# 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=Doe

id=jdoe

[email=jdoe@ncsu.edu](mailto:email=jdoe@ncsu.edu)

pw=johndoe123

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. | As soon as I clicked log in, the pop-up says “User doesn’t exist” and the user id and password fields were cleared. |
| T2: Registrar Login | Preconditions: PackSchedulerGUI has loaded  User ID: **jdoe**  Password: **johndoe123**  Click **Login** | View switches to Registrar panel with Student Directory functionality displayed | **When I clicked log-in the view switched to the Registrar panel and the Student Directory functions are displayed** |
| 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. | **There are 10 students in the list.**  **The list starts with Demetrius Austin and ends with Griffith Stone.** |
| 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 | **There is a error message displayed that says “invalid first name”** |
| 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 | **There is a error message that is displayed saying “Invalid last name”** |
| 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 | **There is a error message displayed saying “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 | **There is a error message displayed saying “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 | **There is a error message displayed saying “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 | **There is a error message displayed saying “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** | Student added with max credits of 18. | **When we press Add Student, the student is added with max credits of 18.** |
| 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** | Student added with max credits of 18 | **When we click Add Student, the student is added with max number of credits of 18** |
| 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. | **The student is successfully added as the last student in 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 | **Rylee Puckett is added to the Student Directory successfully and placed between Dylan Nolan and Cassandra Schwartz** |
| 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. | **Melvin Acevedo is added to the Student Directory successfully and is the first student in 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 | **A error message is displayed saying “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 Hansen is removed successfully and Athea Hicks follows Emerald Frost in the list without moving any other student in the list** |
| 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 Acevedo is removed. Demetrius Austin is now the first student in the list** |
| 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 Wilkins is removed successfully and Griffith Stone is the last student in the directory** |
| 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 | **The contents were correct:**  Demetrius,Austin,daustin,Curabitur.egestas.nunc@placeratorcilacus.co.uk,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,18  Lane,Berg,lberg,sociis@non.org,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,14  Raymond,Brennan,rbrennan,litora.torquent@pellentesquemassalobortis.ca,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,12  Emerald,Frost,efrost,adipiscing@acipsumPhasellus.edu,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,3  Althea,Hicks,ahicks,Phasellus.dapibus@luctusfelis.com,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,11  Zahir,King,zking,orci.Donec@ametmassaQuisque.com,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,15  Dylan,Nolan,dnolan,placerat.Cras.dictum@dictum.net,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,5  Rylee,Puckett,rpuckett,rpuckett@ncsu.edu,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,15  Cassandra,Schwartz,cschwartz,semper@imperdietornare.co.uk,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,4  Griffith,Stone,gstone,porta@magnamalesuadavel.net,MMlS+rEiw/l1nwKm2Vw3WLJGtP7iOZV7LU/uRuJhcMQ=,17 |
| 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. | **The second section of the GUI was now blank.** |
| 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. | **There’s only one student in the Student Directory : Patience Wilkins** |
| T22: Course Catalog view | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Course Catalog** | Course Catalog functionality displayed | **When I clicked on Course Catalog, the Course Catalog functions are displayed.** |
| 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** | 13 courses are listed starting with CSC 116-001 and ending with CSC 316-001 as provided in the course\_records.txt file (minus the one duplicate course) | **13 courses are listed starting with CSC 116-001 and ending with CSC 316-001.** |
| 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “Invalid instructor 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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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 | **A error message is displayed saying “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: **CSC 236** * 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** | CSC 236-001 is added to the list between CSC 230-001 and CSC 316-001 | **CSC 236-001 is added successfully between CSC 230-001 and CSC 316-001** |
| 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: **CSC 113** * 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** | CSC 113-001 is added to the list at the front and is followed by CSC 116-001. | **CSC 113-001 is added successfully at the front and is followed by CSC 116-001.** |
| 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: **CSC 116** * 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** | CSC 116-006 is added to the list between CSC 116-003 and CSC 216-001. | **CSC 116-006 is added successfully between CSC 116-003 and CSC 216-001.** |
| T35: Remove Course - no selection | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Click **Remove Course** | Error Message: No course selected | **An error message is displayed saying “No course selected”** |
| T36: Remove Course - middle | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2).  Select **CSC 216-001**  Click **Remove Course** | CSC 216-001 is removed. CSC 116-006 is followed by CSC 216-002. | **CSC 216-001 is removed.** **CSC 116-006 is followed by CSC 216-002. There are 15 courses displayed now** |
| T37: Remove Course - front | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T33 has run.  Select **CSC 113-001**  Click **Remove Course** | CSC 113-001 is removed. CSC 116-001 is the first course in the catalog | **CSC 113-001 is removed. CSC 116-001 is the first course in the catalog. There are 14 courses displayed now** |
| T38: Remove Course - back | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T32 has run.  Select **CSC 236-001**  Click **Remove Course** | CSC 236-001 is removed.  CSC 316-001 is the last course in the catalog | **CSC 236-001 is removed.**  **CSC 316-001 is the last course in the catalog. There are 13 courses displayed now** |
| 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 contain the courses in the following order with all information as in the original file or entered via earlier tests:  CSC 116-001  CSC 116-002  CSC 116-003  CSC 116-006  CSC 216-002  CSC 216-601  CSC 217-202  CSC 217-211  CSC 217-223  CSC 217-601  CSC 226-001  CSC 230-001  CSC 316-001 | **The contents are correct:**  CSC 116,Intro to Programming - Java,001,3,jdyoung2,MW,910,1100  CSC 116,Intro to Programming - Java,002,3,spbalik,MW,1120,1310  CSC 116,Intro to Programming - Java,003,3,tbdimitr,TH,1120,1310  CSC 116,Introduction to Programming,006,3,jdyoung2,TH,1040,1230  CSC 216,Software Development Fundamentals,002,3,ixdoming,MW,1330,1445  CSC 216,Software Development Fundamentals,601,3,jctetter,A  CSC 217,Software Development Fundamentals Lab,202,1,sesmith5,M,1040,1230  CSC 217,Software Development Fundamentals Lab,211,1,sesmith5,T,830,1020  CSC 217,Software Development Fundamentals Lab,223,1,sesmith5,W,1500,1650  CSC 217,Software Development Fundamentals Lab,601,1,sesmith5,A  CSC 226,Discrete Mathematics for Computer Scientists,001,3,tmbarnes,MWF,935,1025  CSC 230,C and Software Tools,001,3,dbsturgi,MW,1145,1300  CSC 316,Data Structures and Algorithms,001,3,jtking,MW,830,945 |
| 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. | **An empty course catalog is shown.** |
| 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: **CSC 216** * Course Title: **Programming Concepts - Java** * Course Section: **601** * Credits: **4** * Instructor Id: **jep** * Start Time: **0** * End Time: **0** * Meeting Days: **Arranged**   Click **Add Course**  Click **OK** | CSC 216-601 is added to the list | **CSC 216-601 is added to the list and it’s the only Course that is displayed** |
| T42: Login Student | Preconditions: PackSchedulerGUI has loaded and registrar user is logged in (T2). T21 has run  Click **Logout**  User ID: **pwilkins**  Password: **pw**  Click: **Login** | User is returned to the Login view  pwilkins is logged in and is switched to the user view. All that is shown is a Logout button. | **The user is returned to the Log in view and once I entered the user id and password, I was taken to another page that only had the “logout” button.** |