# Lab 05: Black Box Test Plan

## Test Overview

To run the tests:

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

All tests files should be located in the test-files/ folder.

The project should have a registrar.properties file that contain values for the following properties:

first=John

last=Smith

id=jjsmith

email=jjsmith@ncsu.edu

pw=pass

The values should be substituted in the tests below as appropriate for the local copy of the registrar.properties file.

If you run all tests independently, you can close the GUI between each test. However, the tests are structured so that they may be run in order without shutting down the GUI.

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| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| T1: Invalid Login | Preconditions: PackSchedulerGUI has loaded  User ID: **lberg**  Password: **pw**  Click **Login**  Click **OK**  Click **Clear** | Pop up with message “User doesn’t exist.”  User ID and password text fields are cleared. | **Popup displays that the student doesn’t exist** |
| T2: Registrar Login | Preconditions: PackSchedulerGUI has loaded  User ID: **registrar.properties.id**  Password: **registrar.properties.pw**  Click **Login** | View switches to Registrar panel with Student Directory functionality displayed | **The display is now the full display and can see the student directory buttons** |
| T3: Load Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2)  Click **Load Student Directory**  Select **test-files/student\_records.txt**  Click **Select** | 10 students are listed in alphabetical order by last name. The list starts with Demetrius Austin and ends with Griffith Stone. | **The 10 students are now listen in the directory in alphabetical order** |
| T4: Add Invalid Student - no first name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid first name | **Popup displays invalid firstname** |
| T5: Add Invalid Student - no last name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid last name | **Popup displays invalid lastname** |
| T6: Add Invalid Student - no id | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid id | **Popup displays invalid id** |
| T7: Add Invalid Student - no email | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid email | **Popup displays invalid email** |
| T8: Add Invalid Student - invalid email | PPreconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkinsncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Invalid email | **Popup displays invalid email** |
| T9: Add Invalid Student - passwords don’t match | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw1** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Error Message: Passwords do not match | **Popup displays passwords do not match** |
| T10: Add Invalid Student - zero max credits | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **0**   Click **Add Student**  Click **OK** | Error Message: Invalid max credits | **Popup displays invalid max credits** |
| T11: Add Invalid Student - 11 max credits | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **19**   Click **Add Student**  Click **OK** | Error Message: Invalid max credits | **Popup displays invalid max credits** |
| T12: Add Student - end | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Patience Wilkins is added to the Student Directory and is the last student in the list. | **Patience is added as the last student on the list** |
| T13: Add Student - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Rylee** * Last Name: **Puckett** * ID: **rpuckett** * Email: **rpuckett@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Rylee Puckett is added to the Student Directory between Dylan Nolan and Cassandra Schwartz | **Puckett is added between nolan and shwartz** |
| T14: Add Student - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T3 has run.  Enter the following in the Student Information section:   * First Name: **Melvin** * Last Name: **Acevedo** * ID: **macevedo** * Email: **macevedo@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Melvin Acevedo is added to the Student Directory and is the first student in the list. | **Acevedo is now the first student on the list** |
| T15: Remove Student - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Student** | Error Message: No student selected | **Popup says no student selected** |
| T16: Remove Student - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Select **Shannon Hansen**  Click **Remove student** | Shannon Hansen is removed. Athea Hicks follows Emerald Frost in the list | **Shannon is removed** |
| T17: Remove Student - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T14 has run.  Select **Melvin Acevedo**  Click **Remove student** | Melvin Acevedo is removed. Demetrius Austin is front of the directory | **Melvin is removed** |
| T18: Remove Student - back | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12 has run.  Select **Patience Wilkins**  Click **Remove student** | Patience Wilkins is removed. Griffith Stone is last in the directory | **Patience is removed** |
| T19: Save Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **Save Student Directory**  Select **test-files** directory and name the file **t19\_student\_directory.txt**. | Contents should be (note that the password hash may be different due to encoding):  Demetrius,Austin,daustin,Curabitur.egestas.nunc@placeratorcilacus.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,18  Lane,Berg,lberg,sociis@non.org,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,14  Raymond,Brennan,rbrennan,litora.torquent@pellentesquemassalobortis.ca,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,12  Emerald,Frost,efrost,adipiscing@acipsumPhasellus.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,3  Althea,Hicks,ahicks,Phasellus.dapibus@luctusfelis.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,11  Zahir,King,zking,orci.Donec@ametmassaQuisque.com,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Dylan,Nolan,dnolan,placerat.Cras.dictum@dictum.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,5  Rylee,Puckett,rpuckett,rpuckett@ncsu.edu,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,15  Cassandra,Schwartz,cschwartz,semper@imperdietornare.co.uk,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,4  Griffith,Stone,gstone,porta@magnamalesuadavel.net,0ÉRú±"ÃùuŸ¦Ù\7X²F´þâ9•{-OîFâapÄ,17 | **T19 student directory displays all 10 students correctly** |
| T20: New Student Directory | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **New Student Directory** | An empty student directory is shown. | **Student directory is empty** |
| T21: Add Student - first | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T20 has run.  Enter the following in the Student Information section:   * First Name: **Patience** * Last Name: **Wilkins** * ID: **pwilkins** * Email: **pwilkins@ncsu.edu** * Password: **pw** * Repeat Password: **pw** * Max Credits: **15**   Click **Add Student**  Click **OK** | Patience Wilkins is added to the Student Directory and is the only student in the list. | **Patience is added to the directory as the first name** |
| T22: Course Catalog view | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Course Catalog** | Course Catalog functionality displayed | **Course Catalog is displayed and is blank** |
| T23: Load Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2)  Click **Load Course Catalog**  Select **test-files/course\_records.txt**  Click **Select** | 8 courses are listed starting with CSC116-001 and ending with CSC230-001 | **All 8 courses are now loaded in the records** |
| T24: Add Invalid Course - no name | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course name | **Popup says invalid course name** |
| T25: Add Invalid Course - no title | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course title | **Popup says invalid course title** |
| T26: Add Invalid Course - no section | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | **Popup says invalid section number** |
| T27: Add Invalid Course - section too short | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **0011** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | **Popup says invalid section number** |
| T28: Add Invalid Course - section too long | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **01** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid section number | **Popup says invalid section number** |
| T29: Add Invalid Course - no instructor id | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid instructor unity id | **Popup says invalid unity id** |
| T30: Add Invalid Course - end time after start time | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **11:30 AM** * End Time: **10:15 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | Error Message: Invalid course times | **Popup says invalid course times** |
| T31: Add Invalid Course - no meeting days | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days:   Click **Add Course**  Click **OK** | Error Message: Invalid meeting days | **Popup says invalid meeting days** |
| T32: Add Course - end | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC236** * Course Title: **Computer Organization and Assembly Language** * Course Section: **001** * Credits: **3** * Instructor Id: **lasher** * Start Time: **10:15 AM** * End Time: **11:30 AM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | CSC236-001 is added to the list at the end following CSC230-001 | **The course is added to the bottom of the list** |
| T33: Add Course - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC113** * Course Title: **Introduction to Computer - MATLAB** * Course Section: **001** * Credits: **3** * Instructor Id: **tbdimitr** * Start Time: **3:00 PM** * End Time: **3:50 PM** * Meeting Days: **Monday & Wednesday**   Click **Add Course**  Click **OK** | CSC113-001 is added to the list at the front and is followed by CSC116-001. | **The course is added to the top of the list** |
| T34: Add Course - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T23 has run.  Enter the following in the Course Information section:   * Course Name: **CSC116** * Course Title: **Introduction to Programming - Java** * Course Section: **006** * Credits: **3** * Instructor Id: **jdyoung2** * Start Time: **10:40 AM** * End Time: **12:30 PM** * Meeting Days: **Tuesday & Thursday**   Click **Add Course**  Click **OK** | CSC116-006 is added to the list between CSC116-003 and CSC216-001. | **The course is added after section 003** |
| T35: Remove Course - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Course** | Error Message: No course selected | **Error message says no course is selected** |
| T36: Remove Course - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Select **CSC216-001**  Click **Remove Course** | CSC216-001 is removed. CSC116-006 is followed by CSC216-002. | **The course is removed** |
| T37: Remove Course - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T33 has run.  Select **CSC113-001**  Click **Remove Course** | CSC113-001 is removed. CSC116-001 is the first course in the catalog | **The course is removed** |
| T38: Remove Course - back | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T32 has run.  Select **CSC236-001**  Click **Remove Course** | CSC236-001 is removed.  CSC230-001 is the last course in the catalog | **The course is removed** |
| T39: Save Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T32-T38 have run.  Click **Save Course Catalog**  Select **test-files** directory and name the file **t39\_course\_catalog.txt**. | Contents should be:  CSC116,Intro to Programming - Java,001,3,jdyoung2,MW,910,1100  CSC116,Intro to Programming - Java,002,3,spbalik,MW,1120,1310  CSC116,Intro to Programming - Java,003,3,tbdimitr,TH,1120,1310  CSC116,Java,006,3,jdyoung2,TH,1040,1230  CSC216,Programming Concepts - Java,002,4,jtking,MW,1330,1445  CSC216,Programming Concepts - Java,601,4,jep,A  CSC226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,MWF,935,1025  CSC230,C and Software Tools,001,3,dbsturgi,MW,1145,1300 | **The course catalog is saved** |
| T40: New Course Catalog | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T12-T18 have run.  Click **New Course Catalog** | An empty course catalog is shown. | **The course catalog is empty** |
| T41: Add Course - first | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T20 has run.  Enter the following in the Course Information section:   * Course Name: **CSC216** * Course Title: **Programming Concepts - Java** * Course Section: **601** * Credits: **4** * Instructor Id: **jep** * Start Time: * End Time: * Meeting Days: **Arranged**   Click **Add Course**  Click **OK** | CSC216-601 is added to the list | **The course is added to the previously blank catalog** |
| T42: Logout | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Logout** | User is returned to the Login view | **I am returned to the login screen** |
| T42: Login Student | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T21 has run  User ID: **pwilkins**  Password: **pw**  Click: **Login** | pwilkins is logged in and is switched to the user view. All that is shown is a Logout button. | **All I can see is the logout** |