CBS Trials Researcher Instructions

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About Us

Cambridge Brain Sciences Inc provides researchers with scientifically proven tools for the assessment of cognitive function over the web.

The Cambridge Brain Sciences concept was developed by Dr. Adam Hampshire and Dr. Adrian M. Owen during their time at the MRC Cognition and Brain Sciences Unit, Cambridge, UK, with a grant from MRC Technology's Development Gap Fund. Doctors Hampshire and Owen have now moved to Imperial College London and the University of Western Ontario, respectively, where they are continuing to develop the concept under the same name with the support of WORLDiscoveries.

The primary aim of Cambridge Brain Sciences is to provide a web-based platform for members of the public and the wider scientific community to assess cognitive function using rigorously tested and scientifically proven tests of memory, attention, reasoning and planning. The tests made available on the website have been used in scientific studies of brain function and cognition by Dr. Owen and Dr. Hampshire and have been described in many peer-reviewed scientific publications in leading academic journals.

Many of the tests are variants on paradigms that have been used in functional neuroimaging studies (i.e., positron emission tomography, functional magnetic resonance imaging) to show how cognitive functions such as memory, planning and attention are mediated by specific regions of the brain (a field colloquially known as 'brain mapping'). In other studies, they have been used to investigate why some of these cognitive functions become impaired in disorders such as Alzheimer's disease, Parkinson's disease, and schizophrenia and after traumatic brain injury. An additional interest of the team is to explore how performance on these tests (and the cognitive processes that they measure) improves over time with training.

Overall, by making these tests widely available, Cambridge Brain Sciences aims to further our understanding of human cognition with a view towards mediating against the effects of brain damage and disease.

Getting Started

What does my CBS account allow me to do?

The CBS Trials website will allow you to collect data from participants or patients who are located remotely using your own experiments or those shared by other researchers. All our tests are available free of charge and have been independently validated, both in the lab and using the website itself.

For more information about the website or the cognitive tests available, please contact cambridgebrainsciences.enq@gmail.com.

Registering an account

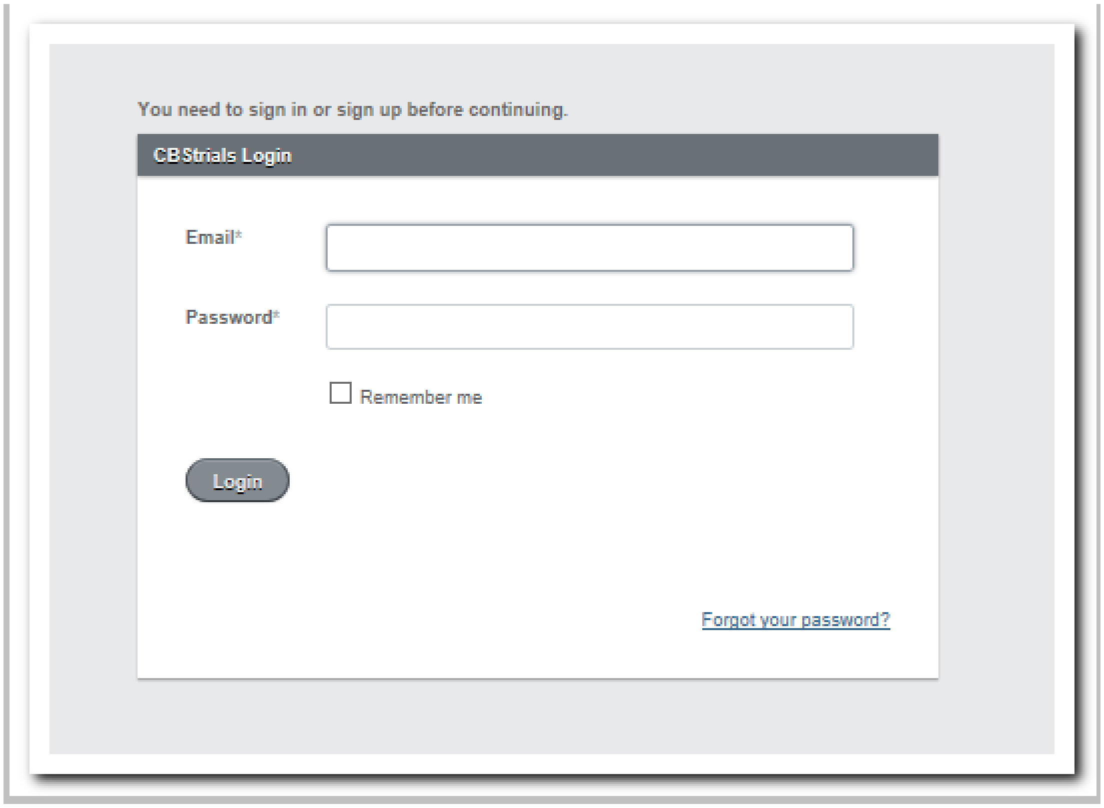
To register as a researcher on the CBS Trials website please contact cambridgebrainsciences.enq@gmail.com. In order to register, you will be asked to provide an email address and password of your choosing. Furthermore, because the website sequences tests within the Flash plug-in, it is suggested that you download Adobe Flash Player before proceeding. HTML5 is also supported.

Login and password

With this login information you have everything you need to start setting up a study. To access the research control panel, which will allow you to sign in, simply type the following URL into your browser: https://www2.cbstrials.com/admin. This link will take you to the CBS Trials homepage.

To login to your account, simply click the **'Login'** button designated by the arrow in the picture above.

Clicking this button will launch the following pop-up window:



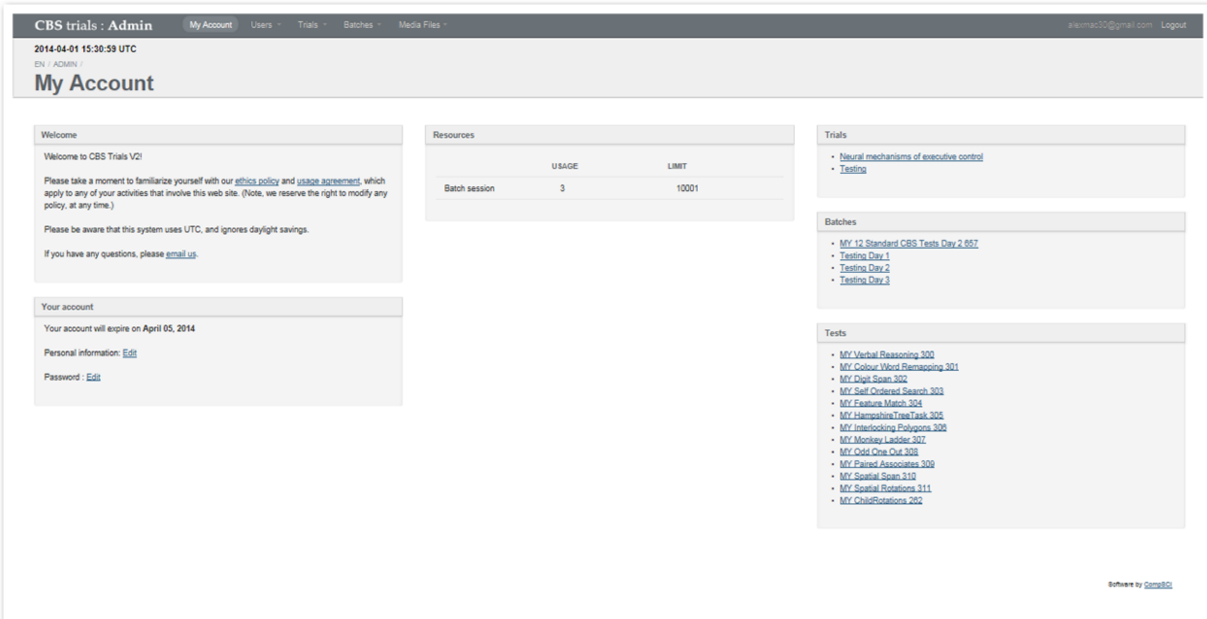
Enter your email address and password and click **'Login'** in order to continue to your home account page. If you have forgotten your password, click **'Forgot your password?'** in the bottom right-hand corner to have it reset and emailed to you.

My account

Upon logging in, you will be redirected to your account home page, as seen below. Please take a minute to familiarize yourself with the page layout.

Under **'Welcome'** you can find more information about our ethics policy, user agreement, and how to contact us if you have further questions. In addition, under **'Your account'** you can view or edit your personal information and password. Here you will also see the time until the current account expires. To renew your account, please contact an administrator at cambridgebrainsciences.enq@gmail.com.

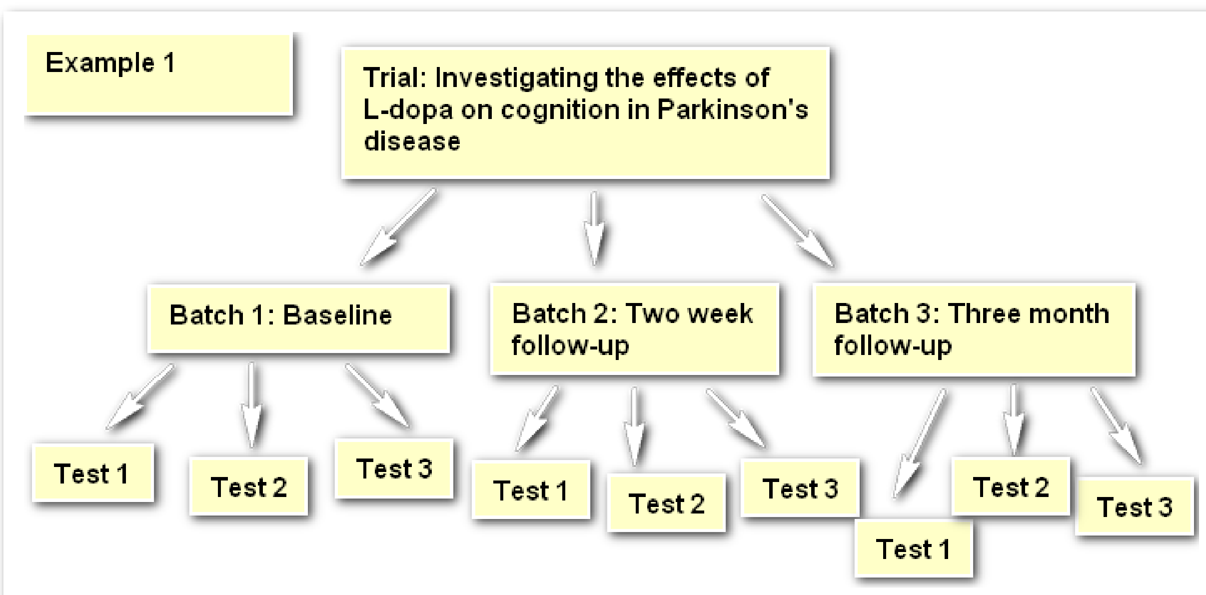
On the right-hand side of your account homepage, you can see a column listing your current trials, batches, and tests. More information about these terms is available in the following section.



What Next?

Tests, batches, trials! Oh my!

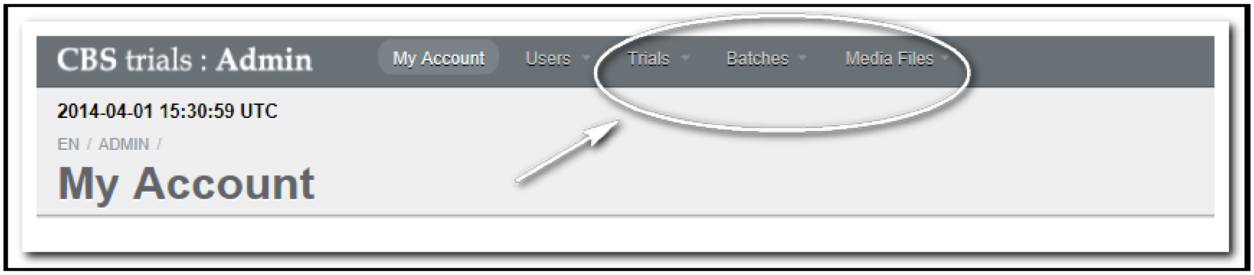
In order to fully exploit all that CBS Trials has to offer, it is important to understand both its content and terminology. A single study on the CBS Trials website is referred to as a **trial**. The first step for any researcher using the website is to create a new trial. Within most trials (but not all!), there will be multiple testing time points. Each time point is referred to as a **batch**. The second step for any researcher using the website is to create a single batch or a series of batches based on the number of testing time points they would like to include in their study. For example, a trial with five separate days of testing might consist of five separate batches; a trial with a single day of testing might consist of a single batch. Once the time points themselves have been established, the last step is to add **tests** to the batches. Researchers are free to upload their own tests or copy tests that are hosted on the website. A hypothetical trial structure can be found in the picture below.



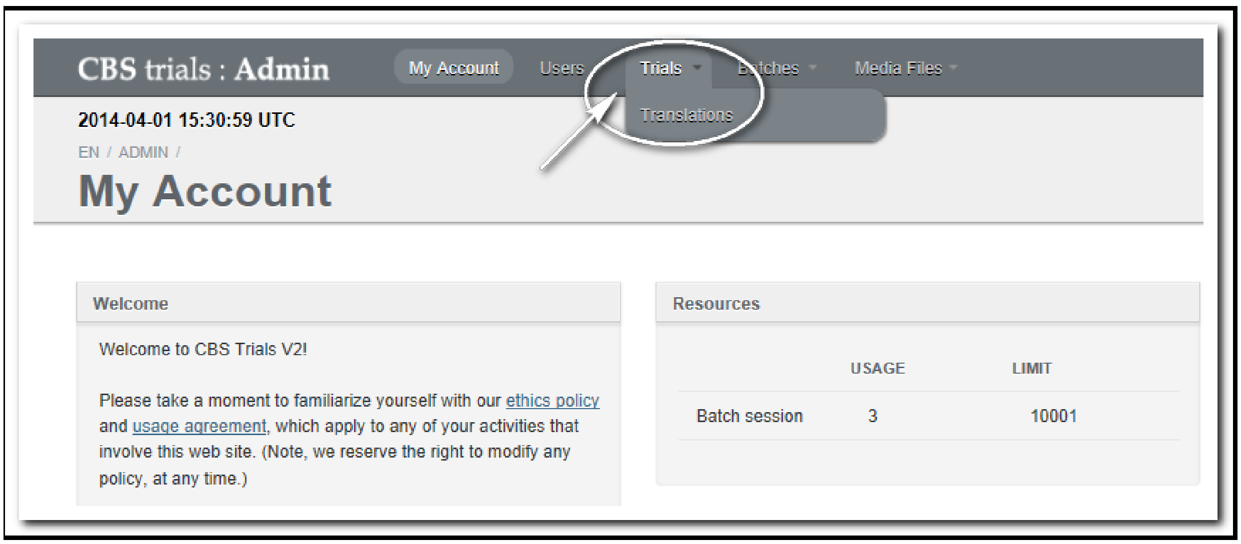
Step One: Create a Trial

How do I make a new trial?

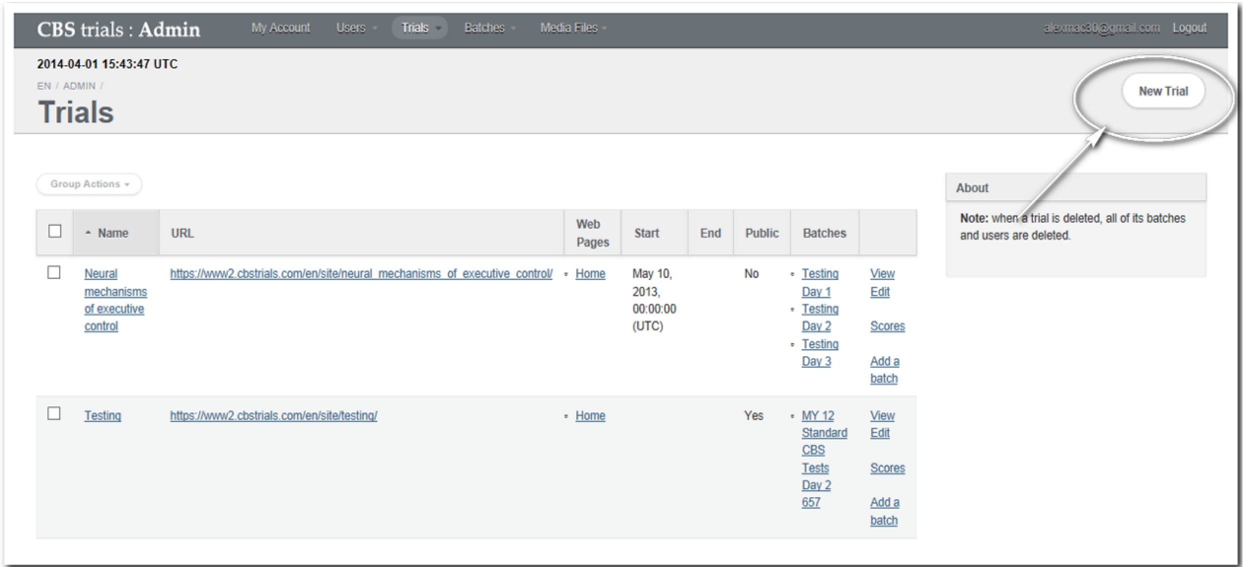
At the top of your account home screen, you will see a series of tabs (**'Trials'**, **'Batches'**, and **'Media Files'**), designated by the arrow in the picture below.



Double click the '**Trials**' tab to be redirected to a new page.



On the '**Trials**' page, you will see a list of all the trials you have created on the website, including each trial's URL, web pages, whether the trial is open to the public or closed, and the batches it contains. To create a new trial, click the '**New Trial**' button in the upper right hand corner.



You will be directed to a new page where you will need to make decisions about the details of your trial. First, type the name of your study in the top field. Next, you will need to decide if you would like to make your trial **public**. To do this, simply click the dropdown menu shown below and select '**yes**' or '**no**'. Public trials are open to anyone with access to the trial's URL. Closed trials, however, are only open to those whose information has been added to the website by the researcher. Instructions on how to add participants to a closed trial are included in the following section.

Last, select the start and end dates for your trial from the dropdown menus depicted below. Your trial will not be available outside these dates. To create a trial that begins immediately or that is permanently available (until the researcher account expires), these fields can be left blank. Once you are satisfied with your trial details, click the '**Create Trial**' button.

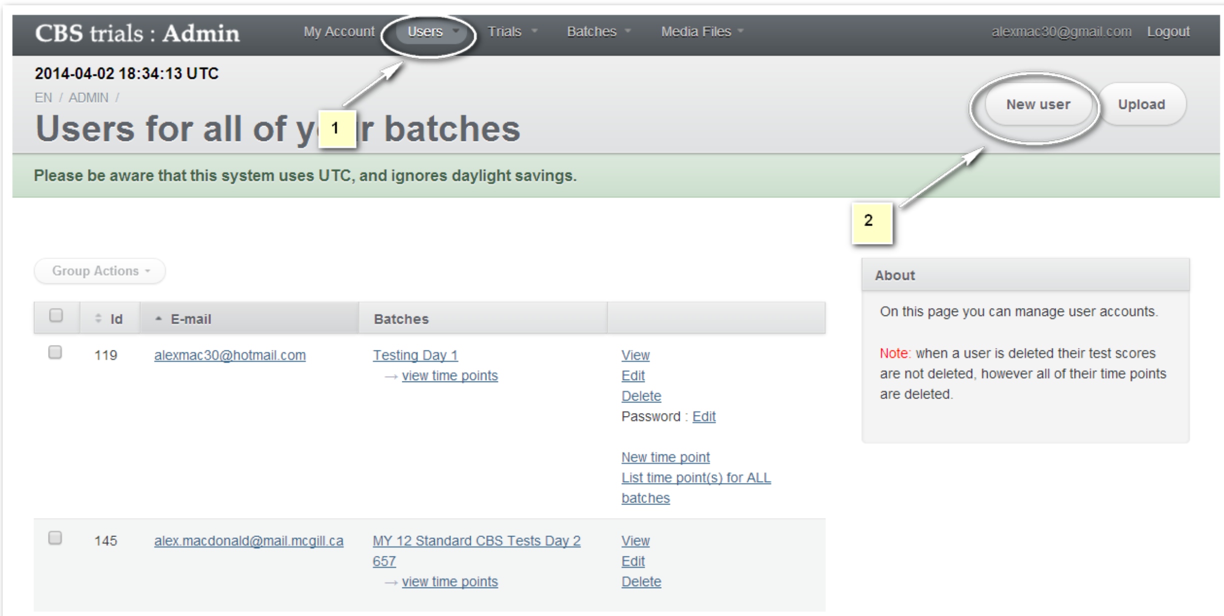
Adding participants to a closed trial

For open trials, simply email the trial URL to potential participants. Upon accessing the link, participants will be prompted to create a login and password of their choosing.

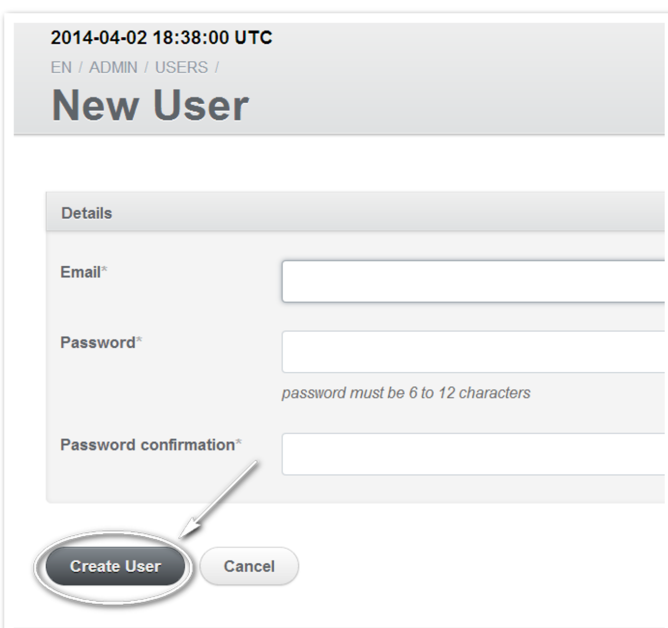
For closed trials you will be required to manually add participants. There are two ways in which this can be done.

1) Adding individual participant time points

First, click the '**Users**' tab at the top of the screen. You will be directed to a page which displays users for all your batches. Next, click the '**New user**' button in the upper right-hand corner, designated by the second arrow in the picture below.

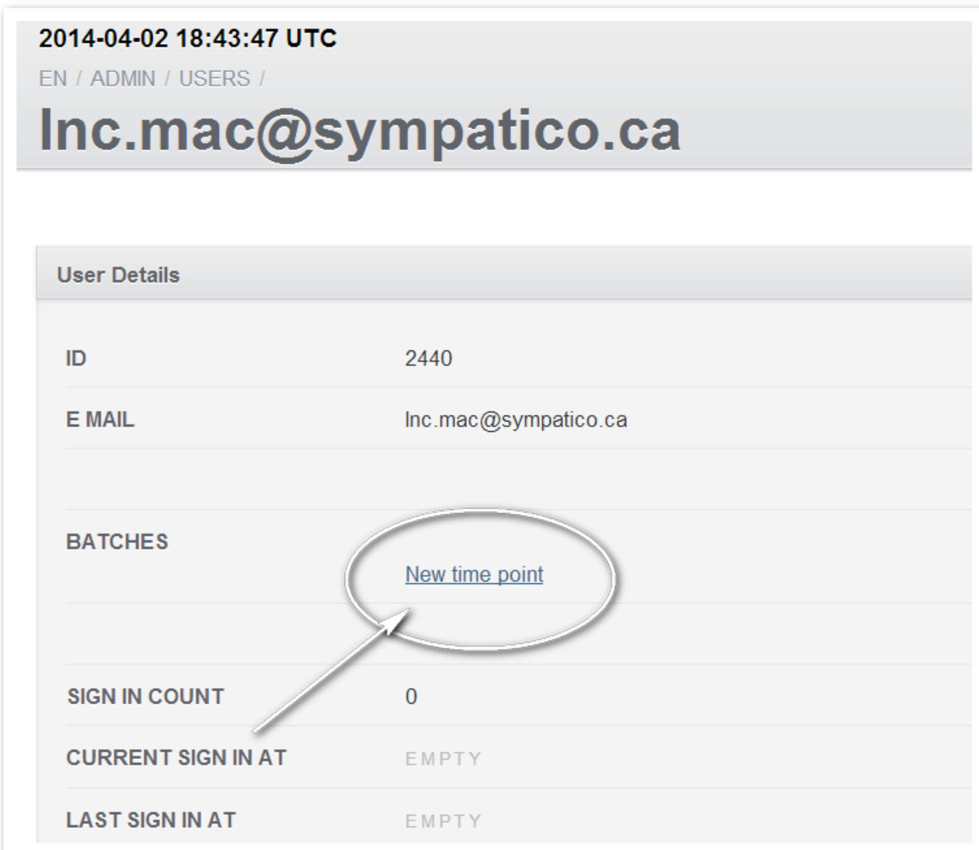


Clicking '**New user**' will bring you to the following page:

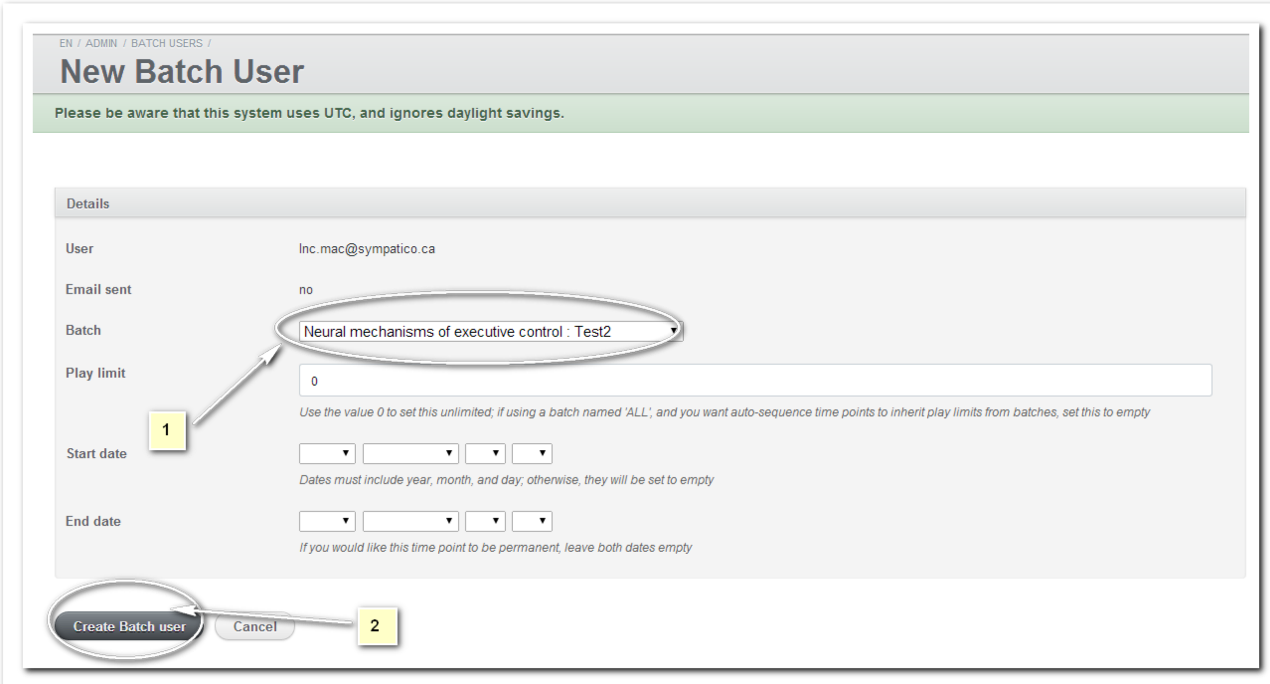


Fill in the fields with your user's email address and password and click '**Create User**' in the bottom left-hand corner.

Now that you have created a new user, you will need to add them to the batches in your trial. In order to do this, click '**New time point**' under User Details.

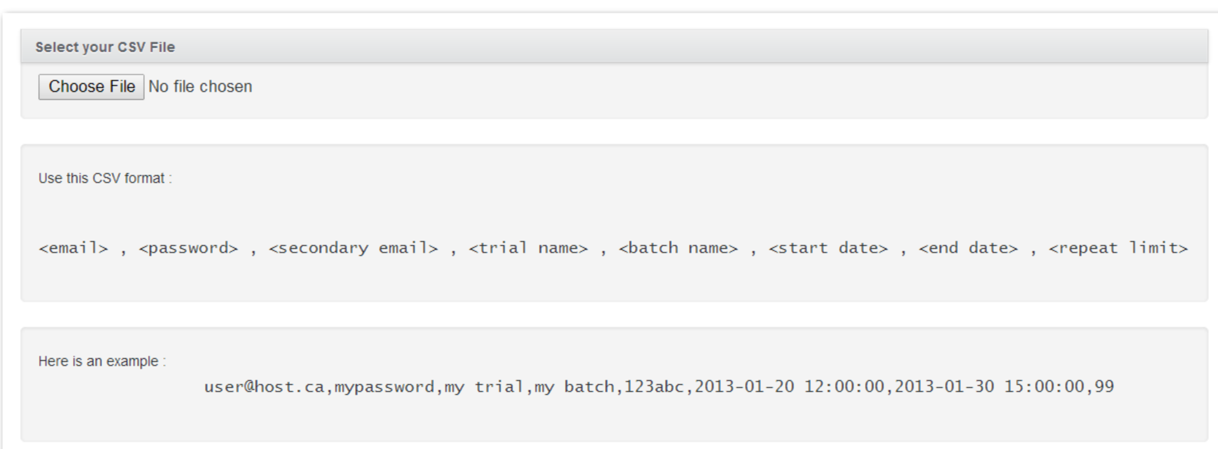


You will now be directed to the New Batch User page. Under Details, select the batch that you would like to add your participant to using the dropdown menu. Next, limit the number of times your participant can run the batch by selecting a play limit. Finally, select start and end dates. If left empty, these will be set automatically to the default start and end dates for the batch. For trials involving multiple batches, each batch will require its own time point to be added. Participants will receive an email with the batch's URL on the start date.



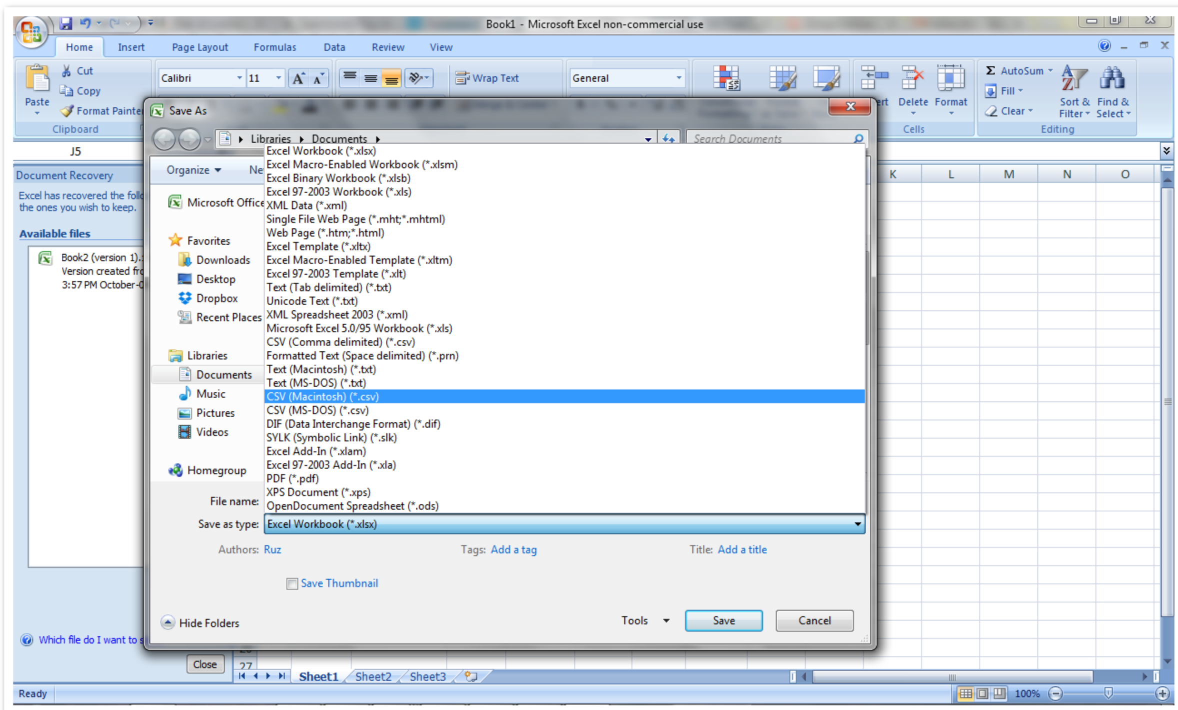
2) Adding multiple participants with a comma-separated values (CSV) file upload

To upload multiple participants and their time points simultaneously, you will need to upload a comma-separated values (CSV) file. Microsoft Excel is the easiest way to create a CSV file to upload to the website. Simply open a new Excel spreadsheet, set your cells to text format, and fill each row with the following information:



For trials with multiple batches, each batch will require its own time point to be added. Alternatively, leave the batch name blank and edit your trial to enable auto-sequencing. Editing trials, including auto-sequencing, is explored farther below.

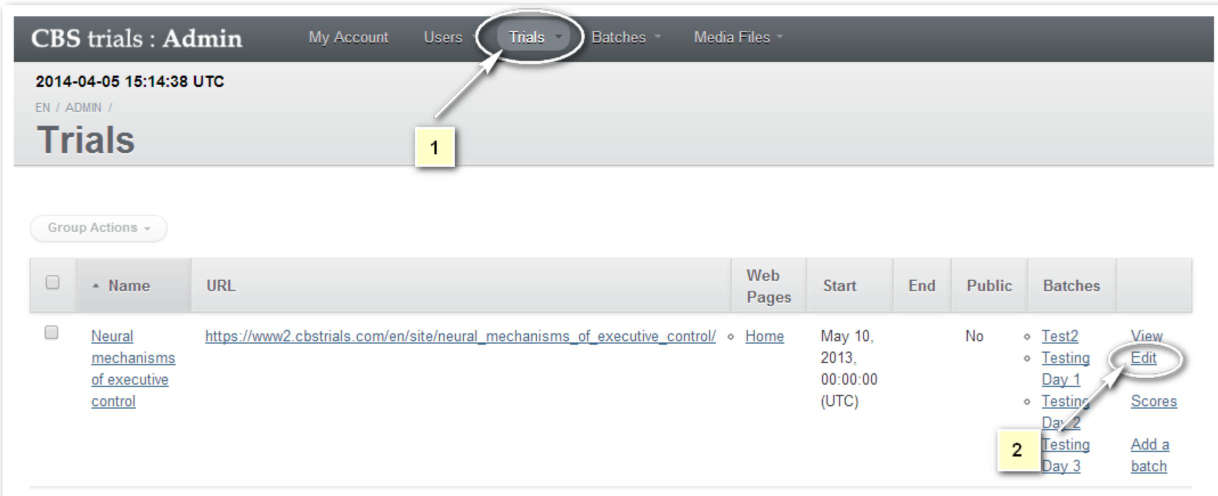
Once this information has been added, simply go to '**File**' menu and select '**Save As**'. Using the dropdown menu, save as type '**.csv**' and click '**Save**'.



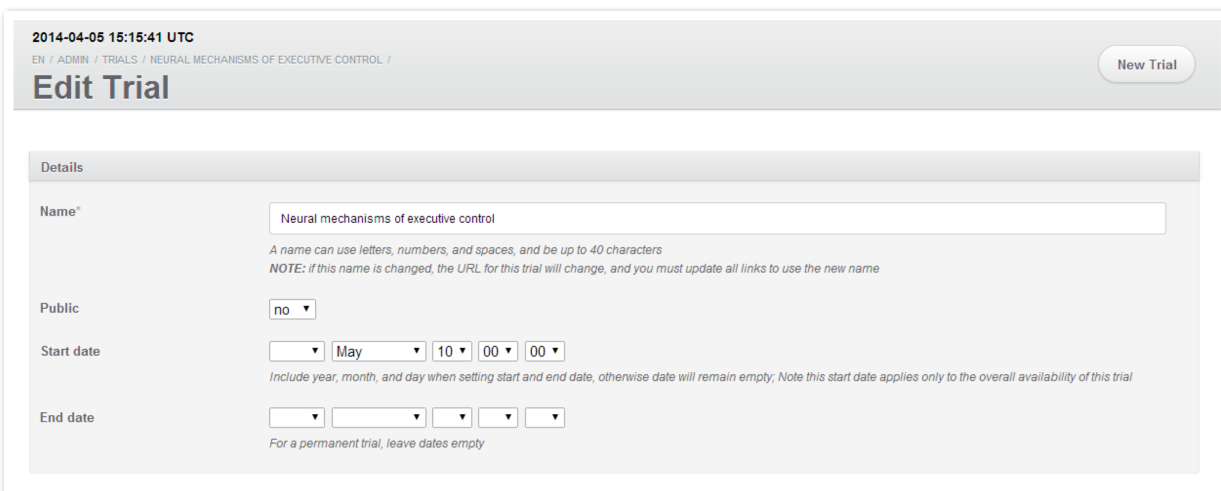
To upload your CSV file, go to the Upload page under the '**Users**' tab and select '**Choose File**' under '**Select your CSV File**'. Scroll to the bottom of the page and click '**Upload Now**' once you have selected the correct file.

Editing a trial

Often you will want to edit your trial once you have created it. First, click the '**Trials**' tab at the top of the webpage. Identify the trial that you would like to edit and click '**Edit**', designated by the arrow in the picture below.

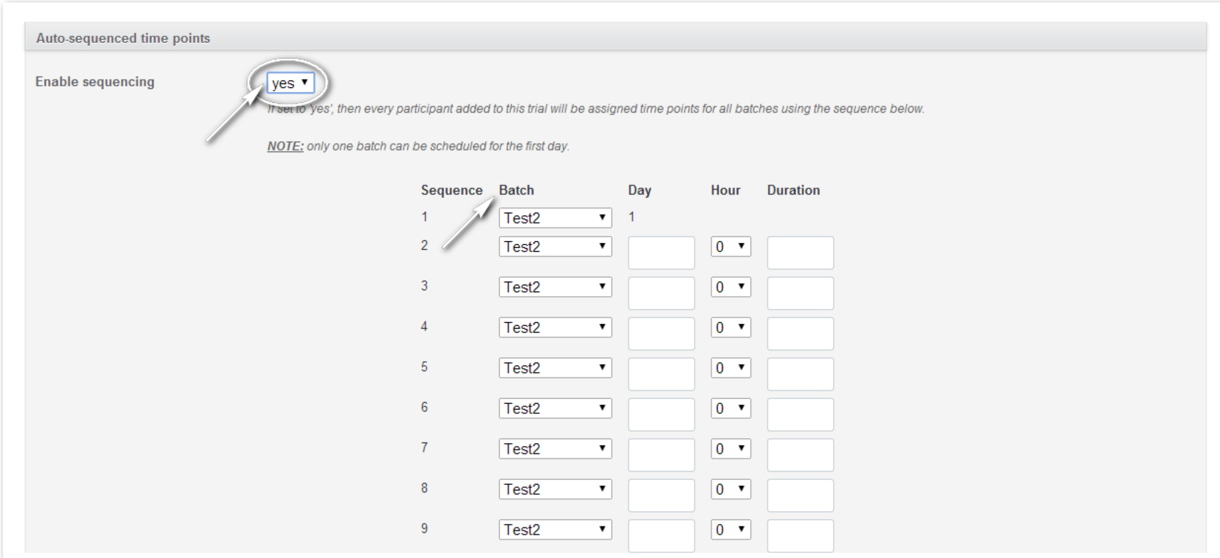


Clicking '**Edit**' will direct you to the following page:



Here, you will see the details of your trial. To edit them, simply click the fields that you would like to change.

Scrolling down, you will see the following box:



This section will allow you to sequence testing days so that emails will be sent to your participants automatically with your trial's URL.

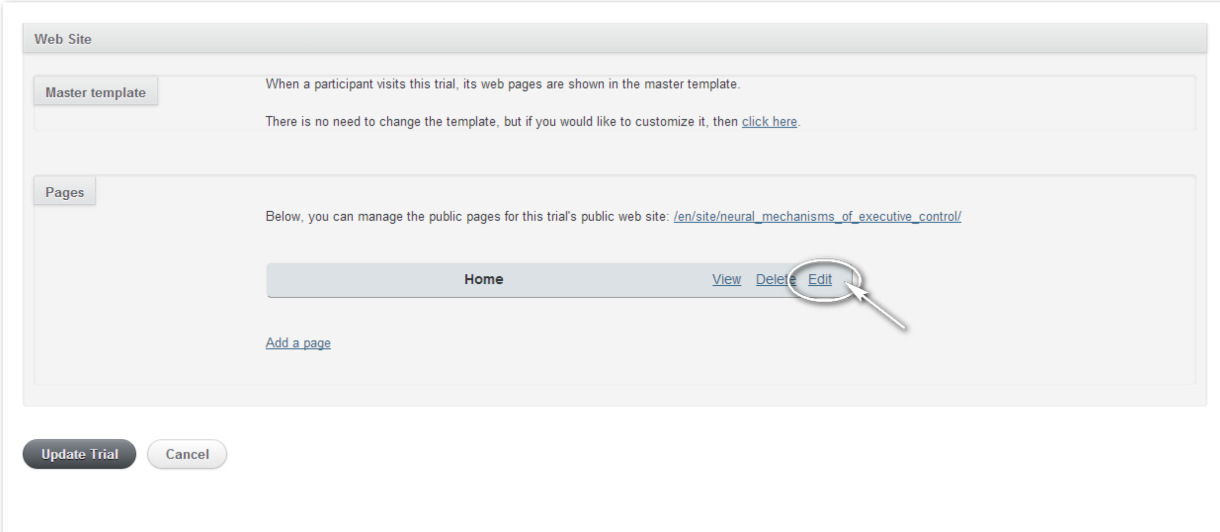
First, select '**yes**' next to '**Enable sequencing**' using the dropdown menu. Next, select the batches that you would like to run in their correct sequence. Creating batches and adding them to a trial is explored farther below. In the example above, the same batch would be run over all testing sessions.

Under '**Day**', indicate the day relative to the date the participant was added to the trial that you would like them to complete the batch.

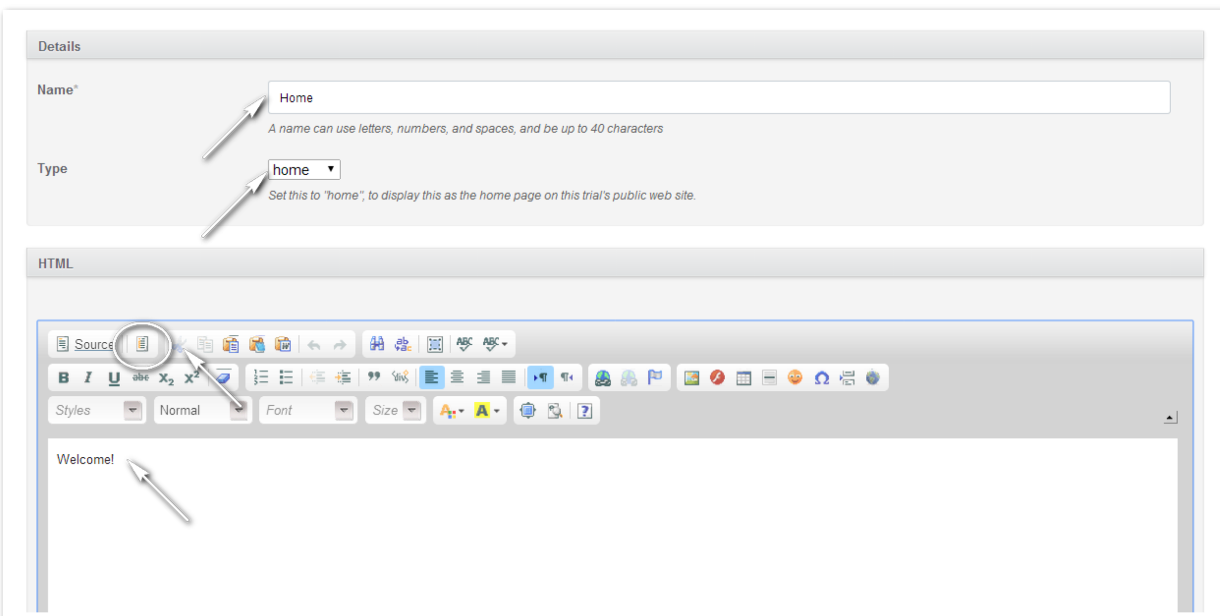
Under '**Hour**', indicate the time at which you would like them to receive your trial's URL via email.

Finally, under '**Duration**', indicate how many hours each participant will have to login and complete the tests relative to the time and date the email was sent. If you would like the tests to remain open until the start of the next batch, simply leave this field blank.

Scrolling even farther down will bring you to the following box:



This section contains information about your trial's web display. To edit your trial's homepage, click '**Edit**', designated by the arrow in the picture above. Clicking this button will launch the following page:



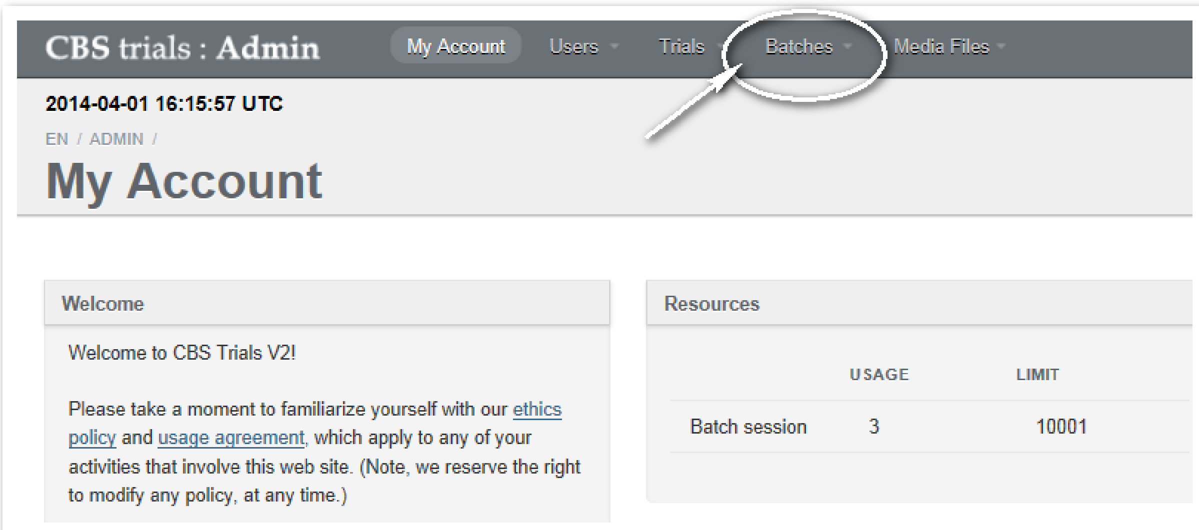
Here you can edit your homepage name, type, as well as the text that your participants will see upon beginning your trial. To add templates to this page, including a list of your batches or testing days, click the template button, designated by the circle and arrow and the picture above. Once you are satisfied with your changes, simply click '**Update Web page**' at the bottom of the page to return to editing your trial.

To add more pages to your trial, click '**Add a page**' and **'Edit**'. If you would like to change the Master template, or the page that your participant will see prior to logging in, click the link designated by the top arrow. Once you are satisfied with the changes you have made, click '**Update Trial**'

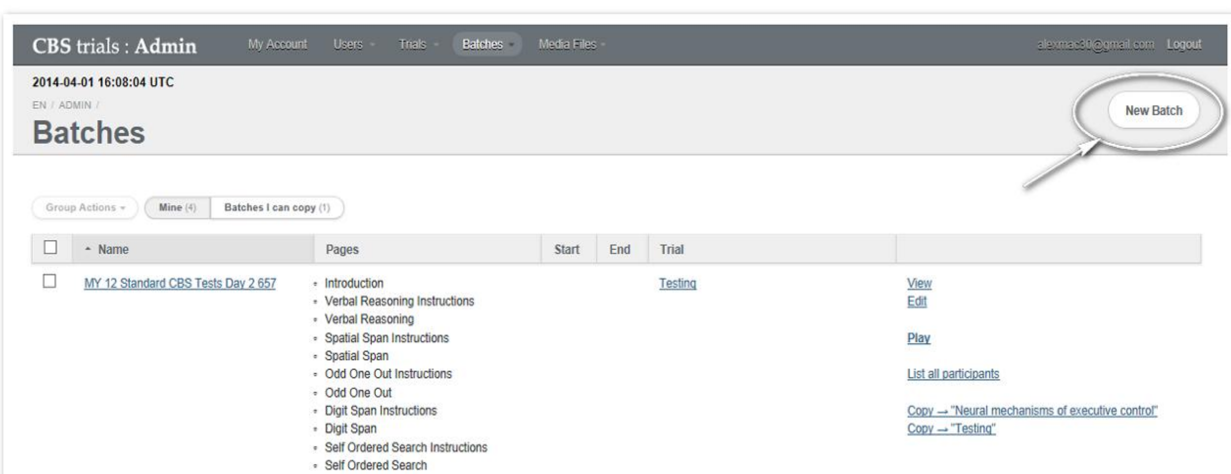
Step Two: Create a Batch

How do I create a batch to add to my trial?

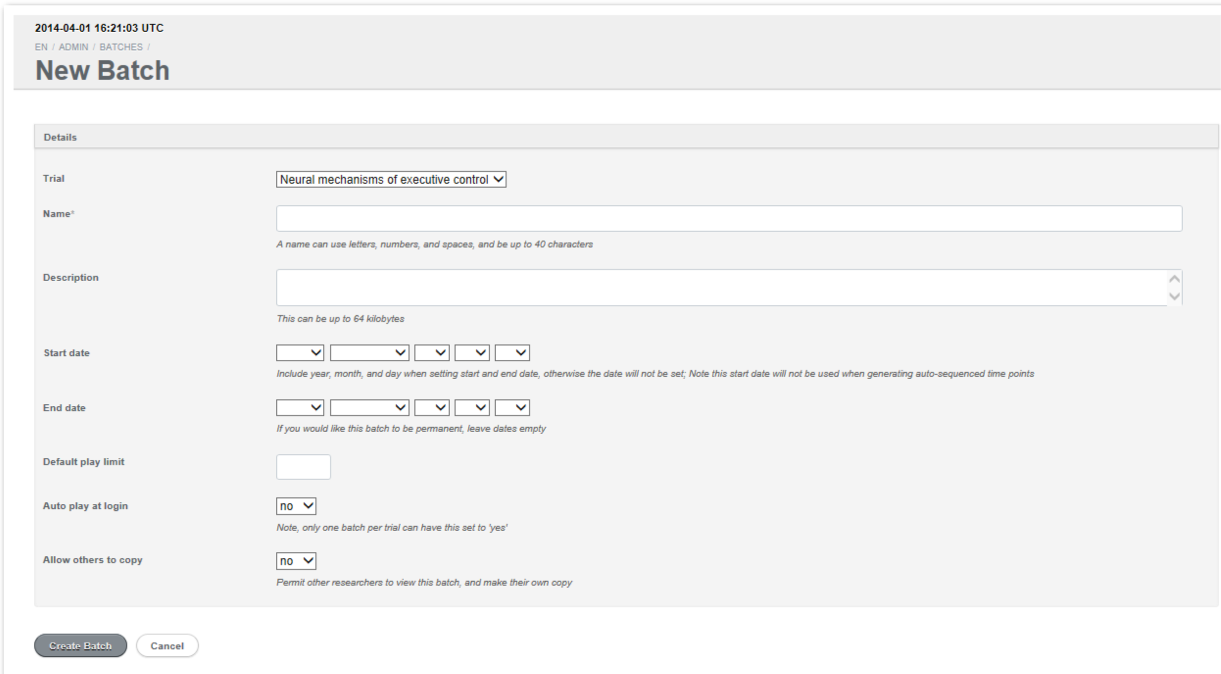
Now that you have created your trial, you will need to create and add a single or multiple batches. Remember that batches contain the sequences of webpages that participants will navigate through at each testing time point. To create a new batch click the '**Batches**' tab at the top of the webpage.



You will be redirected to the following webpage:



Click the ‘**New Batch**’ button in the top right-hand corner, designated by the arrow in the picture above. You will be redirected to the page below.



Select the trial to which you would like to assign your batch.

Next, give your batch a name and description (optional). Using the dropdown menus, specify the start and end dates between which you would like your batch to run. If left blank, these will default to the trial to which the batch is assigned. Note that in the previous section we explored how dates can also be specified for participants using auto-sequencing.

If you would like to limit the number of times your batch can be played by a participant, enter a default play limit.

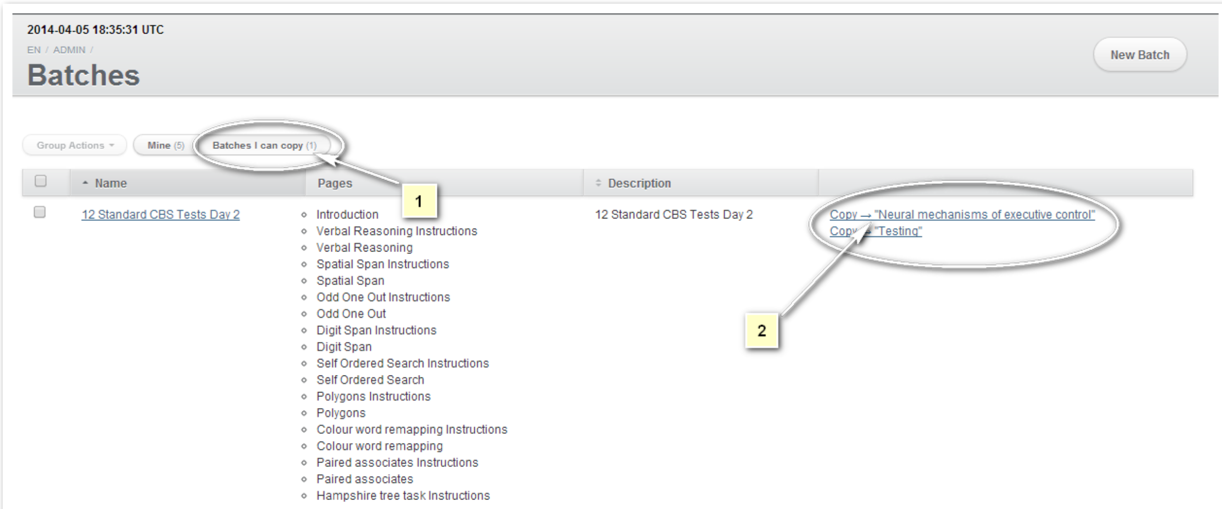
For the first batch in your trial, you can select ‘**yes**’ to ‘**Auto play at login**’ to have this batch launched as soon as your participants sign-in.

Finally, if you would like to share your batch with other researchers, select **‘yes’** using the dropdown menu next to ‘**Allow others to copy**’.

Once you are satisfied with these details, click ‘**Create Batch**’ at the bottom of the screen. Your next step will be to add tests to your batch.

Can I copy existing batches my trial?

If you would like to copy an existing batch to your trial, select '**Batches I can copy**', designated by the first arrow in the picture below. To copy a batch to your trial, click '**Copy → [trial]'** on the right-hand side as designated by the second arrow in the picture below.



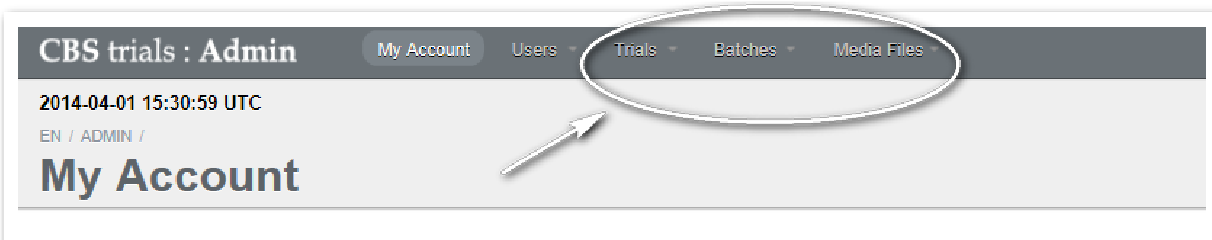
Similarly, once you have successfully created a batch you may copy it to any of your trials by selecting '**Mine**' and clicking '**Copy → [trial]**'.

Step Three: Add Tests to Your Batch

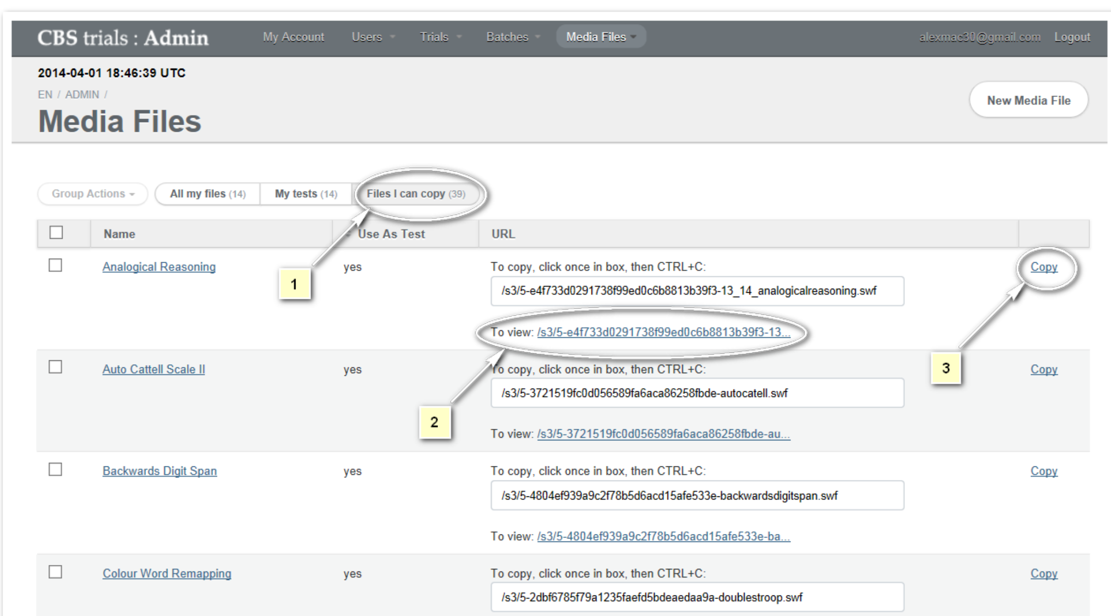
You will now need to add tests to your batches. There are two ways in which you can add tests to your files: 1) copying tests from other researchers or 2) uploading new tests. Once tests have been either uploaded or copied, you can add these to the batches of your choosing.

Copying tests from other researchers

To copy tests from other researchers click the '**Media Files**' tab at the top of the webpage.

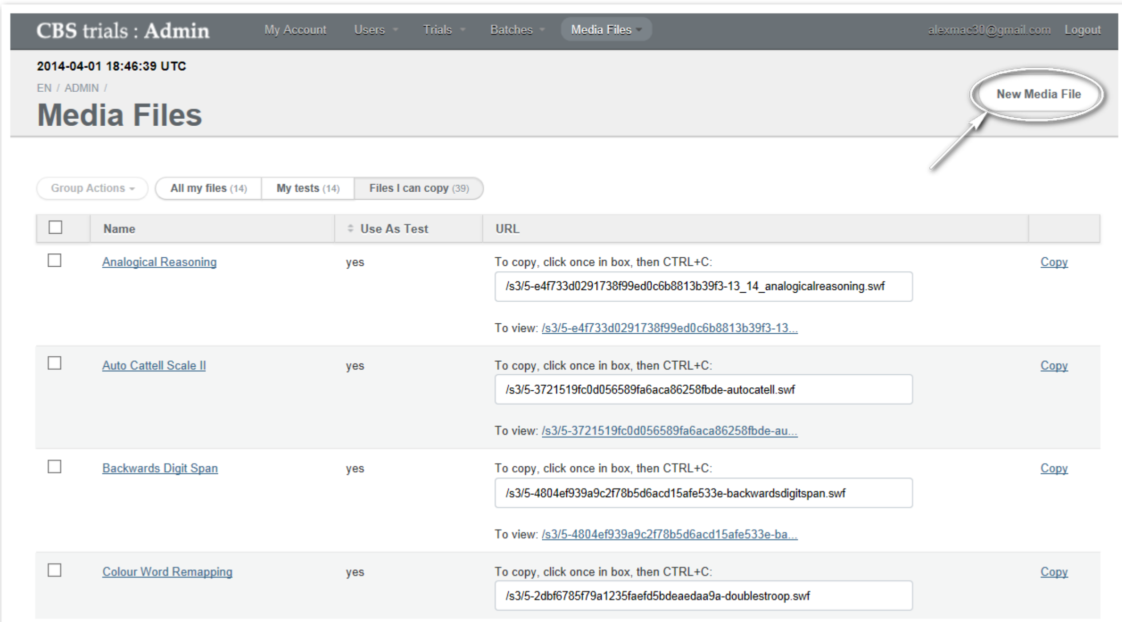


Clicking this tab will redirect you to the Media Files page. Click the '**Files I can copy'** tab on the right-hand side of the page, designated by the first arrow in the picture below. You will now see a list of tests uploaded by other researchers. To view each test, click the unique URL next to **'To view'**, designated by the second arrow. If you would like to copy a test to your files, click '**Copy**', designated by the third arrow. This test will now appear under the '**All my files**' tab.



Uploading new tests

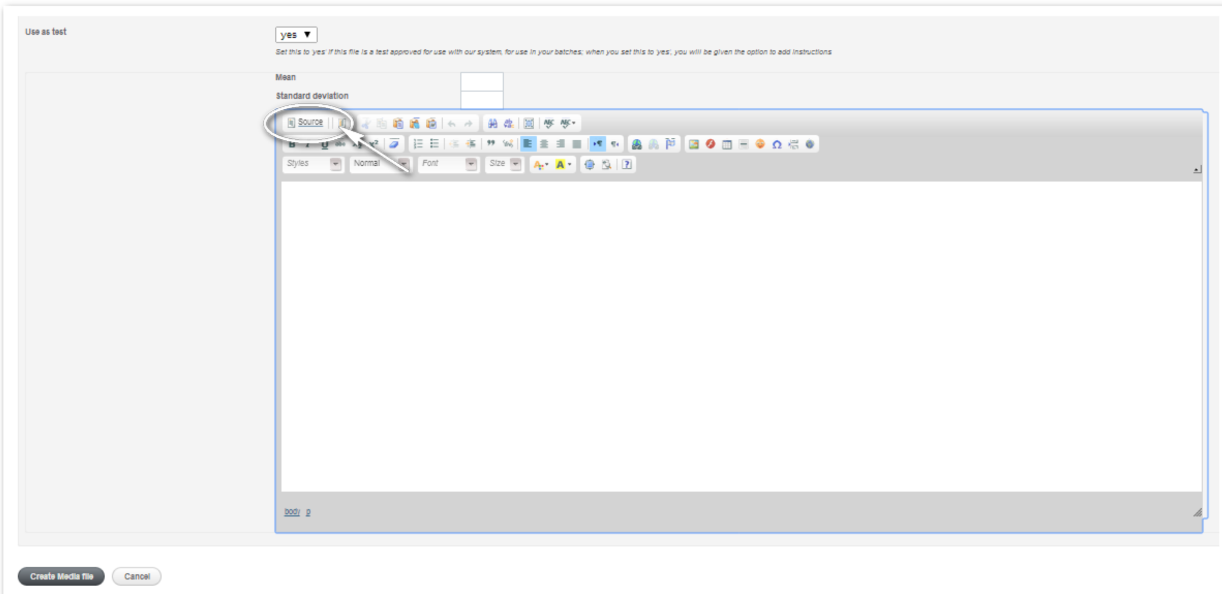
If you would like to upload your own tests, click the '**New Media File**' button on the right-hand side of the page, as shown in the picture below.



You will be navigated to the following window:

Once you have added your test name and its description (optional), click '**Browse**', as shown in the above picture, to upload your file. To be compatible with the website, tests must be programmed in Adobe Flash or HTML5. When your task has finished uploading, select whether you would like to share it with other researchers. Make sure that you have chosen '**yes**' using the dropdown menu next to '**Use as test**'.

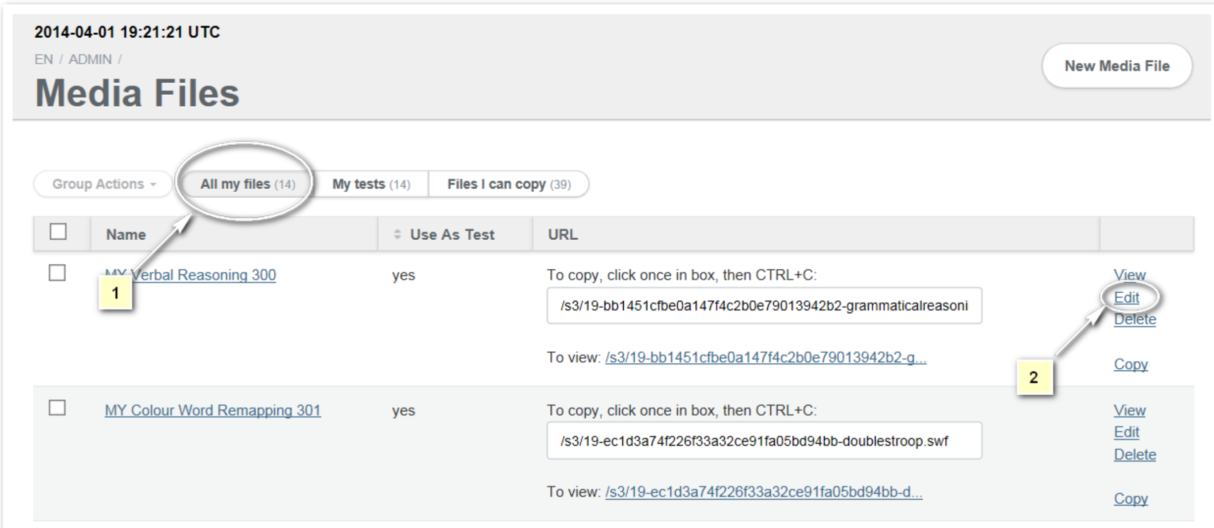
You should now be able to add your test instructions using the text editor, pictured below. If you are using the Firefox browser, you may also embed images in your instructions by dragging and dropping directly into the text editor. Alternatively, you can create a new media file, following the instructions above, and copy and paste its URL into the instructions' source. Click '**Source**', indicated below, and paste your URL.



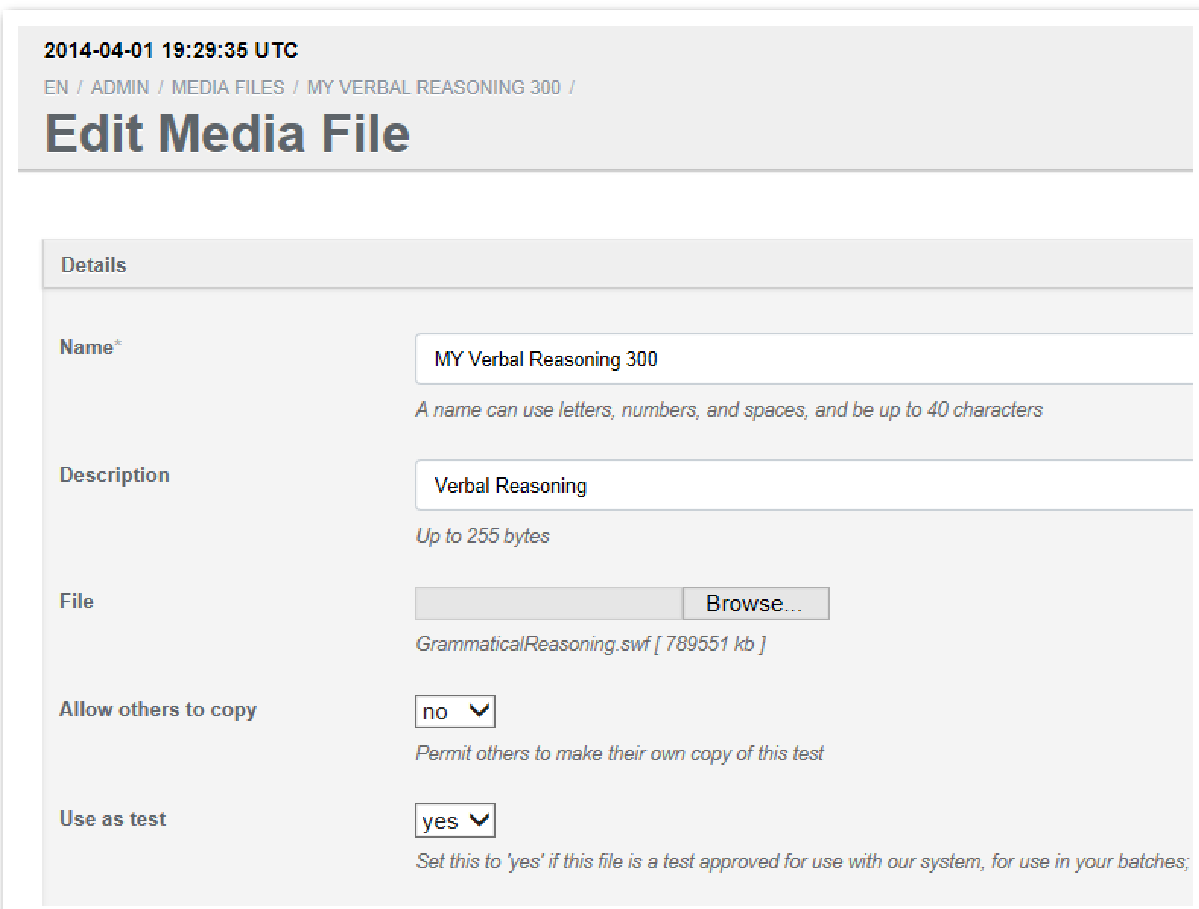
When you are satisfied with your test details, click the **'Create Media file'** button, indicated by the second arrow.

Editing tests to suit your needs

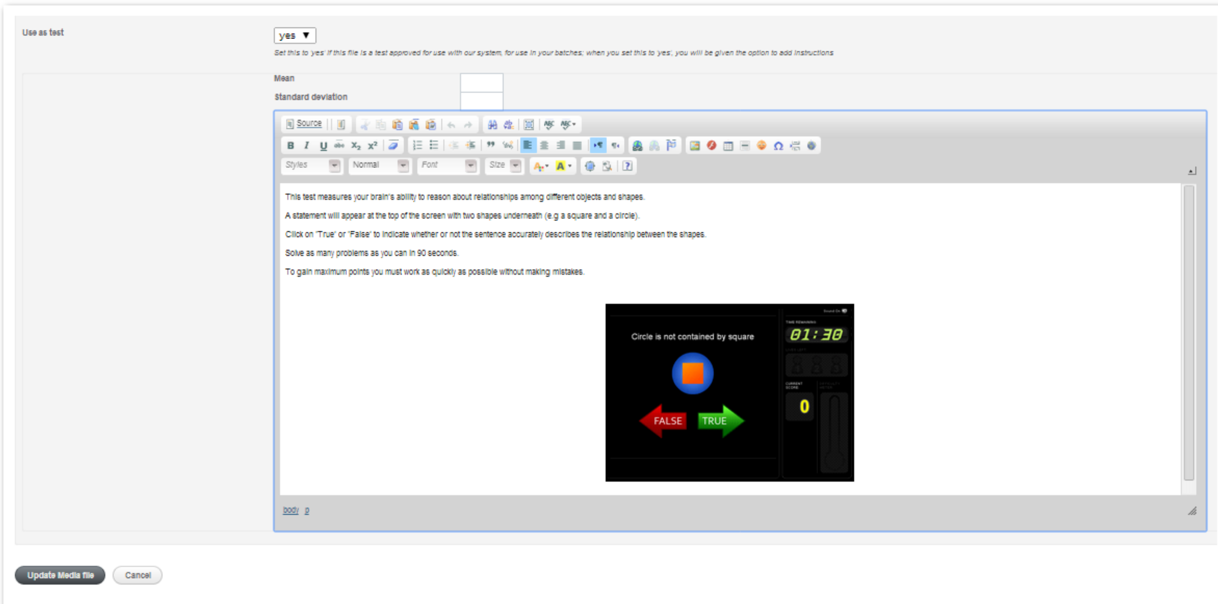
With your new tests added to your files, you may want to edit some of them. Click the '**All my files**' tab on the far left-hand side, indicated by the first arrow in the picture below. Scroll down to find your new test. To edit a test, click '**Edit**' on the far right-hand side under the test name.



Under Details, you can edit the test name and description and change the uploaded file, your preferences regarding copying, and even whether you would like the file to remain a test.



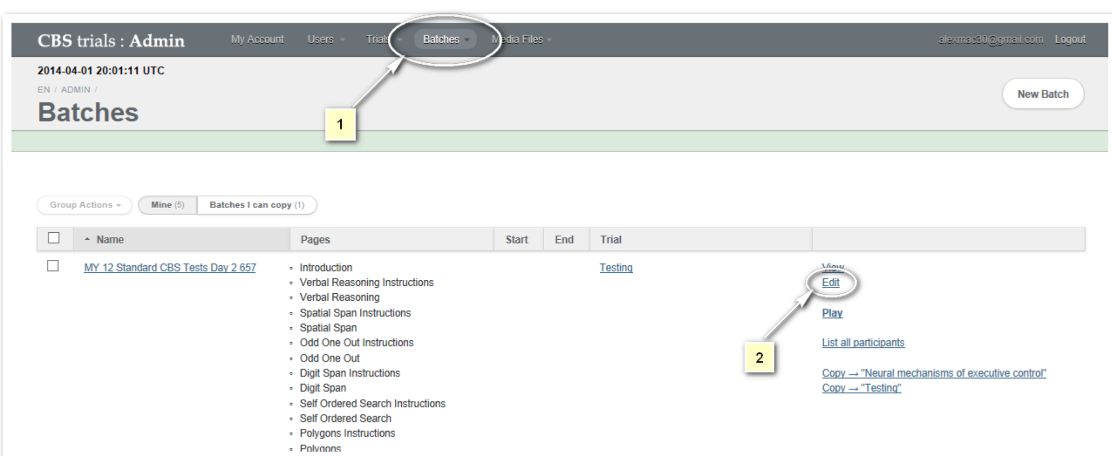
Scrolling down, you will see the text editor, where you can modify your test's instructions. If you would like to add feedback graphs to your batch (optional), you can specify your test mean and standard deviation. Otherwise, participant performance will be plotted relative to others in the study. Instructions on how to add feedback graphs to a batch are included in the section below.



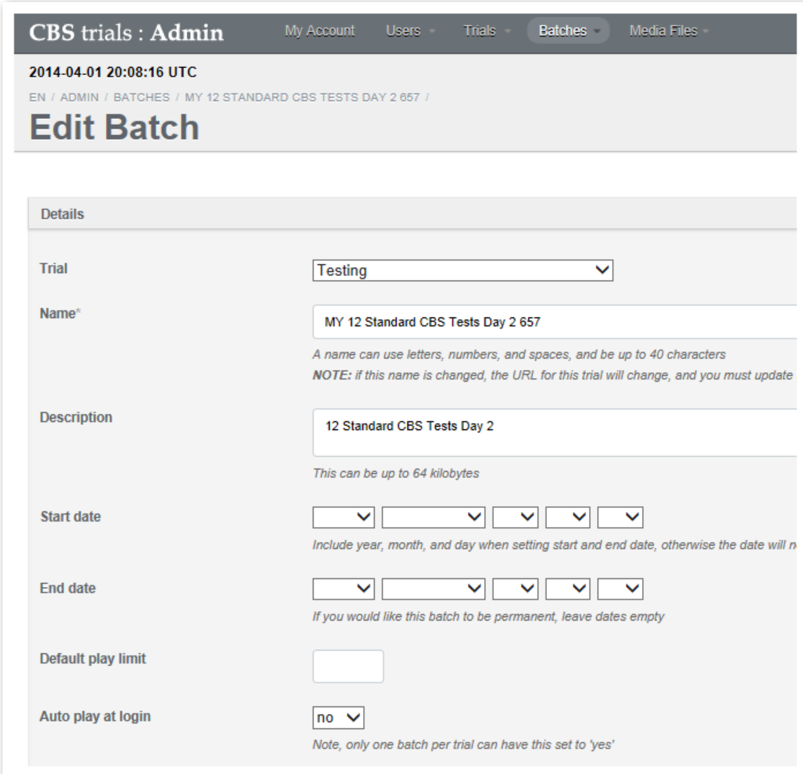
Once you have finished editing your test, click the '**Update Media file**' button.

Adding tests to your batches

Now that you have tests, you will need to add these to your batches. First, click the '**Batches**' tab at the top of the page. Next, scroll down to find the batch to which you would like to add new tests.

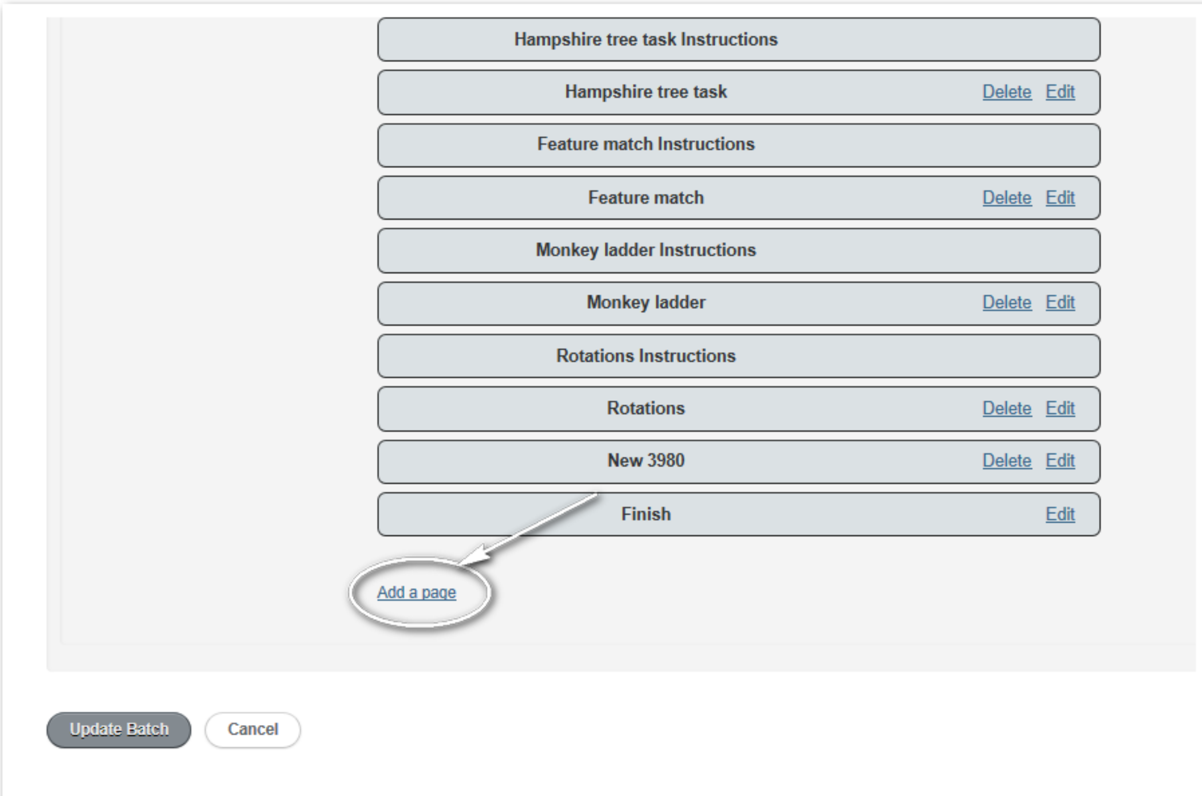


Once you have found your batch, click '**Edit**' on the far right-hand side to be redirected to the page below:

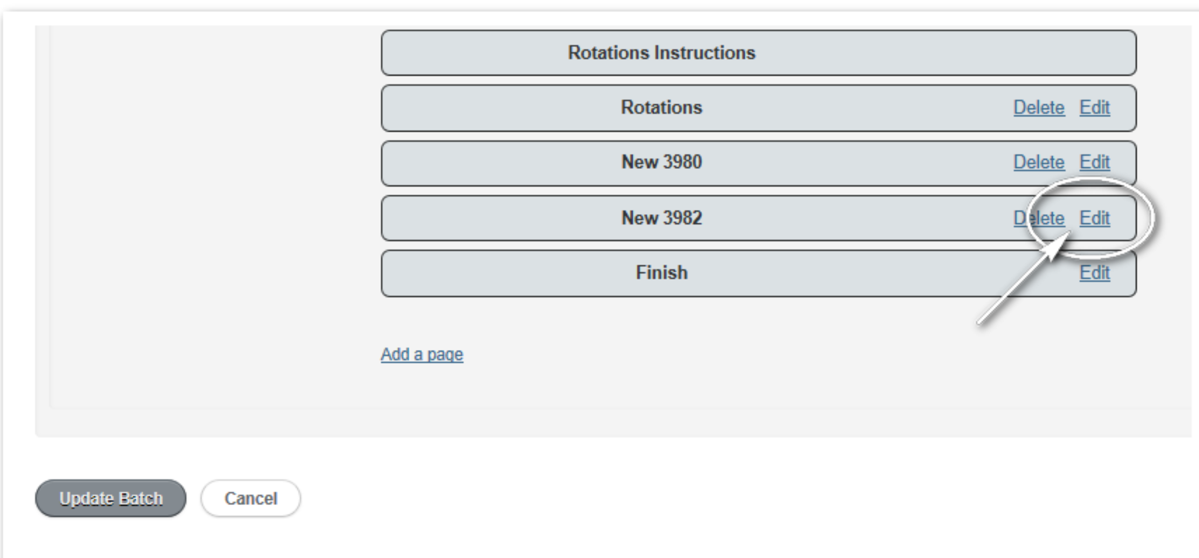


Under Details, you can assign the batch to a different trial and change its name, description, start and end dates, the number of times participants can play the batch, whether your batch will launch automatically to play at login, and, finally, whether others can copy your batch.

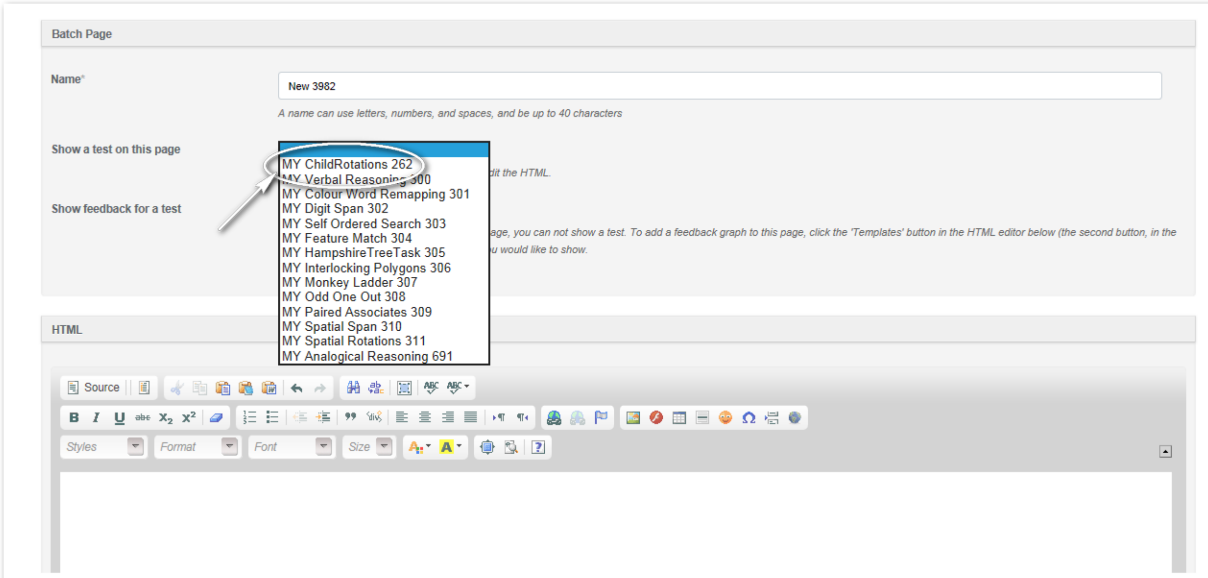
To edit your batch webpages, including the sequence in which they appear, and add your new tests simply scroll down to HTML.



To add your new test to your batch click '**Add a page**' at the bottom of the screen, as shown above.



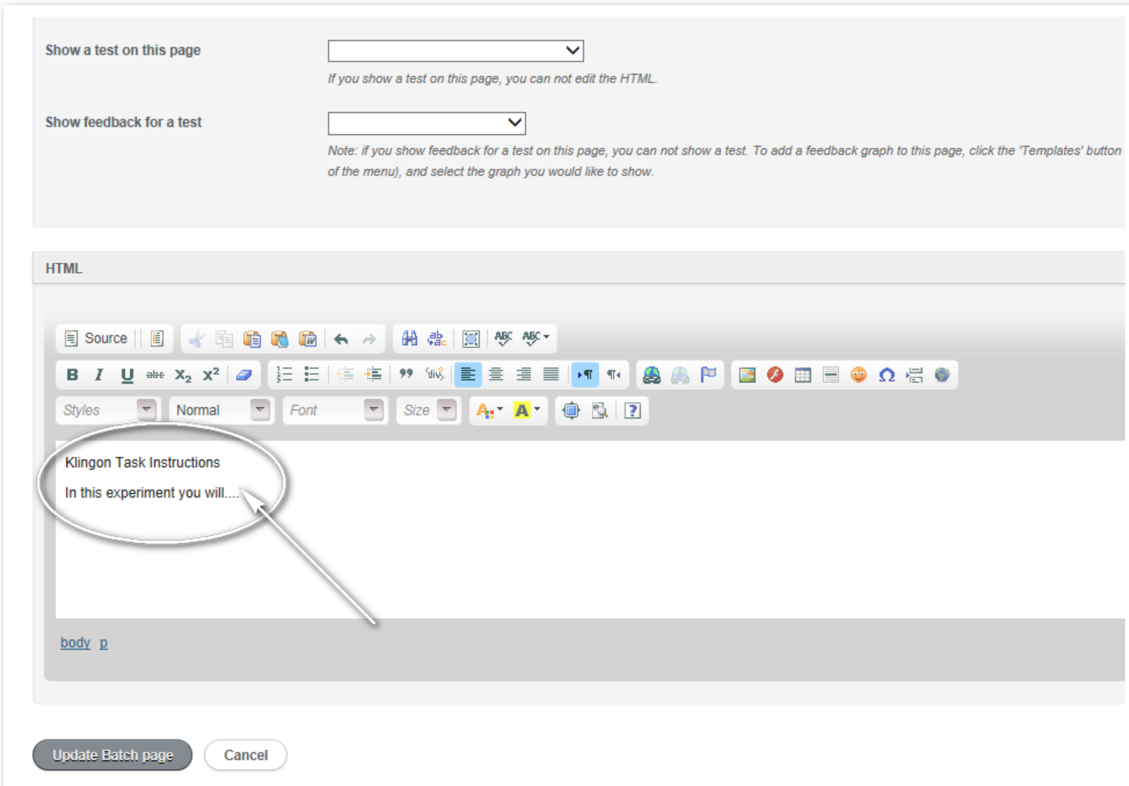
Once your new page has been added, simply click '**Edit**' on the far right-hand side to add your new test.



Clicking '**Edit**' will direct you to the page above. In the top field, write the name of your test. Next, from the dropdown menu next to '**Show a test on this page**' select the test that you would like to add. Finally, select whether you would like to show the default instructions, from the Media Files page, or whether you would like to customize your instructions. Customizing your instructions will require you to add a second page, discussed below. When you have finished making your changes click '**Update Batch page'** in the bottom right-hand corner of the screen.

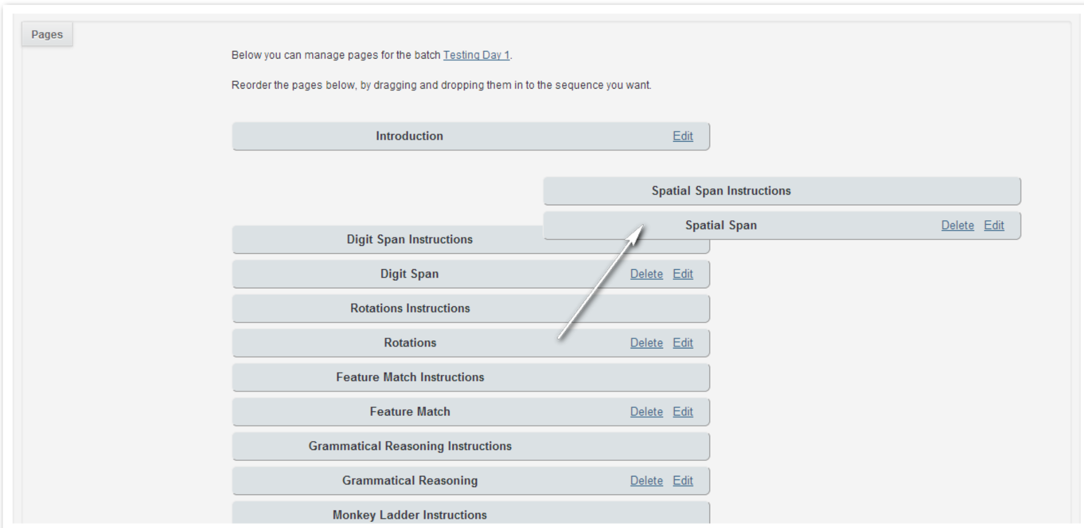
If you would like to customize your tests instructions for this batch and selected '**no**' to '**Show default test instructions**' on the previous page, you will need to add a second page and click **'Edit**' by repeating the steps above.

Once your new window has launched, type the title of your test instructions in the top field. Next, using the dropdown menu next to '**Show a test on this page**', select the empty field. This will open the text editor, as seen in the picture below. Now you can type and edit instructions for your new test. To add an introductory page, consent form, or another batch page that does not include a test, follow these same steps.



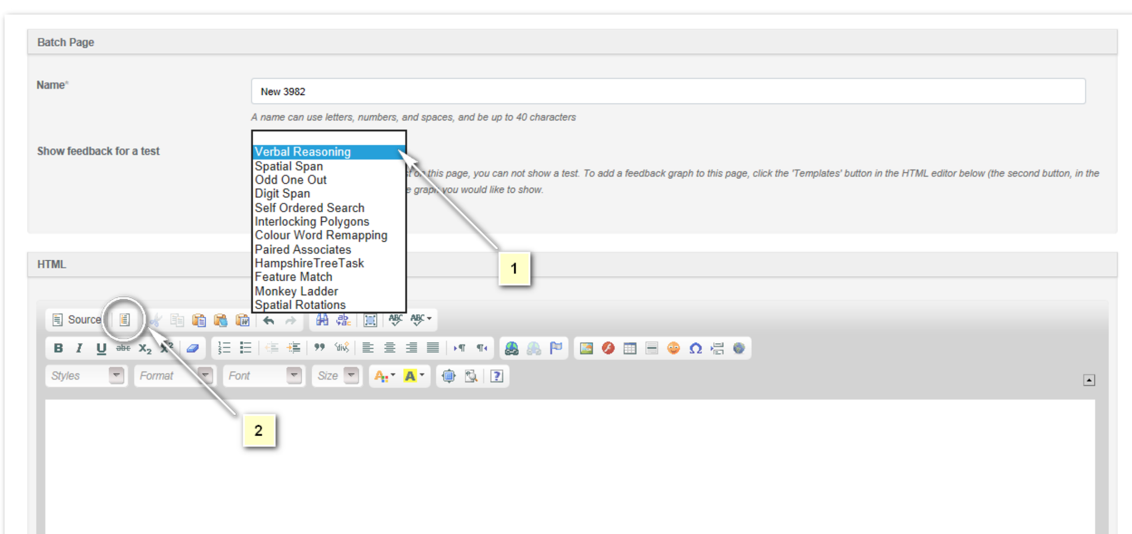
To update the new page, click the '**Update Batch page**' at the bottom of your page. Your new page will appear with its new title under the HTML section in your list of batch pages.

Reorder your batch pages to place your tests in the correct sequence by dragging and dropping them with your cursor. Make sure that your new test instructions appear before the test itself.

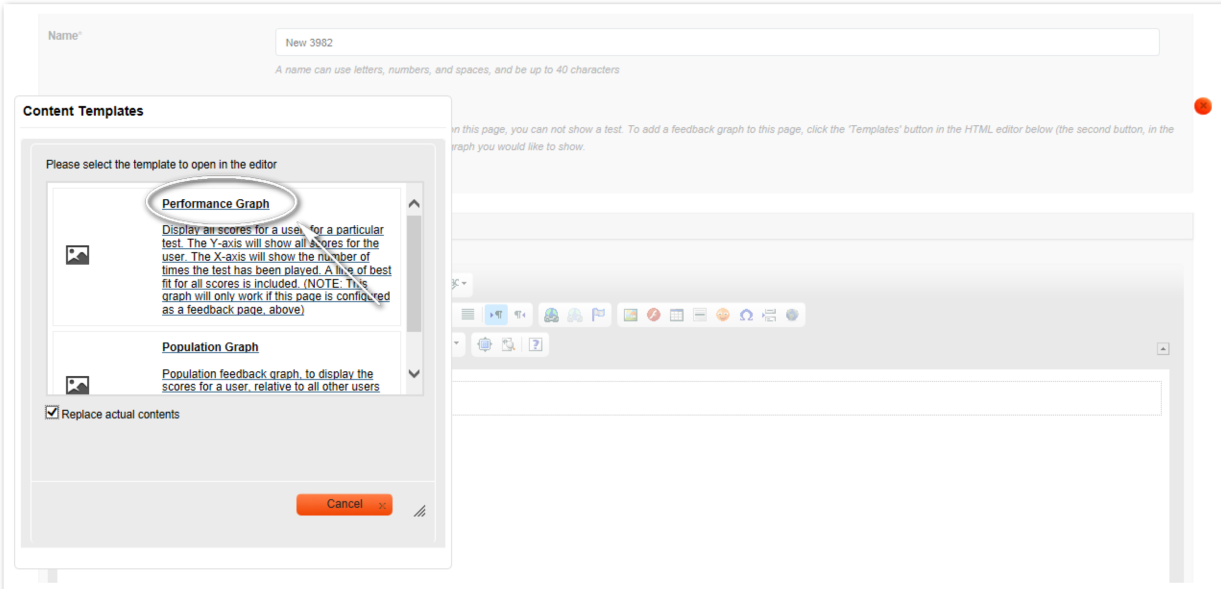


Last, if you would like to include feedback graphs to go with your tests, as discussed briefly in the section above, add a new page and drag and drop it beneath the test whose results you would like to display. Click '**Edit**' on the far right-hand side.

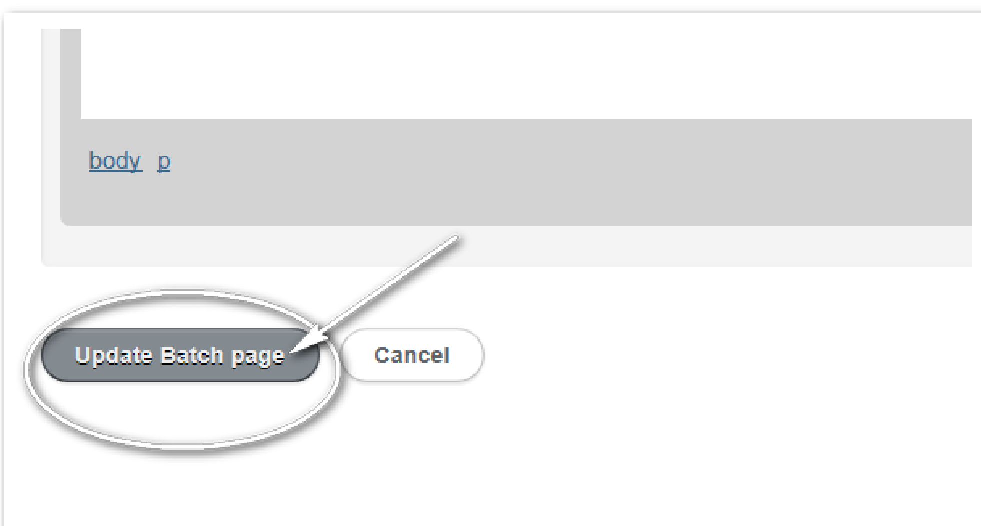
As you did in the previous section, set the displayed test to blank using the dropdown menu. Next, select the test you would like to display feedback for using the dropdown menu next to '**Show feedback for a test**', as designated by the first arrow in the picture below. Second, click the template button, highlighted by the second arrow.



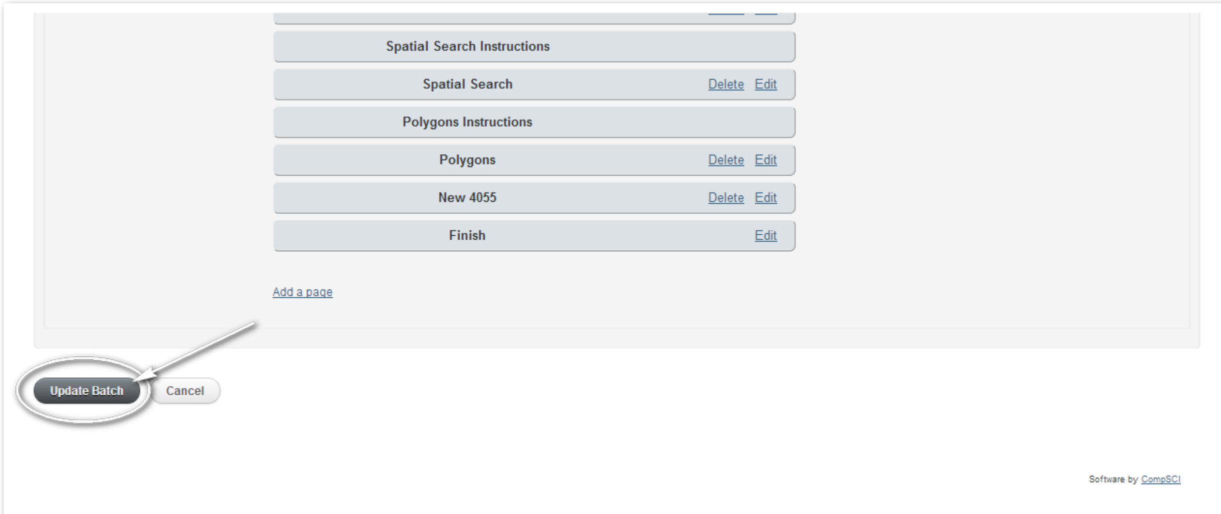
Clicking the template button will launch the following popup window:



There are multiple ways in which you can chose to display performance feedback. Select the graph that works best for you. To input your own means and standard deviations for new uploaded tests, edit your tests using the instructions in the previous section. Otherwise, participant scores will be displayed relative to the other participants in your trial.



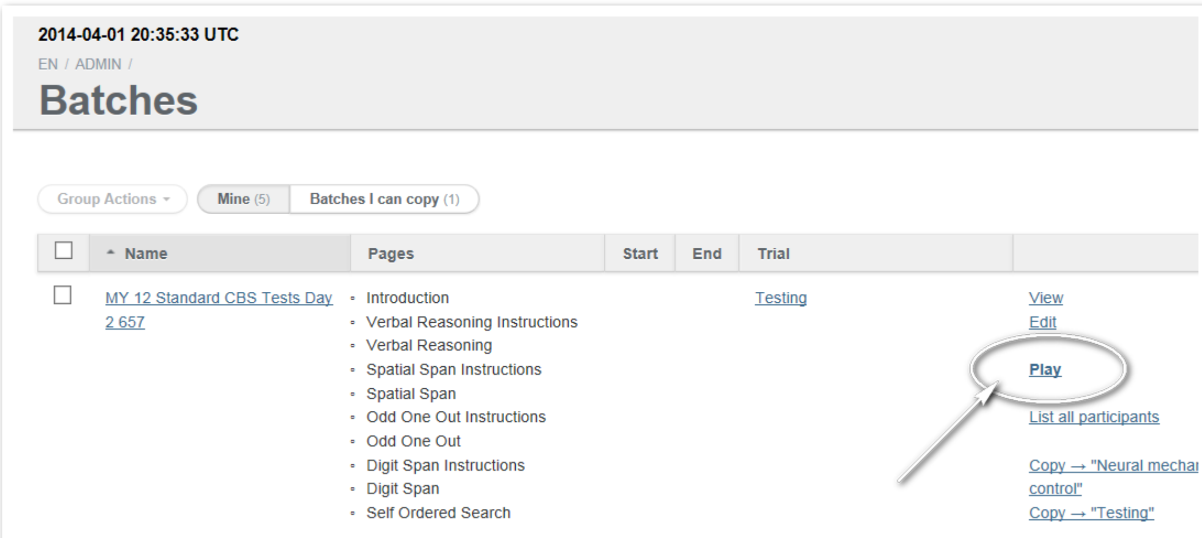
Click the ‘**Update Batch page**’ button to return to the main batch page.



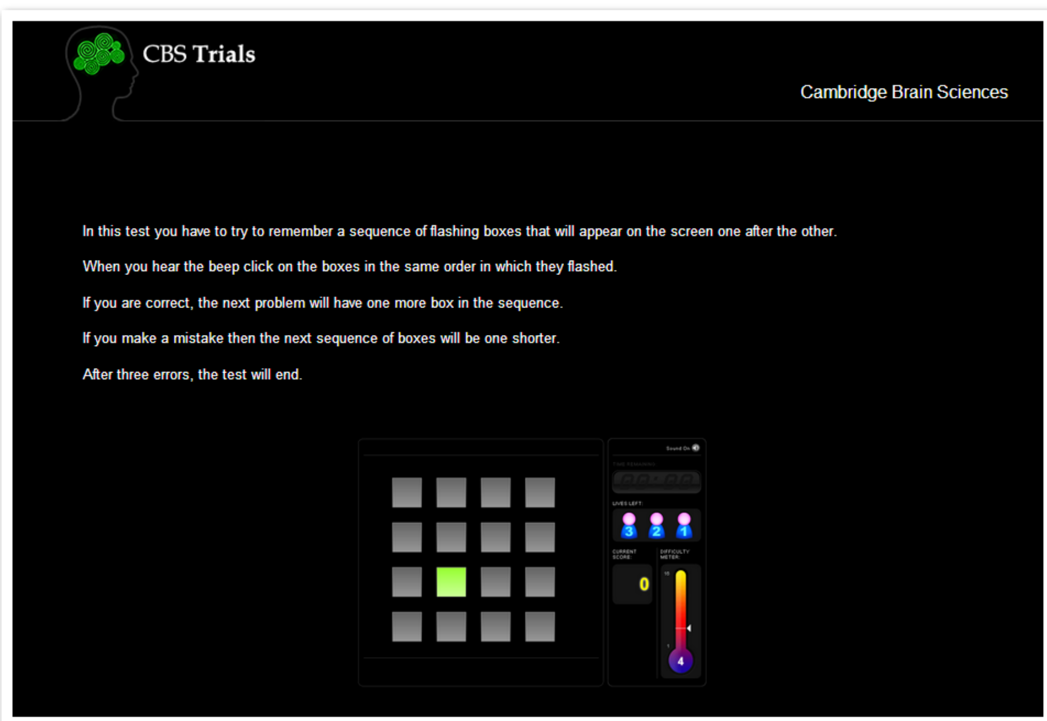
Click the '**Update Batch**' button once you have finished adding your tests.

Step Four: Testing Driving Your Trial

Now that you have added tests to each batch in your trial, you can test drive your study. Click the '**Batches'** tab at the top of your page, followed by the '**Mine**' tab under Batches. Scroll through your batches to see which have been added to your trial.



Once you have found your trial's batches, click the '**Play**' button on the far right-hand side.



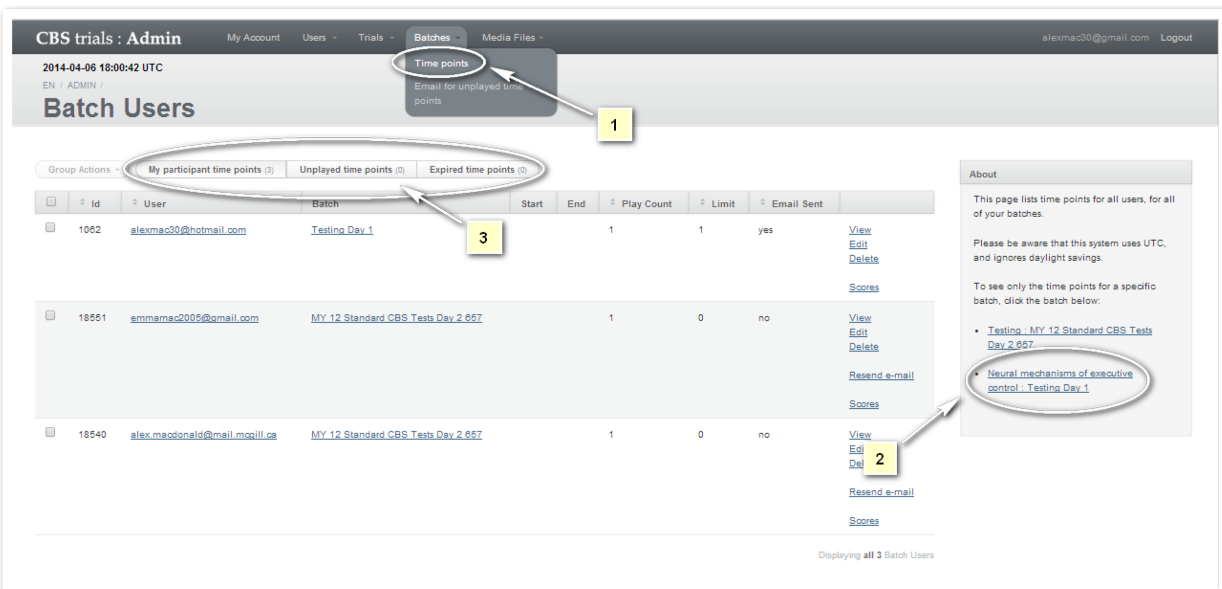
You can now pilot your batch, viewing the pages as your participants will see them. Results from your pilot will **not** be saved. To pilot the other batches in your trial, simply repeat the steps above, selecting your other batches.

Step Five: Monitoring, Downloading Results, and Sending Reminders

With your trial set up and running, you may want to monitor whether participants are completing the batches. In addition, you will want to download your results from the website either at the end of the trial or even as it progresses. Instructions on how to check up on your participants and get access to their data are included here.

Monitoring and reminder emails

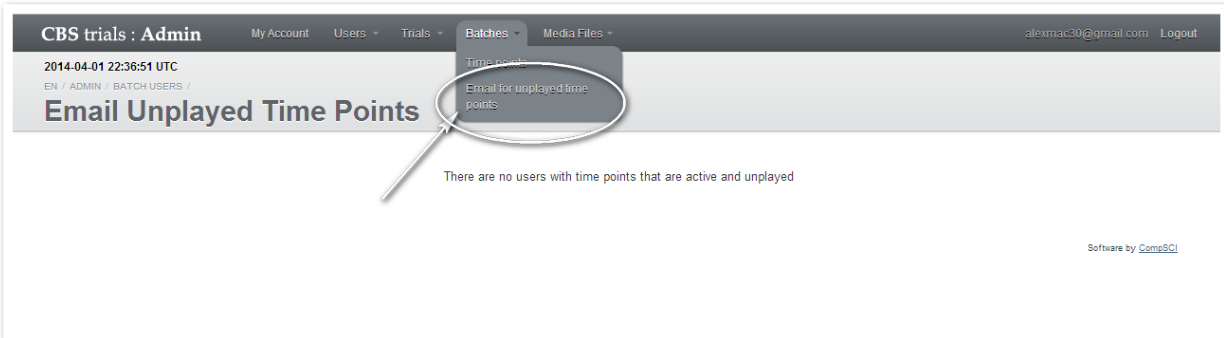
As reviewed previously, reminder emails can be sent out at testing time points to each participant with the link to your trial. To view whether participants have completed their time points, click ‘**Time points**’ under ‘**Batches**’ at the top of the screen.



Next, select your batch on the right-hand side of the screen, designated by the second arrow. To view all batches simultaneously, skip this step.

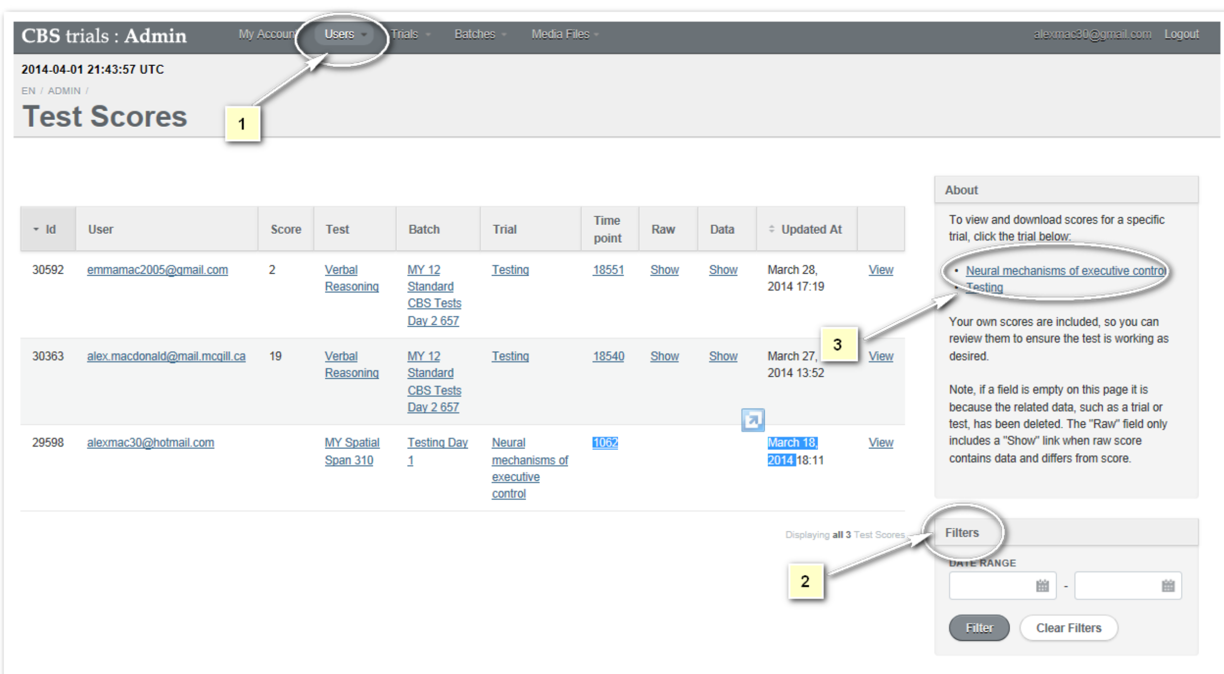
To view participants with unplayed time points select the ‘**Unplayed time points**’ tab, highlight by the third arrow in the picture above. To view all time points click the tab on the left; to view expired time points click the tab on the right.

If you would like to resend reminder emails to participants with unplayed time points click ‘**Email for unplayed time points**’ under the ‘**Batches**’ tab. Clicking the ‘**Send email**’ button at the bottom of the screen will resend reminder emails.



Downloading data

To download your data at any point during your study, simply click '**Scores**' under the '**Users'** tab. Next, select the dates between which you would like to download your data using the filter, shown by the second arrow in the picture below. If you would like to download all your data, leave these fields blank. Last, select the trial you are running by clicking its link on the right-hand side under '**About**'.



Now you should see all your test scores for your trial under '**Test Scores**'. To view data from a single participant test, simply click '**Show**', highlighted by the first arrow in the picture below.

If you haven't filtered your data before but would now like to, select the dates using '**Filters**' in the bottom right-hand corner, next to the second arrow. To view all your data from this trial, leave these fields blank. Finally, to download your data, click '**CSV**' on the right-hand side, indicated by the third arrow. You will automatically be prompted to save as a Microsoft Excel CSV file.