!"

Test Configuration: Windows 10

BUG 80

Allows to register account with missing information (including missing account number)

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø È È È È

3/10/2018 10:54 PM Bug filed on "Register account with missing data"

Step no.	Result	Title
1.	Passed	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php Expected Result First page of the Admin webpage (Admin Kunde) is displayed
2.	Passed	Go to the page for account registration by pressing "Register konto" button Expected Result Page for account registration is displayed
3.	Passed	Valid personal number is typed in with rest of the information missing Expected Result No error messages are displayed
4.	Passed	Click "Register konto" button Expected Result Account is registered and first page of the Admin webpage is displayed
5.	Failed	Click "Register konto" button Expected Result Error message is displayed

Test Configuration: Windows 10

BUG 85

Account details changed with empty fields submitted

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø È È È È

3/10/2018 11:14 PM Bug filed on "Changing account details leaving some fields empty"

Step no.	Result	Title
1.	Passed	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php Expected Result First page of the Admin webpage (Admin Kunde) is displayed
2.	Passed	Go to the page for changing account information by pressing "Endre konto" button Expected Result Page will information about all existing accounts is displayed
3.	Passed	Change information about the first account on the list leaving fields empty where it is possible Expected Result No error messages are displayed
4.	Failed	Save changes by pressing "Endre" button Expected Result Account details are not updated. Error messages are displayed Comments: Bug

Test Configuration: Windows 10

BUG 88

88 Should not be possible to save account information with invalid saldo

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/10/2018 11:34 PM Bug filed on "Edit account information with invalid saldo"

Step no.	Result	Title
1.	Passed	Go to the main page of the admin webpage at: http://localhost:8888/TestingBank/View/adminKunde.php Expected Result First page of the Admin webpage (Admin Kunde) is displayed
2.	Passed	Go to the page for changing account information by pressing "Endre konto" button Expected Result Page will information about all existing accounts is displayed
3.	Passed	Change information about the first account on the list by typing in saldo as a text Expected Result No error messages are displayed
4.	Failed	Save changes by pressing "Endre" button Expected Result Account details are not updated. Error messages are displayed Comments: Bug

Test Configuration: Windows 10

BUG 114

114 Should not be possible to register account with missing information

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/11/2018 1:00 PM Bug filed on "Register new customer with missing information"

Step no.	Result	Title
1.	Passed	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php Expected Result Information about all existing accounts is displayed
2.	Failed	Fill in only personal number(personnummer) leaving all other fields open Expected Result Error messages are displayed Comments: Should display error messages (logically)
3.	Failed	Press "Registrer kunde" button to register a new customer Expected Result Error messages are displayed and new customer is not registered Comments: Should not be able to register new customer with missing information

Test Configuration: Windows 10

BUG 116

116 Should not be possible to register new account with invalid personal number

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/11/2018 1:12 PM Bug filed on "Register new account with wrong personal number"

Step no.	Result	Title
1.	Passed	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php Expected Result Information about all existing accounts is displayed
2.	Passed	Fill in all information using wrong format for personal number(personnummer) Expected Result Error message is displayed
3.	Failed	Press "Registrer kunde" button to register a new customer Expected Result Error message is displayed and new customer is not registered Comments: New customer should not be registered with wrong personal number

Test Configuration: Windows 10

BUG 118

118 No error message on invalid phone number or address

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/11/2018 1:35 PM Bug filed on "Register new account with invalid data but valid personal number"

Step no.	Result	Title
1.	Passed	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php Expected Result Information about all existing accounts is displayed
2.	Failed	Fill in form with invalid data but valid personal number Expected Result Error messages are displayed for every field Comments: Error message is not displayed for incorrect phone number
3.	Failed	Press "Registrer kunde" button to register new account Expected Result Error messages are displayed. New account is not registered Comments: New account is registered

Test Configuration: Windows 10

BUG 119

119 Should not be possible to register new customer with invalid information

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/11/2018 1:36 PM Bug filed on "Register new account with invalid data but valid personal number"

Step no.	Result	Title
1.	Passed	Go to the page for customer registration (Registrer kunde) at: http://localhost:8888/TestingBank/View/adminRegisterKunde.php Expected Result Information about all existing accounts is displayed
2.	Failed	Fill in form with invalid data but valid personal number Expected Result Error messages are displayed for every field Comments: Error message is not displayed for incorrect phone number
3.	Failed	Press "Registrer kunde" button to register new account Expected Result Error messages are displayed. New account is not registered Comments: New account is registered

Test Configuration: Windows 10

BUG 127

127 No error messages are displayed when filling in invalid information

Unassigned 0 Add tag Save & Close ...

Repro Steps

B I U A Ø Ø Æ Æ Æ Æ

3/11/2018 2:51 PM Bug filed on "Update customer information with invalid data"

Step no.	Result	Title
1.	Passed	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php Expected Result List with all existing customers is displayed
2.	Failed	Edit information of the first customer on the list with invalid information Expected Result Error messages are displayed Comments: No error messages are displayed when typing in invalid information
3.	Failed	Press "Endre" button to save changes Expected Result Error messages are displayed. Changes are not saved Comments: Should not be able to edit and save customer information with invalid details

Test Configuration: Windows 10

BUG 128

128 Should not be able to edit and save customer information with invalid details

Unassigned 0 Add tag Save & Close

Repro Steps

B I U A Ø * : ; = - = -

3/11/2018 2:51 PM Bug filed on "Update customer information with invalid data"

Step no.	Result	Title
1.	Passed	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php Expected Result List with all existing customers is displayed
2.	Failed	Edit information of the first customer on the list with invalid information Expected Result Error messages are displayed Comments: No error messages are displayed when typing in invalid information
3.	Failed	Press "Endre" button to save changes Expected Result Error messages are displayed. Changes are not saved Comments: Should not be able to edit and save customer information with invalid details

Test Configuration: Windows 10

BUG 130		
130 Should be impossible to save changes leaving any of the fields empty		
Unassigned	0	Add tag
		Save & Close ...
Repro Steps		
B I U A Ø * P : = = - E -		
3/11/2018 2:58 PM Bug filed on "Updating customer information leaving all editable fields empty "		
Step no.	Result	Title
1.	Passed	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php
		Expected Result List with all existing customers is displayed
2.	Failed	Edit information of the first customer on the list leaving all editable fields empty
		Expected Result Error messages are displayed
3.	Failed	Comments: Error messages are not displayed
		Press "Endre" button to save changes
		Expected Result Error messages are displayed. Customer information is not updated
		Comments: Should be impossible to save changes leaving any of the fields empty
Test Configuration:	Windows 10	

BUG 131

131 Error messages are not displayed

Unassigned 0 Save & Close

Repro Steps

B I U A Ø * Ø : = - = -

3/11/2018 2:59 PM Bug filed on "Updating customer information leaving all editable fields empty "

Step no.	Result	Title
1.	Passed	Go to the page for managing customer information http://localhost:8888/TestingBank/View/adminKunde.php Expected Result List with all existing customers is displayed
2.	Failed	Edit information of the first customer on the list leaving all editable fields empty Expected Result Error messages are displayed
3.	Failed	Comments: Error messages are not displayed Press "Endre" button to save changes Expected Result Error messages are displayed. Customer information is not updated Comments: Should be impossible to save changes leaving any of the fields empty

Test Configuration: Windows 10