# Lab 02: Black Box Test Plan

## Test Overview

There are 15 system-level black box tests.

To run the tests:

1. Right click on StudentDirectoryPanel class in the Package Explorer.
2. Select Run As > Java Application

The GUI will load, to add files, the Load Student Directory button must be clicked on. All test files are located in the test-files/ folder.

Note that while all tests end with the statement Close GUI, you can run tests 2-6 on the same GUI if there are no failures. If there are failures, you can use the preconditions to identify the dependent test cases.

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| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| Test 1 (scheerl):  Invalid Test File  Testing invalid file boundary | Preconditions:   1. Run StudentDirectory GUI 2. Under “Load Student Directory” select “invalid\_student\_records.txt” in the test-files folder. 3. Click select 4. Check results 5. Close GUI | Wolf scheduler GUI loads   1. Student Directory is empty 2. First Name, Last Name and Student ID fields are shown under Student Directory 3. All Labels for Student Information are appearing. 4. All fields under Student Information is empty | Wolf scheduler GUI loads   1. Student Directory is empty 2. First Name, Last Name and Student ID fields are shown under Student Directory 3. All Labels for Student Information are appearing. 4. All fields under Student Information is empty |
| Test 2 (scheerl):  Valid File  Testing valid file boundary | Preconditions:   1. Run StudentDirectory GUI 2. Under “Load Student Directory” select “student\_records.txt” in the test-files folder. 3. Click select 4. Check results 5. Close GUI | Wolf scheduler GUI loads  Student Directory shows 10 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan   Student Information is empty | Wolf scheduler GUI loads  Student Directory shows 10 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan   Student Information is empty |
| Test 3 (scheerl):  Add Empty Student  Add an empty student as a boundary value | Preconditions: Test 2 has Passed. Perform all steps from 2-4 in test 2.   1. Make sure that nothing is filled out in the Student Information section 2. Click “Add Student” 3. Check results 4. Click OK 5. Close GUI | A pop-up dialog stating “Max credits must be a positive number between 3 and 18.” | A pop-up dialog stating “Max credits must be a positive number between 3 and 18.” |
| Test 4 (scheerl):  Remove un-selected student  Testing boundary value of removing an empty class | Preconditions: Test 2 has Passed. Perform all steps from 2-4 in test 2.   1. Make sure that no student is selected, if selected restart gui 2. Click “Remove Student” 3. Check results 4. Click OK 5. Close GUI | A pop-up dialog stating “No student selected.” | A pop-up dialog stating “No student selected.” |
| Test 5  (scheerl)  Add valid student  Testing boundary value of adding a valid student | Preconditions: Test 2 has Passed. Perform all steps from 2-4 in test 2.  Type in the following information under the Student Information:   1. First Name: Bob 2. Last Name: Harvery 3. ID: bharvey 4. Email: bharvey@ncsu.edu 5. Password: BobLovesTrains 6. Repeat Password: BobLovesTrains 7. Max Credits: 18   Click “Add Student”  Check Results  Close Gui | Student Directory shows 11 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan * Bob, Harvery, bharvey   Student Information is empty | Student Directory shows 11 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan * Bob, Harvery, bharvey   Student Information is empty |
| Test 6 (waclem):  Remove Valid Student  Testing boundary value of removing a valid student. | Preconditions: Test 5 has Passed.   1. Click on Bob Harvey in the display 2. Click “Remove Student” 3. Check results 4. Close GUI | Student Directory shows 10 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan   Student Information is empty | Student Directory shows 10 students:   * Zahir, King, zking * Cassandra, Schwartz, cschwartz * Shannon, Hansen, shansesn * Demetrius, Austin, daustin * Raymond, Brennan, rbrennan * Emerald, Frost, efrost * Lane, Berg, lberg * Griffith, Stone, gstone * Althea, Hicks, ahicks * Dylan, Nolan, dnolan   Student Information is empty |
| Test 7 (waclem):  Test  Invalid  Credits  Testing boundary value of max credits. | 1. Rerun StudentDirectory GUI   Type in the following information under the Student Information:   1. First Name: Bob 2. Last Name: Harvery 3. ID: bharvey 4. Email: bharvey@ncsu.edu 5. Password: BobLovesTrains 6. Repeat Password: BobLovesTrains 7. Max Credits: 1   9. Click “Add Student”  10. Check Results  11. Close Gui | A pop-up dialog stating “Invalid max credits.”  Student Directory shows 0 students: | A pop-up dialog stating “Invalid max credits.”  Student Directory shows 0 students: |
| Test 8 (waclem):  Test  Mismatched  Passwords  Testing boundary of Password Matching. | Preconditions: Test 7 has Passed.  Type in the following information under the Student Information:   1. First Name: Bob 2. Last Name: Harvery 3. ID: bharvey 4. Email: bharvey@ncsu.edu 5. Password: BobLovesTrains 6. Repeat Password: BobLovesTrain 7. Max Credits: 18 8. Click “Add Student” 9. Check Results 10. Close Gui | A pop-up dialog stating “Passwords do not match.”  Student Directory shows 0 students: | A pop-up dialog stating “Passwords do not match.”  Student Directory shows 0 students: |
| Test 9 (waclem):  Test  Saving Student Records  Testing equivalence of output | Preconditions: Test 8 has Passed.  Type in the following information under the Student Information:   1. First Name: Bob 2. Last Name: Harvery 3. ID: bharvey 4. Email: bharvey@ncsu.edu 5. Password: BobLovesTrains 6. Repeat Password: BobLovesTrains 7. Max Credits: 18 8. Click “Add Student” 9. Click Save Student Directory 10. Save to actual\_student\_records | actual \_student\_records should include:  Bob,Harvery,bharvey,bharvey@ncsu.edtu,HASHED PASSWORD HERE,18 | actual \_student\_records should include:  Bob,Harvery,bharvey,bharvey@ncsu.edu,HASHED PASSWORD HERE,18 |
| Test 10 (waclem):  Test Duplicate  Test Boundary of multiple of same students | Preconditions: Test 9 has Passed.  Type in the following information under the Student Information:   1. First Name: Bob 2. Last Name: Harvery 3. ID: bharvey 4. Email: bharvey@ncsu.edu 5. Password: BobLovesTrains 6. Repeat Password: BobLovesTrains 7. Max Credits: 18 | A pop-up dialog stating “Student already in system.” | A pop-up dialog stating “Student already in system.” |
| Test11:  (Zeyu) New Student Directory | Preconditions: Test 2 and Test 5 have passed    Click **New Student Directory**    *Check results*    Close GUI | The Student Directory tab is now empty | **Match the expect**  **The Student Directory tab is now empty** |
| Test 12: Save Directory\* | Preconditions: Test 2 and Tests 5 have passed    Click **Save Student Directory**    Select test-files folder. Enter the filename valid\_student\_records.txt    Click **Save** (it’s ok to overwrite old results)    *Check results*    Close GUI | In Eclipse, right click on the PackScheduler project and select **Refresh.**    Open the test-files folder and open valid\_student\_records.txt in the editor.    The contents should be:  ● Demetrius, Austin, daustin  ● Lane, Berg, lberg  ● Raymond, Brennan, rbrennan  ● Emerald, Frost, efrost  Shannon, Hansen, shansen  ● Althea, Hicks, ahicks  ● Zahir, King, zking  ● bob, Harvery, bharvery  ● Dylan, Nolan, dnolan  ● Cassandra, Schwartz, cschwartz  ● Griffith, Stone, gstone | **Match the expect, the result shows correctly** |
| Test 13: Open Saved Directory | Preconditions: Test 2, Tests 5, and Tests 12 have passed    Run StudentDirectoryPanel.    In the **Load Student Directory** FileChooser dialog select: test-files/valid\_student\_records.txt    Click **Select**    *Check results*    Close GUI | StudentDirectoryPanel loads    Student Directory contains 11 students  ● Demetrius, Austin, daustin  ● Lane, Berg, lberg  ● Raymond, Brennan, rbrennan  ● Emerald, Frost, efrost  ● Shannon, Hansen, shansen  ● Althea, Hicks, ahicks  ● Zahir, King, zking  ● Bob, Harvery, bharvery  ● Dylan, Nolan, dnolan  ● Cassandra, Schwartz, cschwartz  ● Griffith, Stone, gstone    Student information only shows labels | **Match the expect, the label shows correctly** |
| Test 14: Remove Students | Preconditions: Test 2 and Test 5 have passed    Select the 8th row of the Student Directory table (Bob, Harvery, bharvery)    Click **Remove Student**    Select the 10th row of the Student Directory table (Cassandra, Schwartz, cschwartz)    Click **Remove Student**    Select the 5th row of the Student Directory table (Shannon, Hansen, shansen)    Click **Remove Student**    *Check results* | Student Directory only contains 8 students now  ● Demetrius, Austin, daustin  ● Lane, Berg, lberg  ● Raymond, Brennan, rbrennan  ● Emerald, Frost, efrost  ● Althea, Hicks, ahicks  ● Zahir, King, zking  ● Dylan, Nolan, dnolan  Griffith, Stone, gstone | **Match the expectation, there are only 8 students now with correct name.** |
| Test 15: Update save directory | Preconditions: Test 2, Tests 5 and Tests 14 have passed    Click **Save Student Directory**    Select test-files folder. Click on valid\_student\_records.txt    Click **Save** (it’s ok to overwrite old results)    *Check results*    Close GUI | In Eclipse, right click on the PackScheduler project and select **Refresh.**    Open the test-files folder and open valid\_student\_records.txt in the editor.    The contents should be:  ● Demetrius, Austin, daustin  ● Lane, Berg, lberg  ● Raymond, Brennan, rbrennan  ● Emerald, Frost, efrost  ● Althea, Hicks, ahicks  ● Zahir, King, zking  ● Dylan, Nolan, dnolan  Griffith, Stone, gstone | **Match the expectation, the valid\_student\_records file has correct information.** |