2018/06/12

RAS test book

1 Revision history

Version	Date	Author	Description of revision
0.1	2017-11-27	B. Dijck	First draft
0.2	2017-11-30	B. Dijck	Minor update
0.3	2017-12-13	Ives vd Flaas	Minor update
0.4	2018-01-24	B. Dijck	Minor update (test different browsers)
0.5	2018-01-24	B. Dijck	Minor updates
0.6	2018-03-06	P. Meir	Added Data Analysis
0.7	2018-03-06	P. Meir	Expanded filter list tests + cleanup
0.8	2018-05-16	B. Dijck	Minor update
0.9	2018-06-11	B. Dijck	More tests on Data Analysis Engine

2 Table of contents

3 Software to be tested

3.1 Access to the application

- URL: http://ghent:80
- Login credentials:
  - User: test@test.com
  - Password: ask RAS development team
- It is possible that some tests require additional credentials but these should be specified in these specific tests.

4 Test suite

This section contains all the tests that need to be executed to verify the functionalities contained in the RAS application.

The tests are grouped around the following domains:

- Access to the application
- Administration
- Assets
- Filters
- Dashboards
- Reports ← DAE
- Events
- Scheduled tasks
- Web notifications
- User security

Ideally, each test should contain the following elements:

- Pre-conditions for the test
  - e.g. a dashboard must already be shared with another user
- Execution steps
  - e.g. 'click on the 'submit' button'
- Expected result
  - e.g. the preview data should only contain values between 5 and 10

4.1 Access to the application

ID	Preconditions	Steps	Expected result
2	User is not logged in	login with wrong username	should fail
3	User is not logged in	login with wrong password	should fail
4	User is not logged in	login with username that is not a valid e-mail address	should fail
5	User is not logged in	login with correct username and correct pwd	should work logged in user is printed at top
6	User is logged in	logoff, and try to use RAS after pressing browser <back> button	using RAS should not be possible
7	User is logged in	change password, provide invalid old password but valid (and equal) new and new confirmed passwords	error "incorrect password" should be shown
8	User is logged in	change password, valid old password but new & confirm password "testtest"	error about minimum password requirements should be shown
9	User is logged in	change password, provide	error about differing

clicking something

"but use for 'new Password' and 'Confirm new Password'..."

		valid old password but differing new & confirm passwords	new & confirm passwords should be shown
10	User is logged in	change password, login with old pwd	login with old should fail
11	User is logged in	change password, login with new pwd	login with new should work
12	User is logged in	click 'hello <username>' in home screen	profile page should be shown

4.2 Administration

4.2.1 Manage users

- create user (+ test login using newly created user)
- impersonate (+ test permissions)

Testing of permissions and web notifications happens in section 4.

Ask a developer to delete the newly created user (w/ permissions)

4.2.2 Manage companies

- screen should show all companies
- create new company

Ask a developer to delete the newly created company.

4.2.3 Manage assets

- create new asset
- set associated companies
- change ftp password (and test FTP)(*) → not possible on Ghent.
- change asset image

(*) Note: on GHENT it is not be possible to test FTP.

4.2.4 Manage asset type

- create new asset type
  - base asset type is required (cannot be null/none)
- asset types cannot be deleted from UI

Ask a developer to delete the newly created asset type.

4.2.5 Manage Data Chunks

- only x records are loaded initially, but by scrolling down additional records are added to the table
- Records are sorted: most recent at the top
- Assets can be - downloaded by clicking DL icon on the right
  - viewed online by clicking ID on the left

4.3 Assets screen

4.3.1 List of assets

- The screen should show the list of all the assets that are available for the company (that the user belongs to), and only these assets.
- The screen should not show any asset that is not linked to the company the user belongs to.
- Images should be shown for every asset that has an avatar in the list.
- Clicking a card (box in UI showing details of single asset), should bring up the asset detail screen

4.3.2 Single asset detail

Test when logged in with a user with administrator privileges:

- The screen should show the following tabs: general information, device properties, custom properties, log, notifications, control center, filters, dashboards, reports, log files

Test when logged in with a user without administrator privileges:

- The screen should show the following tabs: (all of the previously mentioned tabs other than Logfiles, which should not be visible).

4.4 Filters

4.4.1 List of filters

- The screen should show the list of all the filters that are available for the user. This includes: filters that are created by the user and filters that are shared with the user
- Filters that are created by the user:
  - have edit, export and delete button
  - have a share icon showing the number of shares
  - have a clickable title that takes the user to the edit filter screen
- Filters that are not created by the user (i.e. shared with the user):
  - have export and unlink button
  - have no share icon
  - do not have a clickable title

4.4.2 Create a new filter

- Wizard...
  - Each tab: check all UI-controls/elements (!) → RAS-319
  - Tab 1: check correct list of assets is shown → RAS-320
  - Tab 2: check correct properties are listed
  - Tab 3: check 'data filters'
  - Tab 4: check 'timestamp filters'
  - Tab 5: check preview

4.4.3 Edit an existing filter

- Clicking 'edit' should bring user to the same wizard as for the create
- Functionality is the same as create

4.4.4 Delete a created filter

- Cannot delete filter that is in use by dashboard
- Cannot delete a shared filter → prompt Y/N.
- Can delete filter that is not in use by any dashboard

4.4.5 Export filter data

- User can export the filter data to CSV after clicking 'export'.
- After clicking 'export', a message is shown.
- Data export should not take longer than 5 minutes
- When export is complete:
  - email should be sent to user
  - web notification should be shown
  - both messages contain a link to the same csv export file
- exported file is correct

4.4.6 Filter sharing

- Share filter
- Unlink filter
- Accept share invitation
- Try to accept share invitation twice
- Refuse share invitation

4.5 Dashboards

4.5.1 List of dashboards

- The screen should show the list of all the dashboards that are available for the user. This includes: dashboards that are created by the user and dashboards that are shared with the user.
- Dashboards that are created by the user:
  - have view, edit, duplicate and delete button
  - have a share icon showing the number of shares
  - have a clickable title that takes the user to the dashboard detail screen
- Dashboards that are not created by the user (i.e. shared with the user):
  - have view and unlink button
  - have no share icon

4.5.2 Create a new dashboard

- Drop-down list of filters should contain filters that are created by the users and filters that are shared with the user
- The <edit> button next to the drop-down list of filters should only be enabled for filters that are created by the user, not for those that are shared with the user
- After the dashboard is created, the card in the dashboard list should include an image preview of the dashboard.

4.5.3 Edit an existing dashboard

- Clicking <edit> should bring user to the same UI as for the create

4.5.4 Duplicate an existing dashboard

- Clicking <duplicate> should bring user to the same screen as for editing a dashboard.

4.5.5 Delete an existing dashboard

- Click <Delete>.
- If the user tries to delete a dashboard that is shared by the user with other users, a warning message should be displayed after the user clicks 'delete'
- If the user has deleted a dashboard that is shared by the user with other users, then this dashboard should not be in the list of dashboards anymore for those other users.

4.5.6 DevExpress dashboards

- Create a dashboard
  - [Move this to dedicated location?]
  - Create a simple dashboard using a limited dataset.
  - Create a complex dashboard using a large dataset.
  - <TODO>
- Edit dashboard
  - Possible to edit and save dashboard

4.6 Reports

todo

4.7 Event

Todo

4.8 Scheduled tasks

4.8.1 Create a new scheduled task

- Tab 1
  - Select 'based on a fixed schedule'.
  - Set schedule to trigger every minute
- Tab 2
  - Select any dashboard.
- Tab 3
  - Check box 'send an e-mail'
  - Check box 'send a website notification'
- After 1 minute of waiting, the website notification and e-mail should be received.

4.8.2 Instantly run a schedule task

- On an existing scheduled task, click 'run now'.
  - The website notification and e-mail should be received.

4.8.3 Edit a schedule task

- Click <edit> for an existing scheduled task.
- User should be taken to the same UI as for the creation of a scheduled task.

4.8.4 Delete run a schedule task

- Click <delete> for an existing scheduled task.
- User is asked to confirm deletion.
- After confirmation, the task should be deleted.

4.9 Web notifications

4.9.1 Send notification to user

- Pre:
  - need 2 separate accounts, user1 and user2
- send notification
  - login as user1
  - go to administrator/manage users
  - Find <user2>
  - Click <sends web notification>
  - Enter any data
  - Logoff
- Read notification
  - Login as user2
  - Top of screen: bell icon should indicate that a notification is available
  - Notification message should contain the data that was entered by user1

re write: 2 browsers, user2, user1

4.10 User security

Check permission:

Login with a user that does not have permission to …

TODO

4.11 Web browser support

Testing web browser support can be done in many ways. The following is a basic set of tests.

	Google Chrome	Firefox	Microsoft Internet Explorer	Microsoft Edge
Enter URL, access application	✓	✓	✓	✓
Edit a filter	✓	✓	✗	✓
View a dashboard	✓	✓	✓	✓
View an asset's details screen	✓	✓	✓	✓

existing bug RAS 807

Note: The list of supported browsers (and their versions) is not specified in this test document: this list should be specified elsewhere. In absence of such a list, the tests in this paragraph assume that the latest major version of each browser is used.

4.12 Data Analysis Engine

→ Done as part of JIRA task RAS893 (DAE test)

This paragraph assumes that:

- some data generator is available
  - MfcFileGenerator.exe can be used: timestamp from/to, integer + text support, min, max, step size, etc.
  - It is advised to use a time range in the past (e.g. 2016-05-01 – 2016-05-31) so there's lots of room to simulate the sending of new data
- a dedicated asset is defined for testing the DAE
  - called 'DAE tester' in the remainder of this paragraph
- a dedicated asset type is defined for testing the DAE (e.g. 'DAE testers')
- the 'DAE testers' have the following properties defined:
  - FISH_TANK_WATER_TEMPERATURE_C
    - numeric, range 0 - 100
  - FISH_TANK_WATER_LEVEL_MM
    - numeric, range 100 - 2000
  - FISH_MOOD_INDICATOR
    - text, ['happy', 'unhappy', etc]

4.12.1 Create DAD

- Enter a valid RASQL statement that will generate a few emails:

```
WITH ASSET("DAE tester") as daeTester
DEFINE EVERY(daeTester.FISH_TANK_WATER_TEMPERATURE_C) as temp_c
WHEN temp_c > 99 THEN EMAIL("daeTest")
```

  - Note that 'daeTest' is an e-mail template that should be created
  - Note that RAS uses e-mail quota; therefore, it is very important to setup the evaluation and the data so that only a handful of e-mails are being sent
- Save the DAD
- Verify no errors are displayed

4.12.2 Run a DAD

- Enable the newly created DAD
- Check to see that it is running and creating the messages (email) properly
- Ensure the background color of the dad turns green while it is running

4.12.3 Error handling DAD

- Add an error to the DAD RASQL-statement
  - E.g. DEFINE EVERY to DEFINE EVERIE
- Save
  - See that the error is displayed immediately
- Navigate to the Data Analysis list overview page
  - See that the definition in error is blinking red and an error message is displayed in the tooltip of the error icon
- Try to enable the definition
  - See that it is immediately disabled
- Edit the DAD again
  - See that the error is still there, displayed in an alert
- Correct the error
- Save
  - See that the error has disappeared

4.12.4 Test of WITH-clause

- WITH ASSET: update asset name to non-existing asset name

- a warning should be displayed after changing the name and saving the DAD
- DAD cannot be switched ON

- WITH ASSET: update asset name to non-existing numeric ID
  - same as above
- WITH ASSET: update asset name to existing numeric ID
  - DAD should start running again
- Replace 'as daeTester' with 'as daeTester2'
  - should result in error after save
- Undo previous change
  - should not result in error after save
  - triggers recalculation

4.12.5 Test of THEN-clause

- test web notification
  - make sure daeTestWebNotif is defined as notification of the DAD
  - Replace 'THEN MAIL("daeTestEMail")' by 'THEN WEBNOTIFICATION("daeTestWebNotif")'
  - triggers recalculation and web notifications
- test multiple actions
  - Replace 'THEN WEBNOTIFICATION("daeTestWebNotif")' by ''THEN WEBNOTIFICATION("daeTestWebNotif")', EMAIL("daeTestEMail")'
  - should result in both emails and web notifications

4.12.6 Test of DEFINE-clause

- use existing DAD from previous test
- modify DEFINE statement to use other property (e.g. FISH_TANK_WATER_HUMIDITY) and click save
- error message should be displayed
- revert property
- error message should be gone

4.12.7 Delete a DAD

- click on the 'delete' button on the Data Analysis screen
- answer 'yes, delete this definition' when prompted
- DAD should be removed

4.12.8 Help pages

- edit a DAD
- click on help-hyperlink (upper right)
- help information should be available

4.12.9 New incoming data

- generate new data
- ideally, make it so that there is one data point that will trigger a web notification
- upload data and see if web notification is triggered

4.12.10 New incoming data for switched-off DAD

- same as previous but before uploading data switch DAD off first
- no notification should be triggered after upload
- switch DAD back on
- notification should be triggered

4.12.11 Test parameters in notification messages

- use DAD that triggers web notification and e-mail
- use property in message (e.g. "The temperature is now [temp_c] °C.")
- verify that property value is being sent in message ("... is now 102 °C.")

5 Test results

If during functional testing tests from this suite above are found to be failing, the failure should be registered in a ticketing system using a reference to the failed test and the tested RAS application:

- Reference to failed test
  - Test ID (e.g. 4.1.5)
  - Test document version ID (e.g. 0.6)
- Reference to the tested RAS application
  - Build reference (commit tag?)

Functional testing should produce a test report that contains:

- Time-stamp of when the test was performed (begin, end)
- Details of person(s) who performed the test
- RAS information that can identify the specific version of RAS (e.g. build number)
- Reference to log files that may be available.
- Reference to screenshots that may be available.
- A short summary table describing the test results, for example:
  - Number of test(s) successful: 125
  - Number of test(s) failed: 14
  - Number of test(s) not performed: 3
- An overview of the number of bugs (tickets) that have been created, for example:
  - Number of CRITICAL bugs logged: 2
  - Number of MAJOR bugs logged: 4
  - Number of MINOR bugs logged: 5
  - Number of OTHER tickets logged: 11
- ...