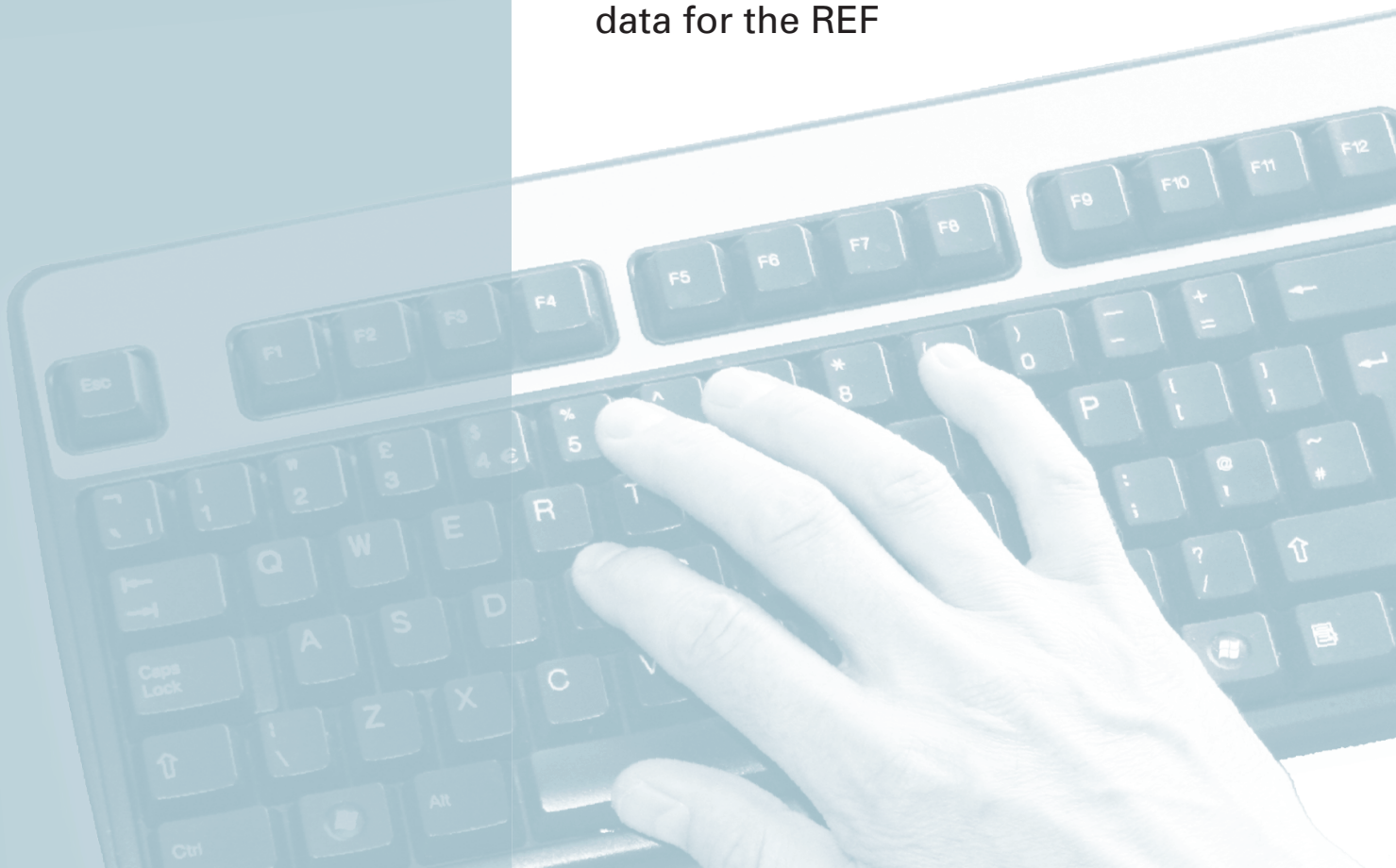August 2013

This document is for information

REF2014
Research Excellence Framework

Submission system user guide

How to input, manage and submit data for the REF

Contents

Introduction

General overview of submission system

Main tasks

The main steps required to submit data to REF 2014 are:

1. Create user accounts (see 'User administration' on page 11).
2. Create submissions (see 'Submissions management' on page 17).
3. Create submissions data (see 'Data entry introduction' on page 27).
4. Submit (see 'Submitting' on page 59).

Creation of user accounts, submissions and submissions data can also be achieved using the Import feature (see 'Import' on page 65), and also by importing via the web service (see 'General information' on page 79).

Other features

The following features can assist you in the use of the system.

- News items – configure notices to be displayed on the Homepage (see 'News items' on page 23).
- Import – import submissions data (see 'Import' on page 65).
- Export – export submissions data (see 'Export' on page 69).
- Output matching – bulk citation count retrieval from Scopus (see 'Bulk citation count retrieval' on page 51).
- Validate – produce a validation report (see 'Validation report' on page 71).
- Search – search for text within submissions data (see 'Search' on page 7).
- Reports – generate reports on submissions data (see 'Reports' on page 75).
- Locked form management – view active locks on data records and clear out of date locks (see 'Locked form management' on page 24).
- Job queue – (administrator users only) view details of all user-instigated large processes or calculations: importing, exporting, reporting, validation (see 'Job queue' on page 25).

Import, Export and Validate can also be accessed using the web service (see 'General information' on page 79).

Frequently asked questions

For additional support, a list of frequently asked questions is available at:

   http://www.ref.ac.uk/subguide/subsystem/faqs

General features of the system

This section describes some general features of the system and user interface.

Logging in

Your REF submission system user account contains the following data to enable logging in:

- e-mail address for REF
- password for REF login
- Shibboleth identifier (optional)

If you have a Shibboleth account you can log in either with your Shibboleth identifier and Shibboleth password, or with your e-mail and password. Note that your Shibboleth identifier is stored in your user account but your Shibboleth password is not.

An e-mail address is required regardless of login method, for contact purposes.

Logging in with your REF e-mail and password

1. Go to the URL of the submission system. The *Login* page opens.
2. Enter your REF e-mail and password then click **Log in**.

   Note: Some browsers have settings that allow the browser to remember the passwords to websites you visit. You may wish to check this and adjust the settings according to your preference.

Logging in via Shibboleth

1. Go to the URL of the submission system. The *Login* page opens.
2. Click **Login via Shibboleth**. A Shibboleth authentication page opens (unless you are already logged into Shibboleth, in which case you go straight into the submission system).
3. Enter your Shibboleth identifier and password then click **Log in**.

   Note: For Shibboleth authentication to function your institution needs to provide the shibboleth attribute 'eduPersonPrincipalName' .

Logging out

It is important to log out of the system when you have finished with it, *rather than close your browser*. This is to release locks on data records that you held during your session. If you close your browser without first logging out, any records (for example, pages or forms) that were locked to you at the time (strictly, to your session) remain locked for 30 minutes, which prevents any user (including you) editing those records until the 30 minutes have elapsed.

To log out, at the top-right of any REF page, click **Log out**. You are logged out of your session of the REF submission system and the *Logout* page is displayed.

From the *Logout* page you can return to the system: click **REF 2014 submission system**. You return to the *Login* page:

- If you were logged in with a REF e-mail and password you will need to log in again.
- If you logged in via Shibboleth, you are still logged in, so when you click **Login via Shibboleth** you go straight into the submission system (you remain logged into Shibboleth until you close all windows of your browser).

You are automatically logged out of the system after a period of 30 minutes of inactivity (no data entry or mouse clicks).

Homepage

On successful login, or when you click **Home**, or the REF logo at the top of any page, the homepage is displayed. This shows news items that have been published by authorised users at your institution, or by the REF team. If published by the latter the news item is seen by all institutions. News items are ordered by publication date, newer ones first.

Timeouts

If you do not use the system for 30 minutes, you are automatically logged out and any unsaved changes are discarded.

Account details

When you are logged in you can see various details about your user account. To view these details, in the top-right corner of any page click **My account**. The *My account* page opens. This page shows:

- your user name
- your organisation name
- the number of failed logins (the number of times an incorrect password has been provided with your e-mail address on the Login page).
- the time of your previous login
- when your password is due to expire

This page also contains a link that allows you to change your password at any time (see 'Changing your password' below). This is your REF submission system password and not your Shibboleth password (if you have one).

Changing your password

You can change your REF submission system password at any time:

1. In the top-right corner of any page click **My account**. The *My account* page opens.
2. Click **Change password**. Complete the password details.
3. Click **Change**. A confirmation page is displayed.

To continue using the system click an item from the main menu.

Search

The search feature, found at the top of every page of the system, allows you to search for any textual data saved in the submission system database for your institution. Only data records that you have permission to view are returned.

Any of the following record types are returned (but not any associated PDFs) if they contain the searched text:

- REF1a: staff details
- REF1b: individual staff circumstances
- REF1c: Category C staff details
- REF2: outputs
- REF3b: impact case studies
- RG: research groups

Return button

On most pages there is a navigational button called **Return** (or sometimes **Return to** *place*. For example, **Return to form**). This takes you back to a page that you recently viewed. It does not save any data or process any other action other than going to a different page.

Unicode support

All text fields support Arial Unicode MS characters.

Character and word limits

Every field has a limit to the number of characters or words allowed.

Character limits are not displayed but are enforced in the HTML code, so as you type and you reach the limit you will not be able to type further characters. In most cases, these limits are sufficiently long that it is likely that you will never reach the limit.

Word limits are either displayed to the right of the field or, when the limits are panel specific, a link is provided to the panel criteria document, which describes the limits there.

Navigating the system without using the browser's Back button

Do not use your browser's Back button to go back a page. This can lead to data not being processed in the correct manner.

Do use dedicated buttons on the page such as **Return**, **Return to form**, etc.

Do use the breadcrumb trails. For example, suppose you see this breadcrumb trail:

Select submission > Select form > REF2 > Staff member's outputs

The last item in the breadcrumb trail corresponds to the current page you are viewing (in the above example, Staff member's outputs). The breadcrumbs shown in blue refer to a series of pages that are usually visited in order to arrive at the current page. Click on any blue breadcrumb to go to that page.

Using the keyboard to navigate pages

The system supports standard webpage navigation, execution of buttons, etc., using the keyboard. For example, press Tab to move focus from one field to the next, or to a button, press Return or Spacebar to 'click' a button that is in focus.

Browsers with JavaScript disabled or absent

The submission system has been tested to work with a range of browsers, including those with no JavaScript support or where JavaScript has been disabled. If you use a browser where JavaScript is

not active for any reason, there are slight differences in how the system looks and how it is used. However, these are generally cosmetic or require perhaps an extra click or two of the mouse.

If you don't see the JavaScript version and you want to, check that JavaScript is switched on in your browser. The way to do this varies by browser.

- In Firefox, select **Tools > Options > Content tab > Enable JavaScript**.
- In Internet Explorer, select **Tools > Internet Options > Security tab > Internet zone > Custom Level**. The *Security Settings - Internet Zone* window opens. Scroll down to Scripting and set Active Scripting to Enable.

Once JavaScript is enabled, reload the page (press F5 or click Reload/Refresh) or navigate to a different page.

'Problem with the last action performed' message and unsaved changes

Sometimes the system encounters a problem and cannot complete the last action you attempted to perform. A message like this is displayed:

'There is a problem with the last action you performed...'

If this happens, it is important to return to the page you were working on at the time the error occurred and check your data because sometimes unsaved changes are automatically discarded to prevent the system getting into a continuous error loop state.

A list of known issues with the REF2014 submission system is available at:

http://www.ref.ac.uk/subguide/subsystem/knownissues

Data validation, errors and warnings

The majority of fields in the submission system are subject to validation rules. These rules check that the data you supply is valid in various ways. There are three types of validation rule:

- **save**: data is required in order to save or proceed
- **submit**: data must be completed correctly in order to submit successfully (using the *Submit* feature)
- **unexpected**: data is unexpected (warning)

When you enter data and save changes, validation rules for the corresponding fields are applied. If data breaks a validation rule, a message informs you of this, links are provided to the affected fields and the affected fields are highlighted so you can easily rectify the problem.

Tip: The *Validation report* feature (**Validate** on the main menu) can be used to validate one or more forms of one or more submissions at the same time. See 'Validation report' on page 71.

A full list of validation rules is available at:

http://www.ref.ac.uk/subguide/subsystem/fullvalid

Fields required in order to save

A small number of fields in the system must be completed in order to **save** a form. These are marked with an asterisk (*).

If you attempt to save a form or page and you did not provide valid data for saving, an error message is displayed (a 'save error') and you must supply the required information in order to complete the save operation:

Error

The following errors are preventing the data from being saved:

  • **Name is required.**

* indicates required information

Research group details

Code*   M

Name*   [   ]

Name is required.

Fields required in order to submit

If a form contains data that breaks a submit validation rule, a 'submission validation' message is displayed that informs you of this (sometimes referred to as a 'submit error' or 'error') and lists what must be corrected in order to submit successfully (using the *Submit* feature).

You do not need to fix the errors right away: you can save a form that has submit errors and come back at a later date to fix them, so you can work on forms incrementally. You can use the *Validation report* feature at any time to produce a detailed report of any errors and warnings in your data for all your institution's submissions.

Each error listed in the message is a hyperlink. Click a link to jump down the page to that field.

Submission validation

In order to successfully submit to REF 2014 the following must be corrected:

  • **A statement is required for staff members with any individual staff circumstances.**

Unexpected data warnings

If a form contains data that is unexpected, a submission validation warning message is displayed (sometimes referred to as a 'warning'), which advises that the data be checked and corrected if appropriate.

Submission validation

The following data is unexpected. It should be checked and corrected if appropriate:

  • The staff member has fewer than four outputs assigned.

Submissions that contain warnings can be submitted, but it is likely that it would be beneficial to address the problem identified. For example, even though a member of staff can be submitted with fewer than four outputs, a message advises that this be checked because it is usually not a good idea as 'missing' outputs will be graded as Unclassified in the REF assessment phase.

Administration

User administration

The *User administration* feature allows you to create and edit user accounts ('users') of the submission system. Access to *User administration* is reserved for administrator users.

There are three types of user account:

- Administrator – full access to the system.
- Standard user – access to parts of the system and level of access depend on the user functions and permissions set in the user account.
- Automated – can only log in via the web service. Access to parts of the system and level of access depend on the user functions and permissions set in the user account.

It is advisable to create more than one administrator user for your institution so that, in the unlikely event that one administrator account becomes locked for some reason, another administrator can unlock the account.

Note: A *user* is not the same thing as a *staff member* included in a submission. You include staff members in a submission in the *Data entry* part of the system.

To access the *User administration* feature, select **Administration > User administration**. The table on this page lists all user accounts currently created for your institution.

Account locked	Name	E-mail	Account expiry date	Last logged in	Restriction	
🔒	Gary Oldman	go@go.com		24 Feb 2012, 13:16		**View/Edit**
	Joe Bloggs (Administrator)	jb@jb.com		22 Nov 2011, 16:09		**View/Edit**
	John Smith	js@js.com		23 Nov 2011, 12:22	Read-only	**View/Edit**
	Kal (Automated)	kal@kal.com				**View/Edit**
	Keith Moon	km@km.com			No access	**View/Edit**

Notes about some columns of the *User administration* table:

The *Account locked* column is normally clear, but shows a padlock symbol if the user account is locked (due to three unsuccessful attempts to log in).

In the *Name* column:

- administrator user accounts have the user name appended with '(Administrator)'
- automated user accounts have the user name appended with '(Automated)'
- standard user accounts are not marked.

The *Restriction* column indicates if an account has been set to 'Read-only' or 'No access'. The value is blank if there is no restriction.

Creating users

To create a new user:

1. On the *User administration* page, click **Create new user**. The *New user* page opens.
2. Complete the fields in the *User details* panel (see table below).
3. Click **Save**. The user account is created.

   A user record is in three parts:

   - **User details**: general user details such as name, password, account details.
   - **User functions**: enable access to specific parts of the system. Does not apply to administrator users.
   - **Permissions**: enable access to REF forms and to research groups (RG), for each submission that the user is included in. Does not apply to administrator users.

4. For standard and automated user accounts, enable user functions (see 'User functions' on the facing page) and permissions (see 'Permissions' on page 14).

   Tip: A quick way to do this is to copy user functions and permissions from another user (see 'Copy functions and permissions from another user' on page 15).

User details

User details fields

Field	Description
Name	Name of the user.
E-mail	E-mail address of the user. This e-mail address is used to log in to the system (if not using Shibboleth login), and also allows the user to receive important communications about the REF. For standard and administrator users this should be a real e-mail address. For automated users, it does not need to be a real e-mail address but it must be of the format: <anytext>@<yourinstitutiondomain>. For example, auto@newtown.ac.uk. See 'Logging in' on page 6.
E-mail the password to the user	If ticked, e-mails the password to the user (either a random generated one if the fields are left blank, or else the password that you enter). If not ticked, does not e-mail the password. Random generated passwords are not shown on screen, these must be e-mailed to the user.
Password	Leave the password fields blank to generate a random password. Alternatively, enter a password. The password is used to log into the submission system (if not using Shibboleth login). Passwords must be 6 to 64 characters long and contain both letters and numbers.
Shibboleth identifier	The identifier for a user's Shibboleth account. Allows user to log into the system via Shibboleth, instead of using REF login credentials (e-mail and password). Shibboleth users can use either method to log into the system. See 'Logging in' on page 6. This should not be used for automated users because Shibboleth cannot be used to log into the web service.
Account expires	The date from which the user will be prevented from accessing the system. Comes into force at 00:01 hours on this date.

Field	Description
Password expires	The date and time, system determined, at which the user's password will expire. Users are prompted to create a new password. This does not affect Shibboleth authentication, so if users have a Shibboleth account they can log in via Shibboleth even if their REF password has expired.
Account type	Defines the type of the user account.
	Standard user Access to parts of the system and to REF forms is controlled by user functions and permissions. No access to *User administration* or *Job queue*.
	Administrator An administrator account. Has full access to all parts of the system. Administrator users have the text '(Administrator)' appended to the user name in the table of users.
	Automated An account that only allows access to the system by another computer program, typically an institution's own system, via the web service (see 'General information' on page 79). Typically used for data import. Automated accounts have the text '(Automated)' appended to the user name in the table of users. Like standard users, access to parts of the system and to REF forms is controlled by user functions and permissions. No access to *User administration* or *Job queue*.
Restriction	**None** The user's permissions settings apply.
	No access Prevents the user from accessing the system. This effectively removes a user from the system (but does not delete the record from the database). User records cannot be deleted from the database.
	Read-only Where a user has write access to a part of the system, this reduces access to read-only.

User functions

User functions grant standard and automated users access to specific parts and features of the system (for example, access to *News items*, or ability to delete certain record types). Each user function is either enabled or disabled. User functions do not apply to administrator accounts, who have full access to all parts of the system. If a user does not have a particular user function, the associated user interface elements (menu items, button, etc.) are hidden from the user. By default, newly created user accounts have no user functions enabled.

To enable user functions for a user:

1. Click **View/Edit user** to view a user. The *View user* page opens.

2. In the *User functions* panel click **Edit**. The *User functions* page opens.

3. Tick the boxes of the user functions you want to enable for the user (see table below), then click **Save**.

User functions

User function	Allows user to
Delete	Delete the following data records (those the user has write access to):
	• Submissions
	• Staff details *
	• Research groups
	• Outputs
	• Impact case studies
	* The Delete user function is not required in order to delete REF1c records.
Import	Import any REF forms that the user has access to, and user accounts (see 'Import' on page 65).
Export	Export any REF forms that the user has access to, and user accounts (see 'Export' on page 69).

User function	Allows user to
Submissions management	• Create submissions • Create and configure joint submissions • Use the Clear feature on submissions See 'Submissions management' on page 17.
News	Create, edit and delete news items (see 'News items' on page 23).
Locks	• Access the *Locked form management* page (see 'Locked form management' on page 24). • Lock and unlock submissions on the *Submissions management* page (see 'Lock' on page 18).
Scopus matching	• Access the bulk citation count retrieval function. • Use the citations features in REF2 (see 'Citation count retrieval' on page 38). **Note** Users must also have write access to REF2 in order to use this user function.
Bulk CrossRef lookup	• Access the bulk retrieval of output details by DOI function. • Access the bulk retrieval of DOIs from output details function. **Note** Users must also have write access to REF2 in order to use this user function.

Permissions

Permissions are used to control standard and automated users' access to the REF forms and to research groups (RG). These can be set differently for different submissions. Each user can have one of the following permissions to each REF form:

Permissions

Permission	Level of access
'None'	No access. (Not applicable to RG.) The form is hidden from the user.
'Read'	Read-only access. Forms cannot be edited; **Edit** buttons are hidden from the user.
'Write'	Write access (ability to modify and delete records).
'Reduced read'	Read-only access to the following staff details only (no access to all other forms): REF1a: • Name • HESA staff identifier • Staff reference code REF1b: • Reduction in number of outputs required

To set permissions for a user:

1. Click **View/Edit user** to view a user.

2. On the *View user* page, in the Permissions panel click **Edit**. The *Permissions* page opens.

   Any current permissions are shown in a table. To edit the permissions in a single submission only, click **Edit** on the appropriate row of the table, set the permission for each form, then click **Save**.

   To edit the user's permissions to multiple submissions at the same time, go to the next step.

3. Click **Set permissions**. The *Select permissions template* page opens, showing various templates (see table below for descriptions).

   Note: You cannot grant permission to REF1b from any of the templates. To grant permission to REF1b, set custom permissions.

Permissions templates

Template	Permissions to the various forms
Write all	'Write' to all forms (apart from REF1b).
Read all	The 'Read all' template applies 'Reduced read' permission to REF1a, 'None' to REF1b, and 'Read' to all other forms.
Write REF*x*	'Write' only to this form(s), 'Read' to RG, 'None' to all other forms.

4. Choose a template, or 'Custom permissions', then click **Next**.

    If you choose 'Custom permissions', the next page allows you to set the permission for each form individually. When you have made your selections, click **Next**.

    The *Edit permissions* page is now displayed, which shows the new permissions to be applied. At the bottom of the page the *Saved permissions* table shows the currently saved permissions, which will be updated when you apply the new permissions.

5. Select the submissions that you want to apply the permissions to by ticking the appropriate boxes: you can select all submissions, all in a panel, or individual submissions.

6. Click **Apply**. This applies and saves the permissions to the selected submissions, replacing any existing permissions for those submissions. All other permissions currently set for other (not selected) submissions are retained. The *Permissions* window is displayed showing the new permissions.

    On the *View user* page, the Permissions panel shows the permissions defined for each submission that the user has access to, if any have been set. This is either the name of a permissions template if one was applied, or 'Custom permissions' if permissions have been applied manually to individual REF forms.

    Note: 'Custom permissions' is shown for any manually applied permissions, even if they are the same set of permissions as in a template.

Copy functions and permissions from another user

To copy the user functions and permissions from another user to the current user you are editing:

1. On the *View user* page for the current user (let's call it 'user to'), click **Copy functions and permissions from another user**. The *Copy user permissions* page opens.

2. Find the user whose functions and permissions you want to copy (let's call it 'user from'). You can use the *Find user* panel to help find a user (see 'Finding users' on next page).

3. (Optional) Click **Preview functions and permissions** to preview the user's functions and permissions.

4. Click **Copy from this user**.

5. Click **Confirm copy**. The functions and permissions are copied from 'user from' to 'user to' and a confirmation page is displayed.

    From this confirmation page, you can use the relevant link to:

    • copy the functions and permissions of 'user from' to a further user

    • view the details of 'user to'

Viewing/editing users

To view/edit a user:

1. On the *User administration* page, in the table of users, click **View/Edit user** on the row of the relevant user account. The *View user* page opens. This page allows you to view all the user's details.

2. To edit any details, click **Edit** in the panel you want to edit (*User details*, *User functions* or *Permissions*).

   If the user account is locked (locked out of the system due to three unsuccessful login attempts), the **Account locked** box is ticked. To unlock the user clear this box.

Changing the password

To change the user's password:

1. On the *View user* page click **Change password**.

2. Enter the password in to both the **Password** and **Confirm password** box, or leave these fields blank to generate a random password.

3. Tick or untick the **E-mail password to the user** box.

   If ticked, e-mails the password to the user (either a random generated one, or else the password that you enter).

   If not ticked, does not e-mail the password.

   Note: Random generated passwords are not shown on screen, these must be e-mailed to the user.

Unlocking an account

A user's account will become locked out of the system due to three unsuccessful login attempts. To unlock a user's account click **Unlock** next to the account in question on the *User administration* page. Alternatively an account can be unlocked by clearing the **Account locked?** box while editing a user's details.

Note: If the user account is not locked, this box will not be present.

Note: Only administrators are able to unlock user accounts.

Finding users

To search for users:

1. On the *User administration* page, in the **Search** box, type some characters (a search string) of the name or e-mail address of the user or users you are looking for.

2. Click **Go**. Matching user names and/or e-mail addresses are returned. For example, 'jo' might return John Smith, David Jones, user1@major.ac.uk and user2@major.ac.uk.

If no matching users were found, try a different search string.

To restore the full user list, click **Clear**.

Deleting users

It is not possible to delete user accounts from the database as their audit trail would be lost. Instead, you can prevent a user from accessing the system by opening the user account details page and setting their user account field **Restriction** to **No access**.

Submissions management

The *Submissions management* feature allows you to create and manage submissions, including multiple and joint submissions. Submissions are named with the UOA that the submission is for. The full set of data in a submission comprises the various REF forms (listed in the table below). Once a submission entry is created, the forms can be completed in the *Data entry* part of the system.

Note: In order to access this feature, the 'Submissions management' user function must be enabled in your user account.

REF forms that make up a submission

Section	Form	Title
1 Staff details	REF1a	Staff details
	REF1b	Individual staff circumstances
	REF1c	Category C staff details
2 Outputs	REF2	Research outputs
3 Impact	REF3a	Impact template
	REF3b	Impact case studies
4 Environment data	REF4a	Research doctoral degrees awarded
	REF4b	Research income
	REF4c	Research income-in-kind
5 Environment template	REF5	Environment template

The Submissions management page

To enter Submissions management, select **Administration > Submissions management**. The table on the *Submissions management* page shows any submission entries already created. The columns of the *Submissions management* table are described below.

Submissions management table

Column	Description
Locked	See the description of the Lock column in this table, below.
Name	Name of the submission (the name of the unit of assessment).
Submit validation status	Indicates the submit status of the submission, as a result of using the Submit feature (see 'Submitting' on page 59). The submit status can be one of the following, or is blank if the Submit feature has not yet been used for the submission: • 'Validation errors': validation errors resulted from the submit validation. The submission cannot be submitted. • 'Ready to submit (with warnings)': validation warnings (but no errors) resulted from the submit validation. The submission can be submitted if the submitter confirms – when using the Submit feature – acknowledgment of the presence of warnings. • 'Ready to submit': no validation errors or warnings resulted from the submit validation. The submission can be submitted. • 'Submitted': the submission has been submitted.
Joint submission	Indicates the submission type. If you see a **Create joint submission** link, the submission is a normal one (not joint). If you see a **Configure** link, the submission is a joint one (see 'Creating joint submissions' on next page). 'Lead' is shown for joint submissions if you are the lead institution in the joint submission (the

Column	Description
	institution that initiated the joint submission).
	'Member' is shown for joint submissions if you are a member institution in the joint submission (an institution that accepted an invitation to join a submission).
Lock	(Available to administrator users and users with the 'Locks' user function.)
	Click **Lock** to lock the submission. This prevents the entire submission from being edited by any user. When locked, the *Locked* column displays 'Locked by admin'.
	To unlock a locked submission click **Unlock**.
	Note If one or more other users are currently working on data records in a submission (some records are locked), there is no **Lock** link displayed for that submission and the *Locked* column displays 'Being edited by another user'.
Clear	Allows you to clear all the forms of one or more types within the submission (see 'Clearing submissions' on page 22).
Delete	Click to permanently delete the submission and all its data from the database.
	A **Delete** button is only displayed for non-joint submissions. To delete a joint submission, you must first revert it to a normal submission (see 'Reverting a joint submission' on page 20).

Creating submissions

1. Click **Create new submission**. The *Create submission* page opens.
2. From the *Select UOA* list, select a UOA for this submission. UOAs that already have a submission entry are not listed here.
3. Click **OK**. The submission is created and a confirmation page is displayed.

   On the *Submissions management* page the new submission has now been added to the table. This is a 'normal' submission. A normal submission can be turned into a joint submission (see below).

Creating joint submissions

Institutions that undertake research collaboratively may submit a joint submission to the REF, whereby two or more institutions compile a single submission which illustrates the joint research activity. Note that this is different to a multiple submission, which occurs when the research activities within a single institution are sufficiently different and two or more submissions are created within the same UOA.

One institution creates the joint submission and by doing so becomes the *lead* institution. The lead then invites other institutions to the joint submission. When an institution accepts the invitation it becomes a *member* institution.

Forms REF3a, REF3b and REF5 are submitted by the lead institution on behalf of all the institutions in the joint submission. Each institution involved in the joint submission submits its own REF data separately in the following forms: REF1a/b/c, REF2 and REF4a/b/c.

For more information about joint submissions, see 'Joint submissions', guidance on submissions, page 12.

To create a joint submission:

1. Create a normal submission entry (see 'Create submission' above).
2. In the *Submissions management* table, click **Create joint submission** on the relevant row. The *New joint submission* page opens.
3. Complete the fields.

Field	Description
Joint submission name	(Optional) A name for the joint submission.
Funding split method	The method through which, post assessment, funding should be allocated to the institutions included in the joint submission.
	FTE Funding to be allocated based on the number of full time equivalent staff members included with the submission.
	Percentage Funding to be allocated based on a percentage (that you will specify on the next page) for each institution participating in the joint submission.

4. Click **Save**. The joint submission is created and the *Joint submission* page is displayed. The list of member institutions shows your institution. As the institution that created a joint submission, your institution has the status of *Lead* institution.

   The next step is to invite one or more other institutions to the joint submission as follows. Institutions that accept the invitation to join your joint submission will have the status of *Member* institution.

5. In the **Find institution** field, type some letters from the name of the institution you wish to add then click **Go**. Matching institutions are returned in the *Select institution* list. Click the arrow to expand the list.

   For example, 'aber' gives Aberystwyth University, University of Aberdeen, University of Abertay Dundee.

   Tip: A single word (or part of a word) is usually enough to obtain a match or narrow list of matches.

   Note: Multiple words in the search text are considered as a single string, which must appear in the title of the institution exactly to return any matches. For example, the search text 'royal music' will not find 'Royal College of Music' because the system does not search for 'royal' and 'music'.

6. From the *Select institution* list, select the desired institution, then click **Invite**. The institution is invited and added to the list of member institutions with a status of 'Awaiting response'. The invited institution must accept to join the submission (see 'Accepting an invitation to a joint submission' on next page), in order to participate in the joint submission.

   Invite further institutions as required.

   To remove an institution click **Remove**. This option is only shown if the institution has an invitation awaiting response.

7. If you specified the percentage funding split method, in the percentage column, for each institution, click **Edit**, type the percentage of funding to be allocated, then click **Update**.

8. Optionally, you can assign permissions to allow access by the other institutions in the joint submission to your institution's REF forms. By default, access is 'None' to all REF forms (other institutions cannot access your forms). Click **Edit permissions**. The *Joint submission access permissions* page opens. Click **Edit**, modify the access permission for each form as required, then click **Update**. Note: forms REF3a/b and REF 5 and research groups (RG) are owned by the lead institution so these are not shown if you are a member institution. The new permissions are now saved with the joint submission. These apply to all the other institutions in your joint submission.

   The permission 'Read' or 'Write' is required in order to submit a joint submission.

Editing a joint submission

To edit a joint submission that you have created, in the Submissions management table click **Configure** on the row of the relevant submission. The *Joint submission* page opens. Edit the fields as

required (see above).

Reverting a joint submission

If you are the lead institution, you can revert the joint submission to a normal submission, once all member institutions have left. If you are a member institution, see 'Leaving a joint submission' below for how to leave a joint submission.

To revert a joint submission to a normal submission:

1. In the Submissions management table, click **Configure** on the joint submission you want to revert. The *Joint submission* page opens.

2. Remove all other institutions from the list of member institutions table: click **Remove** for each one. You can only remove an institution when that institution's invitation is in the 'Awaiting response' state – that is, has not responded or has left the joint submission (see 'Leaving a joint submission' below).

3. Click **Revert to normal submission**.

Locking a joint submission

If the lead institution locks a joint submission, all forms in the joint submission are locked, including the shared forms (REF3a, REF3b and REF5). Neither the lead, nor any member of the joint submission can edit any of the shared forms while the joint submission is locked.

If a member institution locks a joint submission, only the forms which are not shared are locked. The lock does not affect any member institution other than the one that placed the lock.

Accepting an invitation to a joint submission

When another institution creates a joint submission – the *lead* institution – and invites your institution to the joint submission, your and all the other invited institutions must accept the invitation to the joint submission in order to participate in it.

When you accept an invitation to a joint submission, your institution becomes a *member* institution.

To accept an invitation to a joint submission:

1. From the main menu, select **User administration > Submissions management**. The *Submissions management* page opens.

2. There is a new row in the table for the invitation. The cell in the *Joint submission* column reads 'Awaiting response – **Accept**. Click **Accept** to join the joint submission. Confirm when prompted.

   The *Joint submission* page opens, which shows the details of the joint submission. In the list of member institutions your institution now has an entry with the status 'Member'. The institution who began the creation of the joint submission and invited you has the status 'Lead'.

   You can leave a joint submission (see 'Leaving a joint submission' below).

3. Optionally, you can assign permissions to allow other institutions in the joint submission access to your institution's REF forms. As a member institution, your REF forms do not include REF3a/b and REF5 (these are submitted by the lead institution). By default, access is 'None' to all your REF forms. Click **Edit permissions**. The *Joint submission access permissions* page opens. Click **Edit**, modify the access permission for each form as required, then click **Update**. The new permissions are now saved with the joint submission. These apply to all the other institutions in your joint submission.

Leaving a joint submission

If you are a member institution (not lead) you can leave the joint submission:

1. On the *Submissions management* page, click **Configure** on the row of the relevant joint submission.

2. In the list of member institutions table, click **Leave**. This action creates a new, sole (non-joint) submission and moves any data that your institution has entered as part of the joint submission into this new submission. This is created to preserve any data that your institution had entered before leaving the joint submission.

    Note: In addition, the invitation to join the joint submission is reinstated (so there are two entries with the same name in the table on the *Submissions management* page: one is the reinstated invitation; the other is the new sole submission). Invitations are listed first in the *Submissions management* table. The invitation can be removed: the lead institution can remove your institution in *Submissions management* from their end.

If you were now to reaccept the invitation to join the joint submission, your existing normal submission and its data would become part of the joint submission, and you would see only a single row in the *Submissions management* table for the joint submission.

Creating multiple submissions

Normally, institutions make a single submission to a single UOA. A multiple submission – which consists of more than one submission to a UOA – can be made in exceptional circumstances and can be created in the submission system if preapproved by the REF team. When you attempt to create a submission for the preapproved UOA the system prompts you to create the multiple submission at that point.

To create a multiple submission:

1. On the *Submissions management* page, click **Create new submission**.

2. On the *Create a submission* page, select the UOA that is preapproved for creating a multiple submission, then click **OK**.

3. On the *Multiple submission* page, the individual submissions in the multiple submission are listed. Click **Create a multiple submission**.

    Note: You can opt to create a single normal submission instead by clicking **Create single submission**. This option is provided in case you no longer wish to create a multiple submission for the UOA.

4. On the *Create multiple submission* page, tick the boxes for the submissions you want to create for the multiple submission, then click **OK**. The multiple submission is created.

    Each part of the multiple submission is a normal submission in its own right and is worked on from now in exactly the same way as any other normal submission: you enter data for and submit each 'part submission' separately. The only difference is that the names of the part submissions will typically have a letter added after the UOA number. For example, a multiple submission to the UOA '9 – Physics' might consist of three submissions called '9A – Physics', '9B – Physics', '9C – Physics'.

    Note: Where the warning message says '...and potentially export and re-import any submission data already entered.', this would be optional. For example, let's say you have three preapproved submissions for a multiple submission, but you now decide you only want two of them. You then enter lots of data for these two submissions but later you realise you do after all require the third submission in the group. In this situation you would need to delete the two submissions already created (which would delete their data also) and re-create the multiple submission with the three submissions. To avoid re-entering all the data manually, before deleting the two submissions you could export their data and, when you have re-created the multiple submission, import that data into the two submissions.

Clearing submissions

The *clear submission data* feature allows you to permanently delete all forms of one or more sections in selected submissions. For example, choosing to clear 'Research outputs (REF2)' would delete all REF2 forms in the selected submissions.

To clear all of the forms within one or more sections of the selected submissions:

1. On the *Submissions management* page click **Clear submission data**. The *Clear submission data* page opens. Select the submissions that you would like to clear data from and click **Next**.

2. Select which sections of the selected submissions you would like to clear and click **Next**.

   For some form types there is one record in the database (for example, REF5), but for other form types there are typically multiple records (for example, REF2).

   Choosing to delete REF1a also deletes REF1b and REF1c, but choosing to delete REF1b and/or REF1c does not delete REF1a.

3. Click **Finish**. The selected sections are deleted from the chosen submissions. This cannot be undone.

Note: If one record within any of the submission sections selected is locked (another user has a read or write lock on the record) then none of the records within that section are cleared. For example, if a user is viewing or editing a REF2 form, no REF2 forms can be cleared from that submission.

Deleting submissions

If desired, you can delete an entire submission (ones that are not joint).

Note: Deleting a submission deletes all its data.

You can revert a joint submission to a normal submission and then delete that (see 'Reverting a joint submission' on page 20).

To delete a submission, in the *Submissions management* table click **Delete** on the submission's row.

News items

News items are notices such as information about deadlines in the REF process. News items can be published by an administrator user, a user with the *News* user function, or by a member of the REF team. If a member of the REF team publishes a news item all institutions see the news item. If a user at your institution publishes a news item, only users at your institution see the news item. Published news items are displayed on the *Homepage*, which is shown immediately upon successfully logging into REF and whenever you click **Home** on the main menu.

Users with the *News* user function enabled in their account, and administrator users, can access the *News items* page.

To access the *News items* page select **Administration > News items**.

News items are automatically ordered first by status (Draft, Published, Expired), then by those that are marked urgent before those that are not, then by those without expiry date before those with expiry date, then by those with later expiry dates before closer, then by first publication date, newer ones first.

Creating news items

To create a news item:

1. Click **Create a news item**. The *Create a news item* page opens.
2. Complete the fields.

Field	Description
Headline	The headline (title) of the news item when published.
Content	The text content of the news item.
Expiry date	If you specify an expiry date, the news item is removed from the *Homepage* at 00:01 on that date. If you specify a date in the past, the news item is listed as Expired when you save. Expired news items remain available in *News items* so that you can edit and republish them if desired.
Urgent	If ticked, the news item is listed above non-urgent news items.

3. Click **Publish** to publish the news item to the *Homepage*. The *View news* page is shown previewing the news item. Draft and expired news items are not shown on the *Homepage*.

   Alternatively, click **Save draft** to save the news item in *News items* but not publish it.

Editing news items

To edit a news item, click **Edit** for the relevant news item, then modify the fields as required.

Update button

When you edit a news item there is an **Update** button.

For a draft or published news item, clicking **Update** applies (and saves) any changes you make to the news item and preserves the status of the news item as either draft or published (draft news items remain draft; published news items remain published).

For an expired news item, if you now specify no expiry date or a future expiry date, clicking **Update** changes the status of the news item to *draft*.

Locked form management

A lock is created when one user views (read lock) or edits (write lock) a record (form). This prevents different users editing records at the same time, and also prevents a viewed record being deleted by another user at the same time. Lock handling depends on the record state (whether it has a read lock or a write lock). Multiple users can view a particular record simultaneously but a viewed record cannot be deleted by another user. If a record is being edited, another user who attempts to edit that record is given read only access to it.

The *Locked form management* page shows any currently active system locks. Each row of the table describes a lock. It shows the user who owns the lock, what data record they are currently viewing or editing, the UOA, the type of lock (read or write) and the timestamp of the lock (the time the record was locked).

Viewing this page can be useful when a user is being prevented from working on a record because it is locked by another user. If there is an urgent need to release the lock, the user owning the lock can be contacted and asked to exit the record or the system.

Note: This page is accessible only to administrator users, and also standard users who have the Locks user function enabled in their user account.

Clearing out of date locks

Locks are normally cleared automatically, either when the user finishes work on the record, or when the user has not worked on the record for a period of 30 minutes. An out of date lock is one that is not cleared automatically. In RAE 2008, no out of date locks were ever encountered. However, it is considered possible that due to an unforeseen event out of date locks may occur, which would prevent other users working on the associated record. So, as a safeguard, the *Locked form management* page allows you to remove out of date locks.

If there is an out of date lock, click **Clear** on the row of the relevant lock to clear the out of date lock. This link is not shown for normal locks (that belong to a user's active session); it is only shown for out of date locks and these are always safe to clear.

Locking yourself out

If you close your browser that is running the submission system without first logging out, any records (pages or forms) that were locked to you at the time (strictly, to your session) remain locked for 30 minutes.

If you log back in (thus starting a new session) during this 30 minute period you will not be able to edit those records until the 30 minutes have elapsed. You will see this message:

This page cannot be edited. The record is currently locked by [you]

Job queue

The *Job queue* page allows administrator users to view details of all user-instigated system job calculations, of the types: import, export, validation, report. All users' jobs are shown. This allows you to monitor the progress of jobs, from waiting in the queue through to completion. Each job is displayed on a separate row of the table.

The **Job status** column provides information on the progress of the job calculation:

Job statuses

Job status	Description
Waiting	Job is waiting to be processed.
Processing	Job is being processed.
Completed	Job has completed being processed.
Failed	The job did not complete for some reason and there is no file to download.

The **Job outcome** column provides information on the outcome of the job calculation:

Job outcomes

Job outcome	Description
Success	No validation errors or warnings were found.
Success with warnings	Validation warnings were found but no errors.
Errors	Validation errors were found.
Failed	The job did not complete.

You can filter the jobs by job type and by status.

You can search for jobs by ID. In the *Job ID(s)* box, type in one or more job IDs then click **Search**. Separate multiple IDs with commas or spaces. Matching jobs are returned. Click **Clear results** to restore the full list of jobs.

You can sort the table by user, in ascending and descending order (click the **User** column head).

To view a job's log, click **View log** for the relevant job. The *Log viewer* page opens. The log describes certain stages of the job calculation, listing the number of validation errors and warnings encountered.

To download an export file when an export job has completed click **Download**. Files can be downloaded any number of times.

Data entry

Data entry introduction

There are three ways to create submissions data for the REF:

- Manually, in the *Data entry* part of the submission system.

- Import from file, using the *Import* tool of the submission system (see 'Import' on page 65)

- Import from file, using the web service (see 'General information' on page 79)

The *Data entry* method is discussed here.

To access the *Data entry* part of the system:

1. Click **Data entry** on the main menu.

2. Click the submission you want to work with from the list. A list of REF forms is shown.

   Note: For joint submissions, you see a list of REF forms for your institution and a list of REF forms for each other institution in the joint submission (those forms to which the other institutions have granted your institution access). Note that REF3a/b and REF5 are owned by the lead institution and member institutions have no access to these forms. Research groups are owned by the lead institution but member institutions have read access to this form. Forms owned by an institution other than your own are marked at the top with the name of that institution, as follows: 'Data for <institution x>'.

3. Click the form you want to work with. See the relevant section below for details on the forms.

Research groups (page 28)

Section 1: Staff details (forms REF1a/b/c) (page 29)

Section 2: Research outputs (form REF2) (page 33)

Section 3: Impact (forms REF3a/b) (page 43)

Section 4: Environment data (forms REF4a/b/c) (page 47)

Section 5: Environment template (form REF5) (page 49)

Research groups

A research group is simply a label that you can apply to staff members and outputs, so you can group staff members and outputs to reflect the distinct research activities within your institution. You can define up to 36 research groups for each submission. You do not have to create any research groups. A staff member can have up to four research groups applied. An output can have one research group applied, which must be one of the staff member's research groups.

Reports containing data on your research groups can be generated in the Reports tool. Your completed impact and environment templates can reference your research groups.

In this part of the system, you merely create the research group labels. You then need to apply these labels to staff members (on the REF1a form) and outputs (on the REF2 form).

For UOAs in panel A only: if this is part of a multiple submission, see part 2A paragraph 24, panel criteria, page 22.

For UOAs in panel B only: see part 2B paragraph 2, panel criteria, page 39.

Creating research groups

To create a research group:

1. From the main menu select **Data entry > [submission] > Research groups**. The *Research groups* page opens. Research groups that have already been created for this submission are listed.
2. Click **Create a research group**.
3. Enter a code. This is a single character (letter or number), and is used to identify the research group within a submission.
4. Enter a name for the research group.
5. Click **Save**. The research group is created and added to the list.

To edit a research group, click **Edit** on the relevant row of the table.

To delete a research group, click **Delete** on the relevant row of the table. (Staff members and outputs in the research group are not deleted; the deleted research group is simply unassigned from applicable staff members and outputs.)

Tip: A user with the *Submissions management* user function can clear (delete) all the research groups in the current submission. See 'Clearing submissions' on page 22.

Section 1: Staff details (forms REF1a/b/c)

Select **Data entry > [submission] > Staff details (REF1a/b/c)**. The *Staff details* page opens. This lists any staff members that you have already included in the submission.

There are two tabs:

- **Included staff members** Lists staff members included in the submission (staff members whose outputs will be submitted to the REF).
- **Excluded staff members** Lists staff members excluded from the current submission (see 'Excluded staff members tab' on page 31).

REF1a: Staff members

To create a new staff member for the submission:

1. Click **New staff member**. A new form *REF1a* opens.

2. Complete the fields (see table below), then click **Save**. All the fields described in the table below apply to Category A staff; a subset of these fields apply to Category C staff.

REF1a fields

Field	Description/notes
Category	Category (A or C) of the staff member. See 'Category A staff', page 17, and 'Category C staff', page 18, guidance on submissions. Category A is the default. To create a Category C staff member, click **Change to Category C**, save changes, then complete a REF1c form for the staff member (see 'REF1c: Category C staff details' on page 32).
Confidential or sensitive	If ticked, excludes from publication of submissions the staff member and their outputs. See paragraph 36, guidance on submissions. For a summary of all the parts of submissions that can be excluded from publication, see the REF webpage 'Excluding parts of submissions from publication'.
Initials	Initials of the staff member.
Surname	Surname of the staff member.
Date of birth	Date of birth (for Category A only).
HESA staff identifier	Allows data associated with the staff member to be reconciled with that collected by HESA.
Staff reference code	Allows you to identify the staff member using your institution's internal reference.
Contracted FTE	The FTE value associated with the qualifying contract of the staff member on the census date. Enter a value in the range 0.2 to 1.0.
Start date	Date of starting as academic staff at the institution, if between 1 Jan 2008 and 31 Oct 2013. Informs panels that the staff member has not been in post throughout the assessment period.
Early career researcher	Specify whether or not the staff member is an early career researcher. See 'Early career researchers', guidance on submissions, page 19. Note: if you select 'Yes', it is not a requirement to also specify 'ECR' as an individual circumstance in form REF1b, because the staff member might have produced four outputs anyway and does not have to seek a reduction in the number of outputs required.
Non-UK based	Tick this box if the staff member is based in a discrete unit outside of the UK. See paragraph 79d, guidance on submissions.
Non-UK based explanatory text	If you ticked 'Non-UK based', provide details of the connection between the research activity and the submitted unit in the UK. 200 words maximum.
Wales Category A	(HEFCW-funded institutions only) Indicates whether or not the staff member is a

Field	Description/notes
research fellow	research fellow. See paragraph 84h, guidance on submissions.
Fixed term contract	Tick this box if the staff member is on a fixed term contract on the census date, and specify the start and end dates of the contract. There is no limit to the period of the contract for the purposes of being considered eligible to be returned as a Category A staff member.
Unpaid leave	Tick this box if the staff member is on unpaid leave on the census date, and specify the start and end dates of the unpaid leave. A period of up to two years is valid in order to be eligible to be returned as a Category A staff member.
Secondment	Tick this box if the staff member is on secondment on the census date, and specify the start and end dates of the secondment. A period of up to two years is valid in order to be eligible to be returned as a Category A staff member.
Research groups	You can choose up to four research groups to which the staff member belongs. See 'Research groups' on page 28 for how to create and use research groups. For UOAs in panel A only: if this is part of a multiple submission, see part 2A paragraph 24, panel criteria, page 22. For UOAs in panel B only: see part 2B paragraph 2, panel criteria, page 39.
Exclude from submission	Tick this box to exclude the staff member and their outputs from the current submission.

You can create form REF1b if the staff member has special circumstances: click **Create REF1b**. See 'REF1b: Individual staff circumstances' on the facing page.

You must create form REF1c if you have created a Category C staff member: click **Create REF1c**. See 'REF1c: Category C staff details' on page 32

Viewing outputs

To view a staff member's outputs, click **View outputs**. The *Staff member's outputs* page opens. From here you can:

- create a new output for the staff member (see 'Creating outputs' on page 33
- assign an existing output to the staff member (see 'Assigning an existing output to a staff member' on page 37)
- view/edit an output (REF2 form) (see 'Creating outputs' on page 33), unassign the output from the staff member, delete the output.

Editing staff members/forms

To edit a form click the relevant Edit REF1a/b/c button. For example, click **Edit REF1a**.

Deleting staff members/forms

To delete a REF1a form, on the *Staff details* page click **Delete** for the relevant staff member. This also deletes REF1b and REF1c for that staff member if they exist.

Note: Deleting a staff member does not delete their outputs; the staff member's outputs become unassigned.

To delete a REF1b form, go into the form then click **Delete REF1b**.

To delete a REF1c form, go into the form then click **Delete REF1c**.

Tip: A user with the *Submissions management* user function can clear (delete) all the REF1a, REF1b and/or REF1c forms in the current submission. See 'Clearing submissions' on page 22.

Moving staff members

You can move a staff member to a different submission. When you do this all of the staff member's associated outputs are also moved with the staff member, and the staff member is removed from their current research groups (if any).

To move a staff member to a different submission:

1. On the *Staff details* page click **Move** for that staff member. The *Move staff member* page opens.
2. Select the submission you want to move the staff member to.
3. Click **Move staff member**. The staff member is moved and a confirmation page is displayed. From this page you can either view the staff members in the 'moved from' submission or the 'moved to' submission.

Finding staff members

You can find staff members by using the *Find staff member* search box. This acts on the staff members for the currently active tab. For example, if you are viewing the included staff members tab, only included staff members are searched.

1. Type some characters (letters and/or numbers) that are part of any of the following staff member details: initials, surname, HESA staff identifier, staff reference code.
2. Click **Go**. Matching staff members are returned.

To return to the full list of staff members click **Clear**.

Excluded staff members tab

Excluded staff members are listed on the *Excluded staff members* tab.

If a staff member is excluded from the current submission, all that staff member's outputs (if any) are also excluded from the submission. Staff members are excluded from the current submission if the box *Exclude from submission* is ticked on the REF1a form.

REF1b: Individual staff circumstances

See 'Individual staff circumstances', panel criteria, page 9.

To create a REF1b form:

1. On the *Staff details* page, for the chosen staff member, click **Create REF1b**. The *Select a circumstance type* page opens. The 'clearly defined' circumstances are listed first, followed by the option for 'Complex circumstances'.

    Note: The circumstance types available here depend on: the category of the staff member (A or C, set in REF1a), whether or not the staff member is flagged as an early career researcher (set in REF1a), the current UOA, and the circumstance types already added to this staff member.

2. Select a circumstance type. You can either add one or more clearly defined circumstances, or you can select *Complex circumstances*. Click **Next**.

3. If you chose one of the clearly defined circumstances, usually you are asked to provide further details (for example, number of months absent) on the *Enter circumstance detail* page. Provide a value, then click **Next**.

    On the *Edit REF1b statement* page provide a statement. 200 words maximum.

    Click **Save**. Add further circumstances as required (click **Add circumstance**).

4. Alternatively, if you chose *Complex circumstances*, on the *Enter circumstance detail* page select a value for claimed reduction in outputs, then click **Next**.

On the *Edit REF1b statement* page, provide a staff circumstances statement. The information you give here will be provided to the reviewing panel (EDAP) anonymously (using only the internal REF submission system staff ID), so names or other identifying information should not be given. 300 words maximum.

Click **Save**. A message informs you that the complex circumstances will be reviewed by the REF Equality and Diversity Panel (EDAP). You cannot add further circumstances.

Editing REF1b forms

To edit a REF1b form:

On the *Staff details* page, for the chosen staff member, click **Edit REF1b**. The *Individual staff circumstances (REF1b)* page opens. Any circumstances already added to this staff member are listed in a table on this page.

To add a circumstance, click **Add circumstance**, then follow the procedure above, from step 2.

To edit a circumstance, click **Edit** next to the relevant circumstance.

To delete a circumstance, click **Delete** next to the relevant circumstance.

To edit the statement, in the *REF1b statement* panel, click **Edit**.

REF1c: Category C staff details

All Category C staff must have a REF1c form completed.

To create a REF1c form:

1. From either the *Staff details (REF1a/b/c)* page, or from within a REF1a form, click **Create REF1c**.
2. Complete the fields (see below), then click **Save**.

REF1c fields

Field	Description
Job title	The staff member's job title at their employing organisation.
Employing organisation	The name of the organisation that the staff member has a research contract with.
Explanatory text	Text to explain the employment circumstances of the staff member. 200 words maximum. See 'Category C staff details (form REF1c)', guidance on submissions, page 21.

Section 2: Research outputs (form REF2)

To open the *Research outputs (REF2)* page, select **Data entry > [submission] > Research outputs (REF2)**. This page lists outputs that you have included in the submission.

Assigning outputs to staff members, and vice versa

Each submission contains staff member records and outputs. In order to submit successfully, each **output** must have one and only one staff member assigned to it. Each **staff member** can have one to four outputs assigned (normally it must be four, but this figure can be reduced without penalty if the staff member has individual circumstances).

Note: The maximum number of outputs that can be submitted for a staff member is four. However, you are permitted to create more than four before submitting (for example, if you have not yet decided which ones to submit).

In the submission system, there are mechanisms that allow you to assign outputs to staff members, and vice versa. You can use either method at any time. This provides flexibility in how you create your submissions data. See:

'Assigning a staff member to an output' on page 36

'Assigning an existing output to a staff member' on page 37

Until your institution submits, an output can be saved in the database without a staff member assigned. This is an *unassigned* output (see 'Unassigned outputs' on page 38 for how to view unassigned outputs in a grouped list).

Creating outputs

1. To create an output with no staff member (initially), on the *Research outputs (REF2)* page click **New output**. The *Select output type* page opens, which lists available output types.

   To create an output for a staff member, on the *View by staff member* tab, click **List outputs** in the relevant staff member's box, then click **Create new output for staff member**.

2. Select an output type, then click **Create output**. The *Edit REF2 details* page opens. (This is the REF2 form.)

3. Complete the fields that you can/wish to at this time, then click **Save** to save the form.

   For fields common to all output types, see the table below.

   For fields that are output type specific, see the spreadsheet 'Output information requirements', available on the REF webpage Submission system data requirements.

   See also 'Retrieving output details or DOI from CrossRef' on page 36 for automatic form filling using DOI.

REF2 fields common to all output types

Field	Description
Type	Output type (previously selected).
Output identifier	A unique identifier for the output. This can be anything you want in order to identify the output. For example, a short code.
Title and/or brief description	Title and/or brief description of the output.
Year [...]	The year the output first entered the public domain. See 'Outputs 'pre-published' before 1 January 2008', panel criteria, page 7.
Pending publication	Tick this box if the output is pending publication. The year of an output

Field	Description
	pending publication must be 2013. See paragraph 111b, guidance on submissions.
	The following fields are not required if the output is pending publication:
	Patent number, first page, ISBN, ISSN, DOI, URL, Issue, Volume, Location.
Number of additional authors	The number of additional co-authors of the output.
	See 'Co-authored/co-produced outputs', panel criteria, page 7.
	For UOAs in panel A, see part 2A: 'Co-authored/co-produced outputs', panel criteria, page 23.
	For UOAs in panel B, see part 2B: 'Co-authored/co-produced outputs', panel criteria, page 43.
	For UOAs in panel C, see part 2C: 'Co-authored/co-produced outputs', panel criteria, page 64.
	For UOAs in panel D, see part 2D: 'Co-authored/co-produced outputs', panel criteria, page 85.
Additional information	Additional information as requested by panels. See Annex A, panel criteria. This field should be used only for additional information of types b-f, as listed in the table in Annex A.
Request a cross-referral	Choose a UOA if you want to request a cross-referral. See paragraph 75d, guidance on submissions, and 'Cross-referral of parts of submissions', panel criteria, page 13.
Interdisciplinary	Tick this box if the output resulted from interdisciplinary research. See 'Interdisciplinary research and work on the boundaries between UOAs', panel criteria, page 13.
Duplicate output	Tick this box if the output is being submitted by more than one member of staff in the submission. (You do not need to tick this box if the output is co-authored and is being submitted by more than one staff member in different submissions.)
	For UOAs in panel A, see part 2A: 'Listing a co-authored output multiple times within a submission', panel criteria, page 24.
	For UOAs in panel B, see part 2B: 'Listing a co-authored output multiple times within a submission', panel criteria, page 43.
	For UOAs in panel C, see part 2C: 'Listing a co-authored output multiple times within a submission', panel criteria, page 64.
	For UOAs in panel D, see part 2D: 'Listing a co-authored output multiple times within a submission', panel criteria, page 86.
	An output identified as a duplicate cannot also be identified as double-weighted (but could be a reserve for a double-weighted output).
Exclude this REF2 from publication	Tick this box to exclude this REF2 form from publication of submissions. See paragraph 36, guidance on submissions. For a summary of all the parts of submissions that can be excluded from publication, see the REF webpage 'Excluding parts of submissions from publication'.
Exclude from submission	Tick this box to exclude the output from the current submission. Excluded outputs are moved to the *Excluded outputs* tab. **Note**: this box is automatically ticked if this output's staff member is excluded from submission.
Conflicted panel members	(Only applies to output type O - Confidential report.) A list of names of panel members who should not, for commercial reasons, see the output.

Field	Description
Staff member / Research group	These fields show, when provided: • The staff member to which this output is assigned. • The output number for this member of staff. • The output's research group (which is one of the staff member's research groups). See 'Assigning a staff member to an output' on next page.
Citations	Displays the current result of matching to the Scopus database, and the citation count (see 'Citation count retrieval' on page 38).
Double-weighting	Click **Edit** to edit these fields, which are described below. See 'Double weighted outputs', guidance on submissions, page 24. For UOAs in panel A, see part 2A: 'Double-weighted outputs', panel criteria, page 24. For UOAs in panel B, see part 2B: 'Double-weighted outputs', panel criteria, page 44. For UOAs in panel C, see part 2C: 'Double-weighted outputs', panel criteria, page 65. For UOAs in panel D, see part 2D: 'Double-weighted outputs', panel criteria, page 86. **Reserve for output**. If the current output is a reserve output, this read-only field is displayed, which shows the title of the output that the current output is the reserve output for. For example, current output A is the reserve for output B; that is, in output B's REF2 form, output A was selected as its reserve output. Tick **Proposed double-weighted** to identify the output as being proposed for double-weighting. If ticked, provide a **Double-weighted statement**. This is a statement justifying proposal for double-weighting. 100 words maximum. **Reserve output** Identifies one of the staff member's other outputs as a reserve to be assessed if the output proposed as double-weighted is not deemed to be double-weighted. Note an amendment to guidance on submissions, paragraph 126, which should read: 'In all UOAs, institutions may include a 'reserve' output with each output requested for double-weighting. A 'reserve' output will only be assessed in the event that the panel does not accept the request for double weighting.' An output identified as double-weighted cannot also be identified as a duplicate.
Non-English	Tick this box to identify the output as in a language different to English. Provide a short abstract in English describing the content and nature of the work. 100 words maximum. For UOA 28 only, see part 2D paragraph 72, panel criteria.

DOI Validation

Outputs which contain a DOI (types A, B, C, R, D, E, N, S, or T) will have their DOI automatically checked for validity by CrossRef. The status of this check is shown within the *DOI Validation* field when viewing an output's details. Each possible status is shown in the table below.

Status	Description
Not checked	The DOI has not been validated and is not in a queue to be validated by CrossRef.
Passed	The DOI has passed validation by CrossRef.
Failed	A validation has been attempted by CrossRef and the DOI could not be found. See below for more information.
Awaiting validation	The DOI is currently in a queue to be validated by CrossRef. See below for more information.

A DOI validation status of *Failed* does not necessarily mean that the DOI is invalid or that it does not exist. It means that CrossRef is unable to resolve it and the submission system is therefore unable to obtain an electronic copy of the output. As it is the responsibility of the publisher to upload their DOIs to CrossRef, it is possible that DOIs will be reported as *Failed* because they either have not been uploaded yet or have been missed by the publisher. If this is the case, a PDF version of the output must be uploaded by the institution, see 'Providing an output (PDF)' on page 40.

Note: This feature of the submission system relies on an external system provided by CrossRef to function. During busy times the CrossRef system may have a large queue to process, consisting of requests from both the submission system and other systems. Because of this it is possible that a DOI validation may remain in the state *Awaiting validation* for an extended amount of time. Once the DOI validation request reaches the top of the queue, it will be processed. Should you feel for any reason that the request has 'stalled' and has not been processed after a reasonable amount of time, please contact REF user support.

Retrieving output details or DOI from CrossRef

For output types that have a DOI (types A, B, C, R, D, E, N, S, or T), you can retrieve data from CrossRef in the following ways:

- send the DOI to CrossRef to retrieve corresponding output details and enter them into the REF2 form.
- send output details to CrossRef to retrieve the corresponding DOI and enter it into the REF2 form.

This CrossRef feature is only visible if all of the following are true:

- The output type is one that can have a DOI (see above)
- You have write access to REF2 for the current submission

Retrieve output details from DOI

To retrieve output details from the DOI:

1. Enter the DOI then click **Fill form using this DOI**. The DOI is sent to CrossRef and data corresponding to this DOI is retrieved from CrossRef and displayed on the *Lookup output details* page.

   Expected format: 10.<4 digits>/<suffix>. For example, '10.1234/abcde.987'.

2. To use this data to populate your REF2 form, click **Use these details**.

Retrieve DOI from output details

To retrieve the DOI from CrossRef, enter output details then click **Get DOI from details below**. The more data you enter, the more likely a matching DOI will be found in CrossRef.

If multiple results are returned from CrossRef, choose one of them.

Assigning a staff member to an output

To assign a staff member to an output:

1. View the output.

2. In the 'Staff member' panel click **Edit**. The *Assigned staff member* page opens.

3. Click **Select a staff member**. The *Assign staff member to output* page opens.

4. In the relevant staff member's box, click **Assign this staff member**. You return to the *Assigned staff member* page.

5. Specify an output number for this staff member's output (typically from 1 to 4, but you can choose any number up until submitting).

6. Optionally, specify the output's research group. This must be one of the staff member's research groups.

    For UOAs in panel A only: if this is part of a multiple submission, see part 2A paragraph 24, panel criteria, page 22.

    For UOAs in panel B only: see part 2B paragraph 2, panel criteria, page 39.

7. Click **Save**.

Unassigning a staff member from an output

1. View the output.

2. In the 'Staff member' panel click **Edit**. The *Assigned staff member* page opens.

3. Click **Unassign this staff member**.

Assigning an existing output to a staff member

To assign an existing output to a staff member:

1. On the *Research outputs (REF2)* page, select the *View by staff member* tab. Alternatively, you can start from the *Staff details (REF1a/b/c)* page.

2. For the relevant staff member, click **View outputs**. The *Staff member's outputs* page opens.

3. Click **Assign existing output to staff member**. The *Select output to assign to staff member* page opens.

4. Find the output you want to assign, then click **Select output**.

    Note: If you choose an output that is already assigned to a staff member, the output will be removed from that staff member on completing this procedure.

    Tip: To list unassigned outputs first, in the 'Sort outputs by' list, select 'Staff surname A-Z'. Unassigned outputs are listed first, followed by assigned outputs (in ascending alphabetical order).

5. Provide an output number and, optionally, a value for output's research group.

6. Click **Assign**.

Unassigning an output from a staff member

1. View outputs by staff member (*View by staff member* tab).

2. Click **View outputs** for the relevant staff member. The *Staff member's outputs* page opens.

3. Click **Unassign** for the relevant output.

Note: If you unassign from a staff member a double-weighted output which specifies a reserve output, the reserve output is also removed.

Unassigned outputs

Prior to submitting, outputs can be saved in the database without a staff member assigned. These are known as *unassigned* outputs, and are labelled like this:

'This output is not assigned to a staff member'

To see all unassigned outputs in a grouped list, you can sort the outputs by staff member alphabetically in ascending order:

1. On the *Research outputs (REF2)* page select either the *Outputs* tab or the *Excluded outputs* tab.

2. From the **Sort outputs by** list select the *Staff surname A-Z* option, then click **Go**. All unassigned outputs are displayed at the top of the list, before outputs assigned to staff members.

Citation count retrieval

The *Match output to Scopus* feature allows you to retrieve citation counts from Scopus for outputs in UOAs that use citation data (UOAs 1-9, 11 and 18), for the following output types:

- Journal article
- Conference contribution

Citation counts are used by some panels in the assessment phase of the REF.

Access to this feature is available only:

- For UOAs that use citation data (UOAs 1-9, 11 and 18).
- If you have the 'Scopus matching' user function enabled in your user account.
- If you have read or write access to REF2 for the current submission. Note: if you have read access to REF2 you can see the citation status of outputs but you cannot use the matching feature.

To obtain from Scopus a citation count for an output, you use the *Match output to Scopus* feature to attempt to match your output to a record in the Scopus database. If a match is found, the citation count is retrieved and shown in the output's REF form:

- The *Citations* panel of the REF2 form shows the current result of matching to the Scopus database. For example, 'Matched'. Before attempting a match, the status is 'Match not yet attempted'.
- If the output has a result of Matched, the most recently obtained citation count from Scopus is shown. Citation counts in the submission system are updated automatically every seven days with the latest counts from Scopus, so the count shown here is never more than seven days old.

Retrieving a citation count

Note: Ensure a staff member is assigned to the output before using the *Match output to Scopus* feature because changing or assigning the staff member could invalidate a previous match, so you would need to rematch the output.

To attempt to retrieve the citation count from Scopus:

1. In an output's REF2 form, click **Citations**. The *Match output to Scopus* page opens. The data to be sent to Scopus is shown. Check this and modify the REF2 form if required.

   Tip: This button is also found on the main REF2 page, on the Outputs tab, for outputs of applicable types (journal articles and conference proceedings).

2. Click **Match**. The system communicates with Scopus to attempt to find a match and the match result is shown in a box under the heading *Results retrieved from Scopus*. Each result type has a different icon. Each match (output) retrieved has a title and some summary details about the

output. You can click on the title to view the output in Scopus (opens on a new tab in your browser).
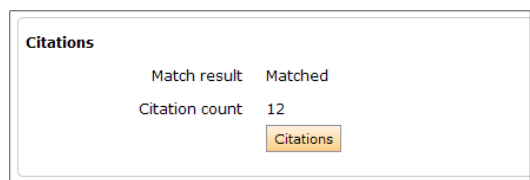
The ideal match result is 'Matched' (a single match to an entry in Scopus). The icon is a tick in a green disc.
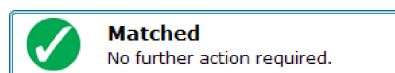
The citation count for a matched output is shown lower down on this page in the 'Cited by' field:
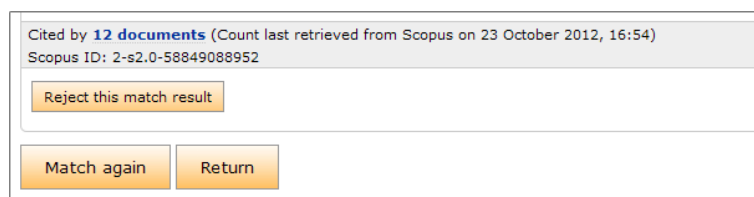
The citation count for a matched output is also shown in the output's REF2 form in the Citations panel:

Sometimes, further action is required (see table below). You are prompted to carry out any further action required. Having carried out the required action, the match result is updated accordingly.

Only the first 10 authors of matching outputs returned from Scopus are displayed. If you wish to see the full list of authors for outputs with more than 10 authors, you can click the link to view the output in Scopus.

Match results

Match result	Description	Further action
Matched	A single match to an entry in Scopus.	None required.
Multiple matches	Several matches found.	Click **Select** next to the chosen match to select a match.
Too many matches	The number of matches found is too high to display.	Add more details to the output within REF2.
Not enough data	Not enough data to match.	Provide more data on REF2 form then click **Match again**.
Rematch required	Data on REF2 has changed invalidating the match.	Click **Match again**.
Match result rejected	A user at your institution has rejected the match (by clicking **Reject this match result**).	None required. Optional: query the match result with Scopus (see below), or modify the REF2 data, then click **Match again**.
Not found	The system could not match the output in Scopus using the output details you provided.	None required. Optional: query the match result with Scopus (see below), or modify the REF2 data, then click **Match again**.

Match result	Description	Further action
No match was found that was published between 2007 and 2014	The system has found a match in Scopus but the year of publication as held by Scopus is outside the permitted publication period for the REF.	None required. Optional: query the match result with Scopus (see below), or modify the REF2 data, then click **Match again**.
Journal not indexed	The journal associated with your output is not currently listed in Scopus.	None required. Optional: query the match result with Scopus (see below), or modify the REF2 data, then click **Match again**.
Pending	The output is included in a bulk citation count retrieval request or an import job that has not yet completed.	None required (apart from wait for the bulk job to complete). Optional: click **Match** to attempt to match just this output as a separate request.

Querying the match result with Scopus support

For all match results, you can query the result with Scopus support. This could be because you dispute the found match, or you wish to query why a match was not found, etc. Click **Contact Scopus support** to open the contact page. This contains information on what to do and how queries will be processed. If Scopus data changes as a result of your query, click **Match again** when instructed to do by the REF team.

Rejecting the match result

For the 'Matched' match result (a single match), you can click **Reject this match result** to reject the match. The match result status is changed to 'Match result rejected'.

There are various reasons that you may wish to do this, and each has a further course of action as described below:

- You selected the wrong output from the list of multiple matches by mistake. Click **Reject this match result**, click **Match again**, then select the correct match from the returned list.

- You realise the data in the REF2 form is incorrect, which gave an incorrect match. Click **Reject this match result**, modify the REF2 data, then click **Match again**.

- You dispute the match returned by Scopus. Click **Reject this match result**. No further action is required. However, you could query the match result with Scopus support to attempt to obtain a different match (see above).

Providing an output (PDF)

This section describes how to provide an electronic copy of an output in PDF format.

To provide an output:

1. Select **Data entry > [submission] > Research outputs (REF2)**.

2. Click **View/edit REF2** for the corresponding output record.

3. Within the section *PDF upload* click **Upload PDF**. The *Upload output PDF* page opens.

4. Select the file to be uploaded. The maximum file size allowed is 100Mb.

5. Click **Upload**.

   Once uploaded, the PDF file cannot be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

You can also delete the uploaded file (click **Delete PDF**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

Note: A PDF cannot be uploaded until the output has been given an identifier.

Each PDF is linked to the output record by the *Output identifier* field. This means that if the output record is removed and re-added with the same output identifier, the PDF will remain linked to it. It does not have to be provided again. This is useful when a submission is cleared before data is re-imported. Note that if a submission is deleted, all output PDFs relating to that submission will be removed from the submission system.

Because each PDF is linked to the output record by the *Output identifier* field, caution should be taken when creating a new output record using an output identifier previously assigned to an existing output record. In this case it is possible that the existing output record's PDF will now be associated with the new output record.

If the same *Output Identifier* has been given to more than one output record in a submission then the uploaded PDF will be associated with all output records which contain the given *Output Identifier*. If the PDF is then deleted, it will be removed from all of the output records containing this *Output Identifier*. Note that it is not possible to submit a submission that includes multiple output records with the same *Output Identifier* to REF2014. This should be corrected by making the *Output Identifier* value unique for each output record within a submission.

Features of the *Research outputs (REF2)* page

There are three tabs on the *Research outputs (REF2)* page:

- *Outputs*
- *Excluded outputs*
- *Staff members*

Outputs tab

The *Outputs* tab lists outputs (REF2 forms) included in the current submission. (Excluded outputs are listed on the *Excluded outputs* tab.)

Each output is shown in a box, which contains the output title followed by the output identifier in brackets (in bold), details of the staff member assigned to the output, and these buttons:

View/edit REF2 – view/edit the output (REF2 form).

Delete – deletes the output.

Move – allows you to move the output to a different submission (see below).

Tip: A user with the *Submissions management* user function can clear (delete) all the REF2 forms in the current submission (see 'Clearing submissions' on page 22).

Moving outputs

You can move an output to a different submission. When you do this, the staff member assigned to the output is **not moved** with the output, and the output becomes unassigned.

To move an output to a different submission:

1. On the *View by output* tab click **Move**. The *Move output* page opens.
2. From the list, select the submission you want to move the output to. The list contains the submissions for which you have write access to its REF2 forms.
3. Click **Move output**. The output is moved and a confirmation page is displayed. From this page you can either view the outputs in the 'moved from' submission or the 'moved to' submission.

Excluded outputs tab

This tab lists excluded outputs. Outputs may be excluded from the current submission in two ways:

- To exclude an individual output, tick the *Exclude from submission* box on the output's REF2 form.
- To exclude a staff member (and therefore all that staff member's outputs), tick the *Exclude from submission* box on the staff member's REF1a form.

Staff members tab

The *Staff members* tab lists staff members.

Each staff member is shown in a box, which contains key details of the staff member.

Click **View outputs**. The *Staff member's outputs* page opens, which lists the staff member's outputs.

Here you can use these buttons:

   View/edit REF2 – view/edit the output (REF2 form).

   Unassign – unassigns the output from the staff member.

   Delete – delete the output.

Find panel

The *Find* panel allows you find records corresponding to the current tab:

- *Outputs* tab: find outputs
- *Excluded outputs* tab: find excluded outputs
- *Staff members* tab: find staff members

To use the Find panel:

1. In the 'Search for' box, type some characters (letters and/or numbers) that are part of any of the following:

    For outputs: output title or identifier

    For staff members: initials, surname, HESA staff identifier, staff reference code.

2. Click **Go**. Matching records are returned.

To return to the full list of records click **Clear**.

Section 3: Impact (forms REF3a/b)

REF3a: Impact template

This section describes how to provide an impact template.

To open the REF3a page, select **Data entry > [submission] > Impact template (REF3a)**.

To assist with completing REF3a, please refer to:

- 'Impact template (form REF3a)', guidance on submissions, page 27.
- Annex C, Definitions of research and impact for the REF, guidance on submissions.
- Annex F, Format and page limits for textual parts of submissions, guidance on submissions.
- 'Impact', panel criteria, page 8.

For UOAs in panel A, see also Section A3: Assessment criteria: impact, panel criteria.

For UOAs in panel B, see also Section B3: Assessment criteria: impact, panel criteria.

For UOAs in panel C, see also Section C3: Assessment criteria: impact, panel criteria.

For UOAs in panel D, see also Section D3: Assessment criteria: impact, panel criteria.

A completed impact template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the completed template.

To use the REF3a page:

1. Click **Download blank template**.

2. Open the blank template in MS Word and complete the template. Save the document to your local machine.

   You may wish to note the page limit displayed on the *Impact template (REF3a)* page. The system prevents you submitting a file exceeding this limit. Also, once converted to PDF for uploading, files must be less than 10 MB.

3. Convert the completed template to PDF (for example, in Word 2007 and above select **Office button > Save As > PDF**).

4. In the submission system, click **Upload PDF**. The *Upload impact statement* page opens.

5. Select the file to be uploaded.

6. Click **Upload**. The file is uploaded, the *REF3a* page opens again and the *Completed template* field indicates that a file has been uploaded, by the link **View completed template (PDF)**.

   Once uploaded, the PDF file is renamed by the system and neither this name nor the file itself can be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

   You can also delete the uploaded file (click **Delete PDF**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

   The number of pages uploaded is displayed in brackets after the 'page limit' value.

Redaction

If parts of the content of your completed template must be redacted in the published version (publication of submissions), perform the following additional steps below to provide a redacted version. The full version will go to panels and the redacted version will be published. A redacted version must be submitted by 31 January 2014. For a summary of all the parts of submissions that

can be excluded from publication, see the REF webpage 'Excluding parts of submissions from publication'.

A redacted impact template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the redacted template.

To upload a redacted template:

1. In the *Requires redaction* field, click **Change to Yes**.

2. Save a copy of the template in Word and make the redactions by replacing the redacted text with '[text removed for publication]'. Convert this document to PDF (as for the full version).

3. Click **Upload redacted PDF**. The *Upload redacted impact template* page opens.

4. Either type the path to your redacted completed template PDF file or browse to the file.

5. Click **Upload**. The file is uploaded, the *REF3a* page opens again and the *Redacted template* field indicates that a file has been uploaded, by the link **View redacted template (PDF)**.

   Once uploaded, the PDF file is renamed by the system and neither this name nor the file itself can be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

   You can also delete the uploaded file (click **Delete redacted PDF**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

REF3b: Impact case studies

This section describes how to provide impact case studies (form REF3b) (referred to as 'case studies' in the remainder of this text) as part of a submission.

In the submission system, a case study consists of three parts:

- Details – details about the case study (ID, title, ancillary information)
- Template – a completed case study template (the text of the case study, as an uploaded PDF)
- Corroboration – details of people who corroborate aspects of the case study

The associated tasks are:

- Create the case study: click **Add case study**.
- Complete the template: click **Download blank template** then write the case study text.
- Upload the template and provide corroboration: **Edit** the case study.

The sections below describe how to complete each of these tasks in detail.

To assist with completing REF3b, please refer to:

- 'Impact case studies (form REF3b)', guidance on submissions, page 28.
- Annex G, Impact case study template and guidance, guidance on submissions.
- Annex C, Definitions of research and impact for the REF, guidance on submissions.
- Annex F, Format and page limits for textual parts of submissions, guidance on submissions.
- 'Impact', panel criteria, page 8.

For UOAs in panel A, see also Section A3: Assessment criteria: impact, panel criteria.

For UOAs in panel B, see also Section B3: Assessment criteria: impact, panel criteria.

For UOAs in panel C, see also Section C3: Assessment criteria: impact, panel criteria.

For UOAs in panel D, see also Section D3: Assessment criteria: impact, panel criteria.

A completed case study template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the completed template.

Create a case study

Open the *Impact case studies (REF3b)* page: select **Data entry > [submission] > Environment template (REF3b)**.

The number of case studies required for the current submission is displayed in the *Case studies* field. This depends on the number of Category A staff in the submission; see 'Impact case studies (form REF3b)', guidance on submissions, page 28 for how this is calculated.

To create a case study:

1. Click **Add case study**. The *Add case study (REF3b)* page opens.

2. Enter the case study details.

Case study details

Field	Description/notes
Identifier	A short label that allows you to identify the case study.
Title	Title of the case study.
Requires redaction	(Optional) Allows you to specify: • 'Redacted in part': the published version of the completed case study template is to be redacted in part. The full version will go to panels and the redacted version will be published. A redacted version must be submitted by 31 January 2014. For a summary of all the parts of submissions that can be excluded from publication, see the REF webpage 'Excluding parts of submissions from publication'. • 'Not for publication': the case study must not be published when submissions are published. The default value 'Not redacted' means that you wish to allow the case study to be published in full.
Conflicted panel members	(Optional) You can use this box to identify panel members that must not be able to view the content of the case study for confidentiality purposes. Panel members with standard conflicts of interest are covered by Annex D of 'panel criteria' and do not need to be identified here.
Cross-referral UOA	(Optional) Allows you to cross-refer the case study to another UOA.

3. Click **Save**, then click **Return** to go back to the list of case studies. The new case study has been added as a row in the table. Case studies in this table are sorted by title then by identifier.

Complete a case study template

To complete a case study template:

1. Click **Download blank template**.

2. Open the blank template in MS Word and complete the template (write the case study text). Save the document to your local machine.

3. Convert the completed template to PDF (for example, in Word 2007 and above select **Office button > Save As > PDF**).

If you are providing a redacted version of the case study template, save a copy of the completed template, and make the redactions in this copy by replacing the redacted text with '[text removed for publication]'. Convert this to PDF as above.

Upload a completed template

To upload a completed case study template:

1. On the *Impact case studies (REF3b)* page, click **Edit** on the row of the table for the relevant case study. The *Impact case study (REF3b)* page opens.

2. Click **Upload PDF**. The *Upload completed template* page opens.

3. Select the file to be uploaded.

4. Click **Upload**. The file is uploaded, the *Impact case study (REF3b)* page opens again and the *Completed template* field indicates that a file has been uploaded, by the link **View**.

    Once uploaded, the PDF file is renamed by the system and neither this name nor the file itself can be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

    You can also delete the uploaded file (click **Delete**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

If you have specified that this case study is to also have a redacted version ('redacted in part'), after carrying out the above procedure you should also provide a redacted version of the template: at step 2 above click **Upload redacted PDF**, then follow the rest of this procedure locating the redacted version of the completed template. A redacted case study template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the redacted template.

Add details of corroborating individuals

Where an individual provides corroboration of claims made in the case study, only the individual's organisation (and, where appropriate their position) must be mentioned within your completed case study template. This part of the submission system is where you provide their personal details.

A corroborating individual is one of the following types:

● someone who can be contacted by the REF team to corroborate claims (click **Add person who can be contacted** and complete the form)

● someone who has already provided to the HEI a written statement of corroboration which could be made available to the REF team if audited (click **Add person who has provided a statement** and complete the form)

In the *Corroboration* table, corroborating individuals are first grouped by type (contactable, then provided statement), and then sorted by name (A-Z).

Deleting case studies

To delete a case study, on the *Impact case studies (REF3b)* page, on the relevant row of the table click **Delete**.

Tip: A user with the *Submissions management* user function can clear (delete) the REF3b form (deleting all of its case studies in one go) in the current submission. See 'Clearing submissions' on page 22 for how to clear submission forms.

Section 4: Environment data (forms REF4a/b/c)

This section describes how to use the submission system to manually enter REF4 data into the various forms. There are other methods: please refer to 'REF4 environment data' for further guidance from the REF team on how to provide environment data.

Notes on validation of data

The data you enter in the REF4 forms are validated by comparing these data against the values stored by HESA and the UK Research Councils using various criteria. Normally, when entering data in the submission system, the data is validated on saving each form and any validation errors or warnings are displayed on the form. In the REF4 forms, validation does not happen on saving; instead, validation is performed when you use the *Validation report* feature or when your data is validated when the *Submit* feature is used. This is because some REF4 validation is done on all submissions for your institution, rather than within one submission. For example, the total in a particular category, for all submissions from your institution.

Data validation for the academic year 2012-2013 is performed outside the system.

REF4a: Research doctoral degrees awarded

To assist in completing REF4a, please refer to 'REF4 environment data' on the REF website and 'Research doctoral degrees awarded (REF4a)', guidance on submissions, page 30.

For UOAs in panel A, see also Section A4: Assessment criteria: environment, panel criteria.

For UOAs in panel B, see also Section B4: Assessment criteria: environment, panel criteria.

For UOAs in panel C, see also Section C4: Assessment criteria: environment, panel criteria.

For UOAs in panel D, see also Section D4: Assessment criteria: environment, panel criteria.

To open the REF4a form, select **Data entry > [submission] > Research doctoral degrees awarded (REF4a)**.

1. To enter data, click **Edit**.
2. For each of the academic years, enter the number of research doctoral degrees awarded. Values with up to two decimal places can be given.
3. Click **Save**.

REF4b: Research income

To assist in completing REF4b, please refer to 'REF4 environment data' on the REF website and 'Research income (REF4b)', guidance on submissions, page 31.

For UOAs in panel A, see also Section A4: Assessment criteria: environment, panel criteria.

For UOAs in panel B, see also Section B4: Assessment criteria: environment, panel criteria.

For UOAs in panel C, see also Section C4: Assessment criteria: environment, panel criteria.

For UOAs in panel D, see also Section D4: Assessment criteria: environment, panel criteria.

To open the REF4b form, select **Data entry > [submission] > Research income (REF4b)**.

1. Enter data by clicking one of the edit buttons (**Edit year** or **Edit row**). Alternatively, click **Edit all** to edit the entire table.
2. Enter the external research income in whole pounds (no decimal fractions), for any applicable sources of income, for each academic year, according to the HESA definitions of research income in the FSR table 5b.
3. Click **Save**.

Tip: A user with the *Submissions management* user function can clear the REF4b form data in the current submission. See 'Clearing submissions' on page 22.

REF4c: Research income-in-kind

To assist in completing REF4c, please refer to 'REF4 environment data' on the REF website and 'Research income-in-kind (REF4c)', guidance on submissions, page 32.

For UOAs in panel A, see also Section A4: Assessment criteria: environment, panel criteria.

For UOAs in panel B, see also Section B4: Assessment criteria: environment, panel criteria.

For UOAs in panel C, see also Section C4: Assessment criteria: environment, panel criteria.

For UOAs in panel D, see also Section D4: Assessment criteria: environment, panel criteria.

To open the REF4c form, select **Data entry > [submission] > Research income-in-kind (REF4c)**.

1. To enter data, click **Edit**.

2. Enter the research income-in-kind in whole pounds (no decimal fractions), for each academic year, for each source(s) of income.

3. Click **Save**.

Section 5: Environment template (form REF5)

This section describes how to provide a completed environment template.

To open the REF5 page, select **Data entry > [submission] > Environment template (REF5)**.

To assist in completing REF5, please refer to:

- Part 3 Section 5: Environment, guidance on submissions.
- Annex F, Format and page limits for textual parts of submissions, guidance on submissions.

For UOAs in panel A, see also Section A4: Assessment criteria: environment, panel criteria.

For UOAs in panel B, see also Section B4: Assessment criteria: environment, panel criteria.

For UOAs in panel C, see also Section C4: Assessment criteria: environment, panel criteria.

For UOAs in panel D, see also Section D4: Assessment criteria: environment, panel criteria.

A completed environment template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the completed template.

To use the REF5 page:

1. Click **Download blank template**.
2. Open the blank template in MS Word and complete the template. Save the document to your local machine.

    Note the page limit for completed templates: this is displayed on the *Environment template (REF5)* page and is system calculated, the value being dependent on the number of Category A staff in the submission (FTE). The system prevents you submitting a file exceeding this page limit. Also, once converted to PDF for uploading, files must be less than 10 MB.

3. Convert the completed template to PDF (for example, in Word 2007 and above select **Office button > Save As > PDF**).
4. In the submission system, click **Upload PDF**. The *Upload completed template* page opens.
5. Select the file to be uploaded.
6. Click **Upload**. The file is uploaded, the *REF5* page opens again and the *Completed template* field indicates that a file has been uploaded, by the link **View completed template (PDF)**.

    Once uploaded, the PDF file is renamed by the system and neither this name nor the file itself can be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

    You can also delete the uploaded file (click **Delete PDF**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

    The number of pages uploaded is displayed in brackets after the 'page limit' value.

Redaction

If parts of the content of your completed template must be redacted in the published version (publication of submissions), perform the following additional steps below to provide a redacted version. The complete version will go to panels and the redacted version will be published. A redacted version must be submitted by 31 January 2014. For a summary of all the parts of submissions that can be excluded from publication, see the REF webpage 'Excluding parts of submissions from publication'.

A redacted environment template should be formatted as a PDF file which contains text characters, the PDF should not consist of scanned images of the redacted template.

1. In the *Requires redaction* field, click **Change to Yes**.

2. Save a copy of the template in Word and make the redactions by replacing the redacted text with '[text removed for publication]'. Convert this document to PDF (as for the full version).

3. Click **Upload redacted PDF**. The *Upload completed redacted template* page opens.

4. Either type the path to your redacted completed template PDF file or browse to the file.

5. Click **Upload**. The file is uploaded, the *REF5* page opens again and the *Redacted template* field indicates that a file has been uploaded, by the link **View redacted template (PDF)**.

   Once uploaded, the PDF file is renamed by the system and neither this name nor the file itself can be modified (you are permitted only to view the file). However, you can upload a different PDF (by following the instructions above), which overwrites the currently uploaded file.

   You can also delete the uploaded file (click **Delete redacted PDF**). This does not delete any file from your local machine; it only deletes the uploaded file from the REF server.

CHAPTER 4
Output matching

Bulk citation count retrieval

The *Citation counts* page shows all outputs that can have a citation count for the purposes of the REF ('applicable' outputs), for your institution, for all submissions. For each output, the current match status is shown, and, if matched, its current citation count. The *Citation counts* page also allows you to attempt to retrieve a citation count from Scopus for any applicable output, which does not currently have a citation count stored in the submission system database. This is done in bulk: for all applicable outputs that do not have a citation count, for one or more submissions that you select.

An applicable output is an output of a type that can have a citation count for the purposes of REF assessment (journal article or conference proceeding) and is in one of the UOAs that uses citation counts in the REF assessment phase (UOAs 1-9, 11 and 18).

Outputs are shown on two tabs:

Ambiguous or not matched outputs – outputs that are not matched (do not have a citation count)

Matched outputs – outputs that are matched (do have a citation count)

See 'Citation count retrieval' on page 38 – which describes the procedure for retrieving a single citation count for a single output – for more information about working with citation counts for outputs.

Access to this feature is available only:

- For UOAs that use citation data (UOAs 1-9, 11 and 18).
- If you have the 'Scopus matching' user function enabled in your user account.
- If you have read or write access to REF2 for the current submission. Note: if you have read access to REF2 you can see the citation status of outputs but you cannot use the matching feature.

Retrieving citation counts

To attempt to retrieve a citation count for outputs that do not have one:

1. From the main menu click **Output matching** followed by **Find citation counts**. The *Citation counts* page opens.

   As mentioned above, this page shows information on all applicable outputs for all your institution's submission.

The *Matched outputs* tab lists all outputs with the ideal result of 'Matched' and these have a citation count. These require no further action other than perhaps verifying that the results are correct.

The *Ambiguous or not matched outputs* tab lists all other outputs. Some of these require further action in order to re-attempt a citation count retrieval.

2. Click **Match outputs**.

3. Select the submissions for which you want to attempt citation count retrieval.

4. Click **OK**. The request for bulk citation count retrieval is made.

   Any output that is included in a bulk request or an import job that has not yet completed has a match status of 'Pending'.

5. On the confirmation page click **Return** to go back to the main page to view the results.

Viewing outputs and their match result/citation count

Each output is shown in a box.

The box contains the following information:

- Output title (with identifier in brackets)

- Submission

- Match result (along with the time that the match result was last updated)

- Citation count information (only shown for matched outputs)

- **View citation summary for this output** button – this opens the *Match output to Scopus* page, which is the page that you see if you want to view an individual output's citations count from within REF2. This page shows output details sent to Scopus, details retrieved from Scopus, buttons to take further action if necessary or required. See 'Citation count retrieval' on page 38 for more information on this page. To go from this page back to the *Bulk output matching* page, on the main menu click **Output matching**.

Filtering, finding, sorting outputs

For each tab, you can filter by submission, find, and sort options to change which outputs are displayed and their sort order. These settings work for the currently viewed tab (for example, Find only finds outputs on the current tab).

To use the Find output feature:

1. In the 'Search for' box, type some characters (letters and/or numbers) that are part of the output's title or identifier.

2. Click **Search**. Matching outputs are returned.

To return to the full list click **Clear search**.

Bulk retrieval of output details by DOI

In addition to retrieving output details for a single output, you are also able to perform a bulk retrieval of output details using DOIs which have been previously entered into outputs within REF2.

Access to this feature is available only:

- If you have the 'Bulk CrossRef lookup' user function enabled in your user account.
- If you have write access to REF2 for the selected submissions. Note: you are not able to create a batch request for any submissions within which you have read-only access to REF2. If your permissions change from write to read-only for a submission, you can view any previously created batches, but you will not be able to copy the results for this submission to REF2.

The *Get output details by DOI* page contains a table which shows information on batch requests that have been created. Each column within this table is explained below.

Batch requests table

Column	Description
Batch ID	Displays the unique identification number of the lookup batch.
Details	Displays the report's file name along with the submissions which the batch includes.
Status	Displays the number of outputs currently pending and the number of outputs which have been successfully matched.
Created	Displays the time and date that the batch was created.
Completed	Displays the time and date that the batch was completed.
Results copied	Displays the time and date that the batch was copied to REF2 outputs.
View results	Allows you to view the batch results. Once the batch has finished processing this column also contains a link to download the batch report.
Delete batch	Allows you to delete a batch.

Retrieving output details

To attempt to retrieve output details from DOIs:

1. From the main menu click **Output matching** followed by **Get output details by DOI**. The *Get output details by DOI* page opens.
   This page contains a table which shows information on lookup requests that have been created.
2. Click **Get output details**.
3. Select the submissions for which you would like to retrieve output details, click **Next**.
4. Optionally, edit the default PDF file name (CrossRefBulkDetailsLookUp<yyyymmdd>-<hhmm>).
5. Click **Finish**. The batch request is created.
6. On the confirmation page click **Return** to go back to the main page to view the batch status.

Note: This section of the submission system relies on an external system provided by CrossRef to function. During busy times the CrossRef system may have a large queue to process, consisting of requests from both the submission system and other systems. Because of this it is possible that a batch request may remain pending for an extended amount of time. Once your request reaches the top of the queue, it will be processed. Should you feel for any reason that your request has 'stalled' and has not been processed after a reasonable amount of time, please contact REF user support.

Viewing outputs and their retrieved details.

On the *Get output details by DOI* page, click **View results** for the batch in question, this takes you to the *Results: Get output details by DOI* page. This page contains two tabs; named *Matched DOIs* and *Ambiguous or not matched DOIs*. Within these tabs the outputs are listed. Each output is shown in a box.

The box contains the following information:

- Output title (with identifier in brackets)
- Submission
- Match result (along with the time and date that the match result was last updated.)
- **View result** button - this opens the *Retrieved output details* page for the individual output. Here you can view the data retrieved from CrossRef for the output and select to apply these details to the individual output.
- **Delete result** button - this deletes the match result from the batch. This is useful if the result contains output details that are incorrect. Deleting the match result prevents it from being copied to REF2.

Filtering, finding, sorting outputs

For each tab you can filter by submission, find, and sort options to change which outputs are displayed and their sort order. These settings work for the currently viewed tab (for example, Find only finds outputs on the current tab).

To use the Find output feature:

1. In the 'Search for' box, type some characters (letters and/or numbers) that are part of the output's title or identifier.
2. Click **Search**. Matching outputs are returned.

To return to the full list click **Clear search**.

Copying retrieved output details to REF2

Once the batch request has completed, output details can be copied to REF2. To copy output details to REF2:

1. From the *Get output details by DOI* page, click **View results** for the batch that you would like to copy to REF2.
2. Click **Copy results to REF2**.
3. Click **Yes** on the confirmation page that appears. All outputs with a perfectly matched DOI in the selected batch have now had their details copied in to REF2.

It is not possible to copy output details for a selection of outputs. When copying, all outputs within the batch that have been successfully matched will have their details copied to REF2. If there are match results which contain output details that you do not wish to be copied to REF2, you should first delete these by selecting **Delete result** for each output. After these match results have been

removed from the output batch, you can then select **Copy results to REF2** to copy the remaining match results.

It is possible to copy output details for a single output (one at a time) by selecting **View result** for each individual output and clicking **Use these details**.

Copying output details to REF2 will overwrite any existing details.

Note: It is not possible to reuse a lookup batch if the relating submissions have been cleared and had their data re-imported, this is true even if the re-imported data contains no changes. In this case a new lookup batch should be created.

Note: It is possible that CrossRef contains incorrect output details for an output's DOI. If this is the case, using this function will add incorrect data to an output record. All output details that have been added to the submission system using this function should be checked before submission to REF2014.

Bulk retrieval of DOIs from output details

In addition to retrieving the DOI for a single output, you are also able to perform a bulk retrieval of DOIs using output details which have been previously entered within REF2.

Access to this feature is available only:

- If you have the 'Bulk CrossRef lookup' user function enabled in your user account.
- If you have write access to REF2 for the selected submissions. Note: you are not able to create a batch request for any submissions within which you have read-only access to REF2. If your permissions change from write to read-only for a submission, you can view any previously created batches, but you will not be able to copy the results for this submission to REF2.

The *Get DOIs using output details* page contains a table which shows information on batch requests that have been created. Each column within this table is explained below.

Batch requests table

Column	Description
Batch ID	Displays the unique identification number of the lookup batch.
Details	Displays the report's file name along with the submissions which the batch includes.
Status	Displays the number of outputs currently pending and the number of outputs which have been successfully matched.
Created	Displays the time and date that the batch was created.
Completed	Displays the time and date that the batch was completed.
Results copied	Displays the time and date that the batch was copied to REF2 outputs.
View results	Allows you to view the batch results. Once the batch has finished processing this column also contains a link to download the batch report.
Delete batch	Allows you to delete a batch.

Retrieving DOIs

To attempt to retrieve DOIs from output details:

1. From the main menu click **Output matching** followed by **Get DOIs using output details**. The *Get DOIs using output details* page opens.
   This page contains a table which shows information on lookup requests that have been created.
2. Click **Get DOIs**.
3. Select the submissions for which you would like to retrieve DOIs, click **Next**.
4. Optionally, edit the default PDF file name (CrossRefBulkDoiLookUp<yyyymmdd>-<hhmm>).
5. Click **Finish**. The batch request is created.
6. On the confirmation page click **Return** to go back to the main page to view the batch status.

Note: This section of the submission system relies on an external system provided by CrossRef to function. During busy times the CrossRef system may have a large queue to process, consisting of requests from both the submission system and other systems. Because of this it is possible that a batch request may remain pending for an extended amount of time. Once your request reaches the top of the queue, it will be processed. Should you feel for any reason that your request has 'stalled' and has not been processed after a reasonable amount of time, please contact REF user support.

Viewing outputs and their retrieved DOIs.

On the *Get DOIs using output details* page, click **View results** for the batch in question, this takes you to the *Results: Get DOIs using output details* page. This page contains two tabs; named *Matched output details* and *Ambiguous or not matched output details*. Within these tabs the outputs are listed. Each output is shown in a box.

The box contains the following information:

- Output title (with identifier in brackets)
- Submission
- Match result (along with the time and date that the match result was last updated.)
- **View result** button - this opens the *Retrieved DOI* page for the individual output. Here you can view the DOI retrieved from CrossRef for the output and select to apply the DOI to the individual output.
- **Delete result** button - this deletes the match result from the batch. This is useful if the result contains a DOI which is incorrect. Deleting the match result prevents it from being copied to REF2.

Filtering, finding, sorting outputs

For each tab you can filter by submission, find, and sort options to change which outputs are displayed and their sort order. These settings work for the currently viewed tab (for example, Find only finds outputs on the current tab).

To use the Find output feature:

1. In the 'Search for' box, type some characters (letters and/or numbers) that are part of the output's title or identifier.
2. Click **Search**. Matching outputs are returned.

To return to the full list click **Clear search**.

Copying retrieved output DOIs to REF2

Once the batch request has completed, output DOIs can be copied to REF2. To copy output DOIs to REF2:

1. From the *Get DOIs using output details* page, click **View results** for the batch that you would like to copy to REF2.
2. Click **Copy results to REF2**.
3. Click **Yes** on the confirmation page that appears. All outputs that have had their DOI found in the selected batch have now had it copied in to REF2.

It is not possible to copy DOIs for a selection of outputs. When copying, all outputs within the batch that have been successfully matched will have their DOIs copied to REF2. If there are match results which contain DOIs that you do not wish to be copied to REF2, you should first delete these by selecting **Delete result** for each output. After these match results have been removed from the output batch, you can then select **Copy results to REF2** to copy the remaining match results.

It is possible to copy the DOI for a single output (one at a time) by selecting **View result** for each individual output and clicking **Use this DOI**.

Copying DOIs to REF2 will overwrite any existing DOIs.

Note: It is not possible to reuse a lookup batch if the relating submissions have been cleared and had their data re-imported, this is true even if the re-imported data contains no changes. In this case a new lookup batch should be created.

Note: It is possible that CrossRef contains the incorrect DOI for an output's details. If this is the case, using this function will add the incorrect DOI to an output record. This could mean that when automatically sourcing output PDFs, the submission system links the output record to an incorrect PDF. All output DOIs that have been added to the submission system using this function should be checked before submission to REF2014.

Submitting

Submitting

Introduction

The *Submit* feature is used to:

- perform a **submit validation** on your institution's submission set
- **submit** your institution's submission set

A submit validation is the special validation that must be performed in order to submit to REF 2014. This is not the same thing as generating a validation report (accessed from **Validate** on the main menu).

A submission set is the set of all submissions of an institution.

Note that both submit validation and submitting are performed on the entire submission set as opposed to one or more individual submissions.

Only administrator users and authorised submitters can access this feature. Only administrators can perform submit validations; only submitters can submit. In order to submit, a submitter must hold an account within the submission system. This may be of the type 'standard user' or 'administrator'. Submitters are nominated and authorised via the REF team.

The submit deadline is 29 November 2013 at 12:00 mid-day.

Overview of the process of submitting

Once all your institution's submissions data has been entered as desired, an administrator user at your institution performs a submit validation, which attempts to validate your entire submission set as one job. If submit validation is successful (passes with no validation errors), an authorised submitter at your institution can then submit your submission set.

Note: If you have any joint submissions these follow slightly different rules. The key difference is that they must be submit validated by the lead institution before a member institution can achieve a successful submit validation of their own submission set. See 'Joint submissions' on next page.

Submit status

At any given time, your submission set has a **submit status**, which can be one of the following. These are described in the table below.

- Requires successful validation
- Ready to submit

- Submitted

Submit statuses

Submit status	Description
Requires successful validation	The submission set can be in a state of *Requires successful validation* for one of six reasons: 1. No submit validation job has yet been run. Click **Validate all submissions**. 2. The most recent submit validation job was unsuccessful. When the errors have been fixed click **Validate all submissions** again. 3. The most recent submit validation job was successful, but at least one submission has been unlocked by an administrator at your institution. When the necessary changes have been made to the submission(s) click **Validate all submissions** again. 4. The most recent submit validation job was successful, but, subsequently, for one of your joint submissions, an administrator at another institution has unlocked their part of the submission. When the necessary changes have been made to this submission, the lead institution must click **Validate all submissions** again. 5. One or more joint submissions have not yet been successfully submit validated by the lead institution. 6. One or more joint submissions cannot be submit validated by the lead institution because they do not have permission to read the member(s) sections of the submission. 'Successful' means validation passed with or without warnings; 'unsuccessful' means there were errors (and possibly warnings).
Ready to submit	The submission set is in a state of *Ready to submit* when the submit validation job has completed (finished calculation) and the outcome was successful. The submission set can now be submitted. 'Successful' means that validation passed with or without validation warnings. See 'Data validation, errors and warnings' on page 9 for information about validation warnings.
Submitted	The submission set is in a state of *Submitted* when the submission set has been submitted.

Joint submissions

Submit validation of joint submissions

Joint submissions must be submit validated by the lead but may subsequently be submitted by any participant (lead or member). This means that a member institution in a joint submission cannot submit to REF 2014 until the joint submission has been successfully submit validated.

The lead institution requires at least read-only permission to all the parts of the joint submission in order to perform a submit validation.

When a joint submission has been submit validated, this is indicated to member institutions on the *Submissions management* page within the *Submit validation status* column.

When a joint submission is locked (for example, following successful submit validation), this is indicated to all participant institutions on the *Submissions management* page within the *Locked* column.

Submitting joint submissions

The permission 'Read' or 'Write' to another institution's part of a joint submission is required in order to submit a joint submission.

Once an institution has submitted a joint submission as part of their submission set, the joint submission is locked to all other institutions: no other institution can make any changes to that joint submission even if they have not yet submitted their own submission set. This means that, if a member institution submits a joint submission, that joint submission not only becomes locked to the other member institutions but also the lead institution.

Editing submitted joint submissions

If an institution wishes to work on a joint submission that has been submitted, all participating institutions who took part in the joint submission must unsubmit their submission set, then an administrator can unlock the joint submission. Once the institution has made the necessary changes, the lead must do a submit validation again, then submit must be done again.

Submit validation

On the *Submit to REF 2014* page, if the submit status is displayed as *Requires successful validation* an administrator should perform a submit validation.

To perform a submit validation:

1. Click **Validate all submissions**. The *Validate all submissions* page opens.

2. Optionally, edit the default report filename, which is of the form:

   `REFSubmitValidation<yyyymmdd>-<hhmm>`

3. Click **Finish**. The submit validation job starts: all submissions that are not currently validated are added to the submit validation job queue and are validated in turn. (Submissions validated in a previous submit validation job that the system detects as unchanged since that submit validation are not validated again.) The progress of the job is displayed.

The **Job status** column provides information on the progress of the job calculation:

Job statuses

Job status	Description
Waiting	Job is waiting to be processed.
Processing	Job is being processed.
Completed	Job has completed being processed.
Failed	The job did not complete for some reason and there is no file to download.

The **Job outcome** column provides information on the outcome of the job calculation:

Job outcomes

Job outcome	Description
Success	No validation errors or warnings were found.
Success with warnings	Validation warnings were found but no errors.
Errors	Validation errors were found.
Failed	The job did not complete.

During submit validation all submissions in the submission set are locked. During processing, and after, you can view the log of the validation process by clicking **View log**. This shows detailed information on various parts and stages of the validation process.

Once the submit validation job completes you can download the validation report by clicking **Download**.

If any individual submission in the set **fails** validation (has errors), all submissions are **unlocked** at the end of the submit validation (but they are still all validated in turn in order to produce a validation report).

If all submissions in the submission set **pass** validation (no errors), all submissions are **locked** to all users. An administrator can unlock any submissions in the submission set.

Submitting

When you navigate to the *Submit to REF 2014* page, if the submit status is *Ready to submit* and you are a submitter, you can submit the submission set.

To submit the submission set:

1. On the *Submit* page click **Submit**. A confirmation page is displayed, which contains terms and conditions regarding submitting data to REF for assessment and also a prompt to confirm that you would like to submit.
2. Click **Submit to REF2014** to confirm you want to submit. The submission set is submitted. When the submit has completed, the submission set has a status of *Submitted*. The system sends e-mail notification to each authorised submitter and to the central REF contact that your institution has submitted to the REF ready for assessment.

If you decline the confirmation (cancel the submit), you return to the submit page with the submission set back at the state of *Ready to submit*.

Once submitted, all areas of the system become read-only, apart from those listed below:

- News
- User administration
- Uploading redacted impact templates, case studies or environment templates.
- Output records that have been flagged as pending publication.

Once submitted, the submission system will show a banner indicating that all forms are read-only. If there are any outstanding items to be completed, this banner will provide a link to a page listing them.

Any data that is marked as excluded from publication is removed from the system at the submit deadline and is not accessible by institutions in any form after the deadline.

Note: There is no access to the Submit function after the deadline.

Unsubmitting

After submitting, until the submit deadline, submitters can unsubmit the submission set. When unsubmitted, the state of submission set changes back to *Ready to submit*. Unsubmit does not unlock any submissions. Unlocking can only be done by an administrator.

Each authorised submitter and the main REF contact are notified of the unsubmit.

All participating institutions are required to unsubmit their submission set before a joint submission can be unlocked and edited.

If any submission is unlocked after unsubmitting, then a submit validation must be repeated before your institution can resubmit.

After the submit deadline

Where an impact template (REF3a), impact case study (REF3b) or environment template (REF5) is identified as requiring redaction, a redacted version can be uploaded to the submission system after

the submit deadline. This must be done by 31 January 2014. For more information see:
http://www.ref.ac.uk/subguide/datamanagement/excludedfromsubmission

After the submit deadline you are also able to upload the PDF version of any output that has been flagged as pending publication. (Outputs expected to be made publicly available between the submission deadline and the end of the publication period - 31 December 2013.) All PDF versions of outputs that are pending publication must be uploaded by 31 January 2014.

Import and export

This section describes how to import and export data to and from the submission system database.

Import

The import tool allows you to import submissions data into the submission system database.

Procedure overview

1. Create an import file. See the REF webpage 'Submission system data requirements' for how to create import files.
2. If your import file references submissions records that do not yet exist in the database you must create these submissions before you can import. See 'Submissions management' on page 17.
3. Perform the import. See 'Perform the import' below.

Perform the import

1. From the main menu click **Import**. The *Import* page opens.
2. Click **New import job**.
3. Select an import file format, then click **Next**. The *Import options* page opens.
4. Select the file to be uploaded. See the REF webpage 'Submission system data requirements' for how to create import files.
5. Complete the relevant fields (see table below), then click **Finish**.

   An import job is added to the import jobs queue and this is displayed on the *Import* page.

   On successful import, data from the import file is imported into the database.

   Details about the outcome of the job can be found in the job outcome column of the job table (see below), the log file (see 'Import jobs queue and logs' on next page) and in the import validation report (see 'Import validation report' on page 67).

Import fields

Field	Description/notes
Report filename	This refers to the validation report that is generated on completion of an import job (see

Field	Description/notes
	'Import validation report' on the facing page). The default filename is `REFImport<yyyymmdd>-<hhmm>`. For example, `REFImport20120720-1036`. You can edit this name as required.
Report format	Choose the report format (PDF or XML).
Retrieve citation counts for outputs	Tick this box to retrieve citation counts from the Scopus database for imported outputs (see 'Citation count retrieval' on page 38).
Zipped file	Tick this box if your import file is zipped.
Allow data to be imported even if there are validation errors	When you import data, the data is validated by the system. A validation error occurs when data is supplied that breaks the data validation rules in the submission system. For example, a date is supplied that is outside the allowed date range.
	If this box is **ticked**, all data is imported, including that which causes validation errors. In this case you can subsequently re-import your data (or edit it in the submission system) to remove validation errors.
	If this box is **not ticked**, if any part of the data in the import file causes a validation error, no data at all is imported. In other words, even if one import record results in an error, the entire import is aborted and the database is rolled back to how it was before the import.
Delimited text files	If your import file is a delimited text file, specify which form you are importing. (With delimited text files you can only import a single form at a time.) Also specify the field delimiter character and the string delimiter character.

Import jobs queue and logs

Each import job is placed in a queue, shown on the *Import* page. Only your own jobs are shown, not those of other users. The page shows job progress, from waiting in the queue through to completion.

The **Job status** column provides information on the progress of the job calculation:

Job statuses

Job status	Description
Waiting	Job is waiting to be processed.
Processing	Job is being processed.
Completed	Job has completed being processed.
Failed	The job did not complete for some reason and there is no file to download.

The **Job outcome** column provides information on the outcome of the job calculation:

Job outcomes

Job outcome	Description
Success	No validation errors or warnings were found.
Success with warnings	Validation warnings were found but no errors.
Errors	Validation errors were found.
Failed	The job did not complete.

Each job has a log which provides details about the import job. To view an import log click **View log**.

The following details are provided in the log:

- Progress of the job calculation
- How much data was imported and how much was not imported.

- Various errors, such as save errors (a save error occurs when insufficient data was provided in order to save a form, in which case it is not possible to create a record for the form and the associated data is not imported).

Some errors are logged in the following form:

```
Record: <form>-<submission>-<identifier>. Error: <error text>.
```

For example:

```
Record: REF4b-10-15. Error: An invalid income source has been provided.
```

The meaning of `<identifier>` depends on the form you are in. In the above example for REF4b, these numerical values correspond to the various income sources. So this example means that an error has occurred in REF4b for submission number 10 and income source 15.

Import validation report

The validation report is generated on completion of an import job. It describes the level of success of the validation, what data was imported and, for each form, the number of validation errors and warnings.

To view the import validation report, on the *Import* page click **Download** on the row of the table for the relevant import job.

Valid file formats

The following table describes the file formats that are supported for the various REF forms and other records, for both import and export.

Valid import and export file formats

	XML	MS Excel	MS Access	Delimited text
Research groups	•	•	•	•
REF1a	•	•	•	•
REF1b	•	•	•	•
REF1c	•	•	•	•
REF2	•	•	•	•
REF3a	•		•*	
REF3b	•		•*	
REF4a	•	•	•	•
REF4b	•	•	•	•
REF4c	•	•	•	•
REF5	•		•*	
Users	•	•	•	•

• Supported

* The access templates use the data type *OLE Object* for the columns which contain PDF files for the REF3a, REF3b and REF5 forms. Microsoft Access stores binary data in the OLE Object data type as OLE Objects (a technology Microsoft in general no longer supports) however the submission system cannot read or write data stored in these OLE Objects. The submission system can read and write files stored in the columns by assuming they are equivalent to the *VARBINARY(MAX)* data type. For an example of how to use access to store files in columns as the submission system requires, see the Microsoft knowledge base article *ACC: Reading, Storing, & Writing Binary Large Objects (BLOBs)* located at: http://support.microsoft.com/default.aspx?scid=kb;en-us;103257&Product=acc

Note: Some knowledge of Visual Basic is required in order to achieve this.

Importing REF2 forms with a reserve output

Note: If you import any REF2 form with a reserve output value, the reserve output must already exist in the database. Alternatively, it need not exist as long as the record in the import file that creates the reserve output appears earlier in the file than the record that creates the REF2 form with a reserve output value, as the former will be processed first and will create the required record.

Importing research groups

Note: If research groups are imported to a submission using the overwrite property, any previous research groups within that submission will be overwritten. For example, if a submission contains two research groups and an import job is run containing one research group, the submission will only contain one research group after the import job has completed. This is because the submission system holds all research groups within a submission as a single record. To prevent research groups from being removed during import you should ensure that the import file contains all of the research groups you wish to be present within each submission. If no research groups for a submission are contained within the import file, the research groups already present in this submission will not be removed.

Export

The export tool allows you to export your data from the submission system database.

To perform an export:

1. From the main menu click **Export**. The *Export* page opens.

2. Click **New export job**.

3. Select an export file format. Click **Next**.

4. Select the submissions to export. If you are an administrator user, on this page you also see the option to export user accounts; if you tick this box you can choose which parts of user accounts to export on the next page. Click **Next**.

5. Select the forms to export. Select the parts of user accounts you want to export if this is shown. Click **Next**.

6. Optionally, edit the name of the export file. The default filename is `REFExport<yyyymmdd>-<hhmm>`. For example, `REFExport20120720-1036.zip`. All export files are zipped (`.zip` extension).

   If you specified the delimited file format earlier, choose the field and string delimiters.

7. Click **Finish**. The data is exported. You can view the result of the export and download the export file on the *Export* page (see 'Export jobs and logs' below).

Export jobs and logs

Each export job is shown on the *Export* page. Only your own jobs are shown, not those of other users. The page shows job progress, from waiting in the queue through to completion.

The **Job status** column provides information on the progress of the job calculation:

Job statuses

Job status	Description
Waiting	Job is waiting to be processed.
Processing	Job is being processed.
Completed	Job has completed being processed.
Failed	The job did not complete for some reason and there is no file to download.

The **Job outcome** column provides information on the outcome of the job calculation:

Job outcomes

Job outcome	Description
Success	No validation errors or warnings were found.
Success with warnings	Validation warnings were found but no errors.
Errors	Validation errors were found.
Failed	The job did not complete.

Each job has a log which provides details about the export job (how much data was exported, etc.). To view an export log click **View log**.

To download the export file when an export job has completed click **Download**.

Valid file formats

For a list of which file formats are supported for export of the various REF forms, see 'Valid file formats' on page 67.

Validation report

Validation report

The *Validation report* feature allows you to produce a validation report for one or more forms of one or more submissions. It is likely that you will want to use this feature intermittently as you develop your submissions data to check the validity of the data before you attempt to submit your submissions.

Note: This *Validation report* feature is not used as part of the process of submitting submissions. Submitting is performed using the *Submit* feature, which employs a different validation process.

A validation report lists any record that breaks a validation rule, which can be either a submission validation error ('error') or a submission validation warning ('warning').

Warnings differ from errors as follows:

- warnings use the word 'should' because, although you can submit with warnings in place, it is recommended to check the data
- errors use the word 'must' because errors must be rectified in order to submit.

See 'Data validation, errors and warnings' on page 9 for further information about errors and warnings.

Forms REF4a/b/c are validated at the HEI level (all submissions within an HEI).

Producing a validation report

To produce a validation report:

1. From the main menu, click **Validate**. The *Validation report* page opens.

   The table on this page lists your own validation jobs – not other users' validation jobs – including both in-progress and completed jobs, most recent at the top. The columns of this table are described below:

   Validation report jobs table

Column	Description
Job ID	Job ID.
User	The user who created the validation job.
Job status	The state of the job calculation (for example, 'Waiting', 'Processing', 'Complete').
Job outcome	The validation result of the job calculation (whether there were errors or warnings).

Column	Description
Queue position	The position of the job in the queue (before and during job processing).
View log	Click **View log** to open the *Log viewer* page to view the job's log. This provides information about the various stages of the job calculation, as it progresses through to completion.
Download	Click **Download** to download the validation report (see 'Validation report contents' below).

2. Click **New validation job**.

3. Follow the on-screen instructions to choose submissions, forms, report filename and report format (PDF or XML).

Reports are named as follows by default, but you can enter a different name if you wish:

`REFValidation<yyyymmdd>-<hhmm>`

For example, `REFValidation20120720-1036`.

4. Click **Finish**. A validation report job request is created.

On the *Validation report* page, you can see your job.

The **Job status** column provides information on the progress of the job calculation:

Job statuses

Job status	Description
Waiting	Job is waiting to be processed.
Processing	Job is being processed.
Completed	Job has completed being processed.
Failed	The job did not complete for some reason and there is no file to download.

The **Job outcome** column provides information on the outcome of the job calculation:

Job outcomes

Job outcome	Description
Success	No validation errors or warnings were found.
Success with warnings	Validation warnings were found but no errors.
Errors	Validation errors were found.
Failed	The job did not complete.

Click **View log** to open the *Log viewer* page to view the job's log. This provides information about the various stages of the job calculation, as it progresses through to completion.

Click **Download** when the job has completed to download the validation report.

Note: It is possible to view a validation report within Microsoft Excel by creating it as XML format and opening it directly within the Excel application.

Validation report contents

A validation report contains two sections:

Summary section: the number of errors and warnings for each form of each submission selected for validation.

Rows that are blank in the Form column are errors and warnings for the submission as a whole, rather than a form. For example, an error with the configuration of a joint submission.

Full report section: each row of the full report table describes an individual error or warning – a validation rule that has been broken – for an individual data record. For example, a REF1a record containing five errors would generate five rows in the full report, one row for each error.

The columns of the table in this section of the report are:

UOA: the unit of assessment.

Form: the REF form type. For example, REF2.

Record: the individual data record. For example, a particular REF2 record. This is identified by some identifier associated with the record. For example, output identifier for outputs.

Error/warning: whether the validation breach is an error or a warning.

Validation rule: the validation rule that has been broken. This consists of the validation rule code number and its description.

Reports

Reports

The Reports feature allows you to generate PDFs containing elements of your submissions data. There are two types of PDF:

- **report** – a range of report types is provided, which output results of various queries on your submissions data.
- **print** – a print is a PDF of the contents of one or more of your REF forms.

Reports return only data to which you have at least read access defined via permissions in your user account. For example, if you want to generate a report containing REF2 data, you need 'Read' or 'Write' access set for REF2 in the permissions part of your user account.

Note: The complex circumstance explanatory text field from REF1b is included in reports anonymously, that is with no other information than the internal submission system staff ID (not a 'public' staff ID).

The main Reports page shows a table of all report and print jobs that have been requested by any user at your institution, including completed and being processed. (This table is not present until the first report or print job has been requested.)

Producing reports

To produce a report:

1. Click **New Report Job**.
2. Select the report type. Click **Next**. See the description on screen for what the selected report type produces.
3. Select the submission. Click **Next**.
4. Optionally, edit the default PDF file name (which is of the form `REFReport<yyyymmdd>-<hhmm>`).
5. Click **Finish**. The report job is requested and added to the queue.

   You can view the progress of the job on the main Reports page.
6. When the job has completed successfully, to view the report PDF, on the main Reports page, on the relevant row of the table click **Download**. The PDF opens.

You can request further report or print jobs at any time. You do not need to wait for one in progress to finish.

Available reports

The list of reports available within the submission system is as follows:

- Early career researchers - Lists staff members identified as early career researchers in REF1a.

- Excluded staff members - Lists staff members excluded from the submission. If a staff member is excluded, all that staff member's outputs are also excluded from the submission.

- Staff details and research outputs (REF1a/b/c, REF2) - Lists staff details and research outputs (REF1a/b/c, REF2) as provided to the panel.

- Staff excluded from publication - A list of staff members that have been ticked as 'confidential or sensitive' and will be excluded, along with related outputs, from publication of the submission.

- Staff with fewer than 4 outputs - A list of research staff with less than 4 outputs.

- Citation counts for research outputs - A list of research outputs and their citation counts.

- Confidential reports - A list of outputs identified as Type O (confidential report).

- Duplicate DOIs list - A list of DOIs which have been included more than once in your institution's submissions, along with the outputs they have been assigned to.

- Excluded research outputs - A list of outputs which have been marked to be excluded from the submission.

- Interdisciplinary outputs - Outputs that have been identified in REF2 as resulting from interdisciplinary research.

- Journal articles REF have been unable to retrieve - A list of the journal articles REF have been unable to retrieve. For three weeks after an output's DOI has been entered in to the submission system, REF will attempt to locate an electronic copy of the journal article. Journal articles that have not been retrieved by REF after these three weeks will appear on this report. These need to be uploaded to the submission system before it closes on 29 November 2013.
To ensure that this report is generated correctly and that all outputs of type D and E which need their journal articles supplied are listed, no outputs within the submission should be removed and re-added or have their DOI changed for a period of three weeks before the report is run. If some outputs have been altered in this way the three week count held against them will reset and they will appear on the report later then the outputs which have not been modified.

- Journal articles without DOI - A list of research outputs marked as journal articles which do not have a DOI or have an invalid DOI.

- Outputs not for publication - A list of outputs which have been identified as not for publication.

- Outputs pending publication - A list of outputs marked as 'pending publication'. These outputs will be made publicly available between the submission date and the end of the publication period (29 November 2013 and 31 December 2013). Missing data requirements must be provided by 31 January 2014.

- Outputs to be provided to the warehouse - A list of the outputs to be provided to the warehouse, with the details to appear on the output label.

- Outputs with PDF files attached - A list of the outputs which have PDF files attached.

- Outputs without PDF files attached - A list of outputs which do not have PDF files attached.

- Unassigned outputs - A list of outputs that have not been assigned to a staff member. Outputs that have not been assigned will not be included in the submission.

- Impact case studies (REF3b) - Impact case studies (REF3b) as provided to the panel.

- Standard analyses - Analyses of data for staff, outputs, doctoral degrees awarded, and research income. For administrator use only. (See Annex H: 'Standard data analyses', guidance on submissions, page 55.)

Producing prints

This section of the submission system allows you to 'print' information directly from REF sections to a PDF document. You can also use the print function to produce an *Overall HEI staff summary* (OHSS).

To produce a print:

1. Click **New Print Job**.

2. Select the submissions. Click **Next**.

3. Select the forms. Click **Next**. Here you also have the option to select *Overall HEI staff summary*.

4. Optionally, tick the *Include other joint submission members* box. If ticked, data from other institutions participant in any joint submissions is included in the print.

5. Optionally, edit the default PDF file name (which is of the form `REFReport<yyyymmdd>-<hhmm>`).

6. Click **Finish**. The print job is requested and added to the queue.

   You can view the progress of the job on the main Reports page.

7. When the job has completed successfully, to view the print PDF, on the main Reports page, on the relevant row of the table click **Download**. The PDF opens.

You can request further report or print jobs at any time. You do not need to wait for one in progress to finish.

Web service

Shortcuts to the web service methods:

```
'ClearLocks' on page 89
'ClearSubmission' on page 90
'Export' on page 91
'Import' on page 92
'GetCurrentLocks' on page 94
'GetFile' on page 94
'GetJobStatus' on page 95
'GetPrintInfo' on page 95
'Print' on page 96
'Validate' on page 96
'UploadOutputPdf' on page 97
'DeleteOutputPdf' on page 98
'DownloadOutputPdf' on page 99
```

General information

This section provides the documentation for the REF 2014 submission system web service. The documentation is aimed at client developers and includes details of how the service is configured for authentication. All examples are based on .NET 4.0 and C#.

Known issue

There is a known issue with the web service where leading white space is lost between client and server for any method parameter value. This is caused by a bug in WCF 4.0 when using MTOM message encoding. We have applied a workaround which fixes the issue when using a BasicHttpBinding but the issue remains for the WsHttpBinding and CustomBinding. The issue does not affect the three backwards compatible endpoints from the pilot.

This should only be a problem when importing or exporting data to a delimited text file where the field delimiter or string delimiter being used is white space (e.g. tab or space). If a white space character is used for the field delimiter of an import or export then the web service will return an error 'FieldDelimiter is required'. If a white space character is used for the string delimiter then the import or export will assume no string delimiter is required.

Updates since the submission system pilot

The WSDLs for the web service and test web service are identical and are published at these URLs:

https://submissions.ref.ac.uk/api/Ref2014WebService.svc?wsdl

https://test.ref.ac.uk/api/Ref2014WebService.svc?wsdl

The WSDL exposes three endpoints that are backwards compatible with existing clients and do not include any new functionality apart from bug fixes. These endpoints are not described in any more detail in this document. They can be found at:

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/WsSoap12

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/soap12

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/soap11

The WSDL also exposes three new endpoints that must be used to access new functionality to upload, download or delete PDFs for outputs. These endpoints all support an updated service contract which includes the `UploadOutputPdf`, `DownloadOutputPdf` and `DeleteOutputPdf` methods.

The new endpoints all use 'Mtom' message encoding instead of 'Text' encoding. Message Transmission Optimisation Mechanism (MTOM) enables binary data to be sent more efficiently with a SOAP message than compared to text encoding.

The three new endpoints are listed here and described in more detail below:

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/WsHttp

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/basicHttp

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/legacy

Authentication

In order to make a call to the web service you need a user account in the REF submission system. Ask the REF administrator at your institution to create one for you. The credentials for this user account need to be provided in every call to the web service.

The user's e-mail address (not the user's name) should be passed as the username.

If the supplied e-mail and password do not match a user account in the REF submission system then the web service throws an exception.

There are three types of user account:

- Administrator – full access to the system.
- Standard user – access to parts of the system and level of access depend on the user functions and permissions set in the user account.
- Automated – can only log in via the web service. Access to parts of the system and level of access depend on the user functions and permissions set in the user account.

For standard and automated user accounts, your user account must have the necessary user functions and permissions for the desired action in order for the call to the web service to be successful. Otherwise, the web service returns AccessDenied.

Endpoints

The three new endpoints are described below. Your choice of endpoint may depend on your choice of client programming language. All endpoints make use of transport security (SSL) so all communication between clients and the web service is secure. Usernames and passwords are not encrypted at the message level but they are secure since they are always sent using transport security. Each endpoint has a relative address which is listed below.

WsHttpBinding

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/WsHttp

This is a WsHttpBinding which has three important features:

1. Security mode is TransportWithMessageCredential, so all calls to the service must be made over HTTPS.
2. The clientCredentialType of the message is UserName, so a username and password is expected with every call to the service.

3. The establishSecurityContext attribute on the message is set to false. This disables secure sessions on the binding, which is a feature that uses WS-SecureConversion protocol to establish a security context between a client and the service for improved efficiency when authenticating repeated calls to the service. This feature has been disabled because it is not widely supported outside .NET.

The binding configuration is as follows:

```
<wsHttpBinding>
  <binding name="Ref2014WebService_WsHttp" maxReceivedMessageSize="1073741824"
    sendTimeout="00:10:00" receiveTimeout="00:10:00" messageEncoding="Mtom">
    <readerQuotas maxArrayLength="1073741824" />
    <security mode="TransportWithMessageCredential">
      <message clientCredentialType="UserName" establishSecurityContext="false" />
    </security>
  </binding>
</wsHttpBinding>
```

BasicHttpBinding

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/basicHttp

This is a BasicHttpBinding which has two important features:

1. Security mode is TransportWithMessageCredential, so all calls to the service must be made over HTTPS.

2. The clientCredentialType of the message is UserName, so a username and password is expected with every call to the service.

The binding configuration is as follows:

```
<basicHttpBinding>
  <binding name="Ref2014WebService_basicHttp" maxBufferSize="1073741824"
    maxReceivedMessageSize="1073741824" sendTimeout="00:10:00"
    receiveTimeout="00:10:00" messageEncoding="Mtom">
    <readerQuotas maxArrayLength="1073741824" />
    <security mode="TransportWithMessageCredential">
      <message clientCredentialType="UserName" />
    </security>
  </binding>
</basicHttpBinding>
```

CustomBinding

https://submissions.ref.ac.uk/api/Ref2014WebService.svc/legacy

This is a custom binding which has been included to add support for older frameworks (for example .NET 2.0).

The binding configuration is as follows:

```
<customBinding>
  <binding name="Ref2014WebService_legacy" sendTimeout="00:10:00"
    recieveTimeout="00:10:00">
    <security authenticationMode="UserNameOverTransport" messageSecurityVersion="WSSe
      curity11WSTrustFebruar2005WSSecureConversationFebruary2005WSSecurityPolicy
      11BasicSecurityProfile10">
    </security>
    <mtomMessageEncoding messageVersion ="Soap11WSAddressingAugust2004" >
      <readerQuotas maxArrayLength="1073741824" />
    </mtomMessageEncoding>
    <httpsTransport authenticationScheme="Anonymous" maxBufferSize="1073741824"
      maxReceivedMessageSize="1073741824"/>
  </binding>
</customBinding>
```

Client configuration

Files are transferred over the web service as a byte array. This byte array will often be too large for the default configuration settings that are generated from the published WSDL, therefore clients are advised to increase the `maxBufferSize`, `maxReceivedMessageSize` and `maxArrayLength` configuration values. The web service will allow these settings to be set up to 1073741824, which is the number of bytes in 1Gb. Additionally, clients are advised to increase the `sendTimeout` and `receiveTimeout` values to ten minutes (00:10:00); the default for both is one minute and increasing the values will allow more time for large file transfers to complete.

An example client configuration for each endpoint is listed below:

WsHttpBinding_IRefWebService2

Note: The `maxBufferSize` attribute does not apply to this binding.

```
<wsHttpBinding>
  <binding name="WSHttpBinding_IRef2014WebService2" closeTimeout="00:01:00"
    openTimeout="00:01:00" receiveTimeout="00:10:00" sendTimeout="00:10:00"
    bypassProxyOnLocal="false" transactionFlow="false" hostNameComparisonMode="StrongWildcard"
    maxBufferPoolSize="524288" maxReceivedMessageSize="1073741824" messageEncoding="Mtom"
    textEncoding="utf-8" useDefaultWebProxy="true" allowCookies="false">
    <readerQuotas maxDepth="32" maxStringContentLength="8192" maxArrayLength="1073741824"
      maxBytesPerRead="4096" maxNameTableCharCount="16384" />
    <reliableSession ordered="true" inactivityTimeout="00:10:00" enabled="false" />
    <security mode="TransportWithMessageCredential">
      <transport clientCredentialType="None" proxyCredentialType="None" realm="" />
      <message clientCredentialType="UserName" negotiateServiceCredential="true"
        algorithmSuite="Default" establishSecurityContext="false" />
    </security>
  </binding>
</wsHttpBinding>
```

BasicHttpBinding_IRefWebService2

```
<basicHttpBinding>
  <binding name="BasicHttpBinding_IRef2014WebService2" closeTimeout="00:01:00"
    openTimeout="00:01:00" receiveTimeout="00:10:00" sendTimeout="00:10:00"
    allowCookies="false" bypassProxyOnLocal="false" hostNameComparisonMode="StrongWildcard"
    maxBufferSize="1073741824" maxBufferPoolSize="524288" maxReceivedMessageSize="1073741824"
    messageEncoding="Mtom" textEncoding="utf-8" transferMode="Buffered"
    useDefaultWebProxy="true">
    <readerQuotas maxDepth="32" maxStringContentLength="8192" maxArrayLength="1073741824"
      maxBytesPerRead="4096" maxNameTableCharCount="16384" />
    <security mode="TransportWithMessageCredential">
      <transport clientCredentialType="None" proxyCredentialType="None" realm="" />
      <message clientCredentialType="UserName" algorithmSuite="Default" />
    </security>
  </binding>
</basicHttpBinding>
```

CustomBinding_IRef2014WebService2

```
<customBinding>
  <binding name="CustomBinding_IRef2014WebService2">
    <security defaultAlgorithmSuite="Default" authenticationMode="UserNameOverTransport"
      requireDerivedKeys="true" securityHeaderLayout="Strict" includeTimestamp="true"
      keyEntropyMode="CombinedEntropy" messageSecurityVersion="WSSecurity11WSTrust
      February2005WSSecureConversationFebruary2005WSSecurityPolicy
      11BasicSecurityProfile10">
      <localClientSettings cacheCookies="true" detectReplays="false"
        replayCacheSize="900000" maxClockSkew="00:05:00" maxCookieCachingTime="Infinite"
        replayWindow="00:05:00" sessionKeyRenewalInterval="10:00:00"
        sessionKeyRolloverInterval="00:05:00" reconnectTransportOnFailure="true"
        timestampValidityDuration="00:05:00" cookieRenewalThresholdPercentage="60" />
      <localServiceSettings detectReplays="false" issuedCookieLifetime="10:00:00"
        maxStatefulNegotiations="128" replayCacheSize="900000" maxClockSkew="00:05:00"
```

```
              negotiationTimeout="00:01:00" replayWindow="00:05:00" inactivityTimeout="00:02:00"
              sessionKeyRenewalInterval="15:00:00" sessionKeyRolloverInterval="00:05:00"
              reconnectTransportOnFailure="true" maxPendingSessions="128"
              maxCachedCookies="1000" timestampValidityDuration="00:05:00" />
          <secureConversationBootstrap />
        </security>
        <mtomMessageEncoding maxReadPoolSize="64" maxWritePoolSize="16"
          messageVersion="Soap11WSAddressingAugust2004" writeEncoding="utf-8">
          <readerQuotas maxDepth="32" maxStringContentLength="8192" maxArrayLength="1073741824"
            maxBytesPerRead="4096" maxNameTableCharCount="16384" />
        </mtomMessageEncoding>
        <httpsTransport manualAddressing="false" maxBufferPoolSize="524288"
          maxReceivedMessageSize="1073741824" allowCookies="false"
          authenticationScheme="Anonymous" bypassProxyOnLocal="false"
          decompressionEnabled="true" hostNameComparisonMode="StrongWildcard"
          keepAliveEnabled="true" maxBufferSize="1073741824" proxyAuthenticati
          onScheme="Anonymous" realm="" transferMode="Buffered" unsafeConnection
          NtlmAuthentication="false" useDefaultWebProxy="true"
          requireClientCertificate="false" />
      </binding>
    </customBinding>
```

Language specific notes

.NET 3.0 and above

In order to help diagnosis of issues when clients are calling the web service, the following section can be added to your client configuration file:

```
<system.diagnostics>
  <sources>
    <source name="System.ServiceModel"
      switchValue="Information, ActivityTracing"
      propagateActivity="true">
        <listeners>
          <add name="traceListener"
          type="System.Diagnostics.XmlWriterTraceListener"
          initializeData="C:\MyLogFilePath\MyLogFile.svclog"  />
        </listeners>
    </source>
  </sources>
</system.diagnostics>
```

.NET 2.0

We advise .NET 2.0 client developers to use the custom binding (https://submissions.ref.ac.uk/api/Ref2014WebService.svc/legacy). Since WCF was not introduced into the .NET framework until version 3.0, a .NET 2.0 client requires the Web Services Enhancements 3.0 (WSE 3.0)[1] library in order to make use of this binding. The binding sets the authentication mode to `userNameOverTransport` with an older message security version that is compatible with WSE 3.0 and .NET 2.0.

Java

The REF 2014 web service has been developed in .NET 4.0 using WCF. Java clients need to make use of WSIT[2] in order to use the web service.

---

[1] http://en.wikipedia.org/wiki/Web_Services_Enhancements

[2] http://wsit.java.net/

Web service classes

BooleanResult

The class returned by the web service methods which return boolean values.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
Success	bool	The boolean value returned by the method.

IntResult

The class returned by the web service methods which return integer values.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
ReturnValue	int	The integer returned by the method.

LocksResult

The class returned by the GetCurrentLocks method.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
Locks	Lock[]	The list of current locks.

Lock

Represents a lock held on the submission system.

Properties

Name	Type	Description
LockIdentifier	int	The identifier for the lock.
User	string	The user who holds the lock.
Submission	string	The submission being locked as a UOA/multiple submission letter pair.
Table	string	The table being locked.
RecordIdentifier	string	The record identifier for the record being locked.
LockType	LockTypes	The type of lock being held.
CreatedTime	DateTime	The date and time the lock was created.
Comments	string	Any comments added to the lock.

FileResult

The file retrieved from the submission system.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
ReturnValue	byte[]	The contents of the file.
Filename	string	The name of the file.

JobStatusResult

Holds information about current status of a job and is returned by the GetJobStatus method.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
JobIdentifier	int	The identifier for the job.
ProcessName	string	The name of the process which is to process the job.
JobProgress	string	The current status of the job. One of: Waiting Processing Completed Failed
JobOutcome	string	The outcome of the completed job. One of: Success Success with warnings Errors Failed

Name	Type	Description
CreatedAt	DateTime	The date and time the job was created.
StartedAt	DateTime (nullable)	The date and time the job was started.
CompletedAt	DateTime (nullable)	The date and time the job was completed.
Creator	string	The name of the user who created the job.
Log	LogItem[]	The log entries for the job.

LogItem

Represents a log item held in the REF submission system.

Properties

Name	Type	Description
Time	DateTime	The date and time the information was logged.
EventType	string	The type of log event. One of: Error Warning Information
Comments	string	The comment which was logged.

JobArgument

Represents a job argument that is not required by all import/export formats.

Properties

Name	Type	Description
Name	string	The name of the argument.
Value	string	The value of the argument.

PrintInfo

Represents a type of print job that can be requested.

Properties

Name	Type	Description
Id	byte	The unique identifier of the type of print job.
Name	string	The name of the type of print job.
Description	string	A description of what the job does.

PrintInfoResult

The class returned by the GetPrintInfo method.

Properties

Name	Type	Description
ErrorStatus	ErrorStatuses (nullable)	The error status of the web service method call.
ErrorMessage	string	An error message if the method call returns an error.
ErrorReference	string	A reference number for the error message to allow the REF team to trace the error.
ReturnValue	PrintInfo[]	An array containing all types of print job that can be requested.

Web service enums

RefForm

Defines all of the REF data entry forms.

Name	Description
RG	Research groups
Ref1a	Staff details
Ref1b	Staff circumstances
Ref1c	Category C staff details
Ref2	Research outputs
Ref3a	Impact template
Ref3b	Impact case studies
Ref4a	Research doctoral degrees awarded
Ref4b	Research income
Ref4c	Research income-in-kind
Ref5	Environment template

ImportExportForm

Defines all of the forms that can be imported or exported.

Name	Description
RG	Research groups
Ref1a	Staff details
Ref1b	Staff circumstances
Ref1c	Category C staff details
Ref2	Research outputs
Ref3a	Impact template
Ref3b	Impact case studies
Ref4a	Research doctoral degrees awarded
Ref4b	Research income
Ref4c	Research income-in-kind
Ref5	Environment template
User	User accounts
UsrP	User permissions
UsrF	User functions

ErrorStatuses

Defines all error statuses that can be returned by the web service.

Name	Description
AccessDenied	The automated user has been denied access.
ArgumentMissing	A required job argument is missing.
DuplicateOutputIdentifier	The output identifier exists for more than one output in the submission.
FileMissing	The output file is missing.
InvalidArgument	An invalid job argument was supplied.
InvalidJob	The job does not exist or is not owned by the user.
InvalidSubmission	The supplied submission does not exist in the user's institution or the user has no access to the supplied submission.
JobNotProcessed	The job has not been processed.
LockDenied	A lock request failed.
NoOutputPdf	No PDF was found for an output.
ResearchGroupsCouldNotBeCleared	Research groups could not be cleared from a joint submission (see ClearSubmission for more detail).
UnhandledError	An unhandled error has occurred.

ValidationForm

Defines all possible values that can be passed to the `Validate` method, indicating the data to be validated.

Name	Description
RG	Research groups
Ref1a	Staff details
Ref1b	Staff circumstances
Ref1c	Category C staff details
Ref2	Research outputs
Ref3a	Impact template
Ref3b	Impact case studies
Ref4a	Research doctoral degrees awarded
Ref4b	Research income
Ref4c	Research income-in-kind
Ref4aTot	The totals over the whole institution for REF4a.
Ref4bTot	The totals over the whole institution for REF4b.
Ref4cTot	The totals over the whole institution for REF4c.
Ref5	Environment template
Sub	Run submission level validation rules

ValidationReportFileTypes

Defines all possible formats for a validation report.

Name	Description
PDF	A PDF report
XML	An XML report

LockTypes

Defines all possible lock types.

Name	Description
Read	A user is reading but not editing the record. Other users can read the record; one other user can edit the record; the record cannot be deleted.
Write	A user is editing the record. No other concurrent read locks will be allowed by other users; the record cannot be deleted.
Delete	A record is being deleted. The record cannot be read by any other user.
Submission	The entire submission is locked.
Blocking	An internal system lock.
Submit	The submission has been validated and is ready to submit. No records in the submission can be edited or deleted.
Import	Data is being imported.

Jobs

The REF 2014 submission system makes use of a job queue to manage asynchronous processes. The Import, Export, Print and Validate methods of the web service all add a job to the job queue.

Client developers are advised to periodically call the GetJobStatus method using the id of a created job to track the progress of the job. The GetJobStatusResult returned by GetJobStatus will include a log containing details of events during the processing of the job, including any critical errors in data or processing.

When a job has been successfully processed, a file will be available to download. The purpose of each file for each type of job is as follows:

Job	File
Import	A validation report in the requested format detailing any validation errors or warnings for all records that were successfully imported. **Note:** Use the GetJobStatus method and review the log for the job in order to see any errors in records that were not imported due to errors.
Export	The exported data in the requested format.
Print	The requested data in a PDF file.
Validate	A validation report detailing any validation errors or warnings in the data in the requested format.

Web service methods

ClearLocks

Clears the locks held by your institution.

Signature

```
IntResult ClearLocks(bool force)
```

Parameters

Name	Description
force	Set to true to clear all locks, false to only clear the locks from timed out sessions.

Returns

The number of locks cleared from the database.

Errors

Error	Description
AccessDenied	The user's account has been restricted to read-only by an administrator at your institution. The user does not have access to the Locks function.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method clears locks for your institution from the system. Clears user locks: read, write, delete. It does not clear system locks (such as the locks applied to submissions when the institution is submitting using the *Submit* feature) or administrator locks (such as submission locks when an administrator locks a submission).

This method is designed for use with importing to ensure that the import succeeds, regardless of whether or not there are any user locks in place.

If the force parameter is set to true all locks are cleared, including active locks held by current users of the system. Users who have locks cleared by force could lose data.

ClearSubmission

Clears the data contained within a submission from the database.

Signature

```
IntResult ClearSubmission(string submission, RefForm[] forms)
```

Parameters

Name	Description
submission	A string contains the UOA/multiple submission letter pair for the submission to clear e.g. 16A or 14.
forms	The list of REF forms to clear.

Returns

The number of records removed from the database.

Errors

Error	Description
ArgumentMissing	Either no submission was provided or no forms were provided.
AccessDenied	The user's account has been set to read-only by an administrator at your institution. The institution has already submitted to REF2014. The submission deadline has passed. The user does not have access to the Delete function. The user does not have access to the Submissions management function. The user does not have write permission for all of the given forms in the given submission.

Error	Description
LockDenied	Unable to lock the data in order to clear it. This is either because a record is being edited by another user or because the submission is locked.
InvalidSubmission	The supplied submission does not exist in the user's institution or the user has no access to the supplied submission.
ResearchGroupsCouldNotBeCleared	Research groups could not be cleared from a joint submission because there are staff members from another institution within the joint submission who are assigned to a research group.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method clears all the data from the given forms in the submission providing the user has access to the submission and permission to delete from the submission. Clearing REF1a also clears both REF1b and REF1c.

Export

Adds an export job to the job queue and returns the ID for the job.

Signature

```
IntResult Export(string exportFileType, ImportExportForm[] formList, string[] submissionList, string filename, JobArgument[] arguments)
```

Parameters

Name	Description
exportFileType	One of: REF2014 XML Excel 2007 Excel 2003 Access 2007 Access 2003 Access 2000 Delimited File
formList	The list of forms to export.
submissionList	The list of submissions to export as a UOA/multiple submission letter pair, e.g. 16A, 15.
filename	The name of the file to export the data to. If left empty the submission system generates a file name.
arguments	An array of additional arguments for the job – see remarks below for details.

Returns

The identifier for the export job.

Errors

Error	Description
AccessDenied	The user does not have at least reduced-read access to all given forms in all given submissions. The user does not have access to the Export function.

Error	Description
ArgumentMissing	The exportFileType has not been provided. No valid submissions have been provided. No forms have been provided. An argument required to export the given exportFileType is missing from the arguments parameter.
InvalidArgument	The given exportFileType is not a supported export file type. The given filename is longer than 1024 characters. More than one file has been provided for a delimited file export.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method allows you to submit a request to export data in the supported formats from the REF 2014 submission system. Note that the method returns a job identifier, not the export file itself. The GetJobStatus method can be used to check whether the job has been processed and when the processing has finished successfully the export file can be retrieved using the GetFile method.

The arguments parameter allows for additional arguments to be passed to the Export process, and is dependent on the type of file being exported. The arguments are listed below.

For 'REF2014 XML', 'Excel 2007', 'Excel 2003', 'Access 2007', 'Access 2003' and 'Access 2000' no additional arguments are required.

For 'Delimited File' the following arguments are required:

Name	Description
FieldDelimiter	The character to use to delimit fields. A single character should be provided; if longer than one character then the InvalidArgument error status is returned. If this argument is not provided for a delimited file export then the ArgumentMissing error status is returned.
StringDelimiter	The character to use to delimit strings in a single field. This is an optional argument – a text export job can be created without it. A single character should be provided; if longer than one character then InvalidArgument is returned.

Import

Adds an import job to the job queue and returns the ID for the job.

When the job has completed, a validation report will be produced containing any validation failures for records that were successfully imported. Any errors in data causing records not to be imported will be contained in the log for the job. The log can be retrieved by calling GetJobStatus using the job's ID.

Signature

```
IntResult Import(string importFileType, string importFilename, byte[] fileContents, bool
isFileZipped, bool useImportBlockLock, bool isAtomicImport, bool matchOutputs,
ValidationReportFileTypes reportFileType, string reportFilename, JobArgument[] arguments)
```

Parameters

Name	Description
importFileType	One of: REF2014 XML Excel 2007 Excel 2003 Access 2007

Name	Description
	Access 2003
	Access 2000
	Delimited File
importFilename	The name of the import file, including file extension.
fileContents	The contents of the file to import.
isFileZipped	`true` if the file is zipped, `false` otherwise.
userImportBlockLock	`true` if the import is to block all other updates until complete.
isAtomicImport	`true` to rollback the import if any errors are reported in the data.
matchOutputs	`true` to match any journal articles or conference proceedings (type D or E) included in the import to the Scopus database in order to retrieve a citation count. Outputs are only be matched if they are within a UOA that is using citation data to support assessment.
reportFileType	The type of file to return the validation report in.
reportFilename	The name to give to the validation report file. If not provided then the web service generates a name.
arguments	The list of additional arguments for an export format. Argument names are not case sensitive.

Returns

The job identifier for the import job.

Errors

Error	Description
AccessDenied	The user's account has been restricted to read-only by an administrator at your institution. The institution has already submitted to REF2014. The submission deadline has passed. The user does not have access to the Import function.
ArgumentMissing	The `importFileType` has not been provided. The `fileContents` parameter is null or empty. An argument required to export the given `importFileType` is missing from the arguments parameter.
InvalidArgument	The given `importFileType` is not a supported import file type. The given `importFilename` is longer than 1024 characters.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method allows you to import data in the supported formats into the REF 2014 submission system.

The arguments parameter allows additional arguments to be passed to the Import process, and depends on the type of the file being imported. The arguments are listed below.

For 'REF2014 XML', 'Excel 2007', 'Excel 2003', 'Access 2007', 'Access 2003' and 'Access 2000' no additional arguments are required.

For 'Delimited File' the following arguments are required:

Name	Description
FieldDelimiter	The character to use to delimit fields. A single character should be provided; if longer than one character then the `InvalidArgument` error status is returned. If this argument is not provided for a delimited file export then the `ArgumentMissing` error status is returned.
StringDelimiter	The character to use to delimit strings in a single field. This is an optional argument – a text import job can be created without it. A single character should be provided; if longer than one character then `InvalidArgument` is returned.
FormName	The name of the form the import file contains data for. One of: RG REF1a REF1b REF1c REF2 REF4a REF4b REF4c User UsrF UsrP User is user account details; UsrF is user account functions; UsrP is user account permissions. If no form is provided then the `ArgumentMissing` error status is returned. If the `FormName` argument does not identify one single valid form from the list above then the `InvalidArgument` error status is returned.

GetCurrentLocks

Gets a list of locks currently active on the submission system.

Signature

```
LocksResult GetCurrentLocks()
```

Returns

The list of current locks as an array of Lock objects. If there are no locks to return then the array is null.

Errors

Error	Description
AccessDenied	The user does not have access to the Locks function.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

GetFile

Gets a file which has been created by a REF submission system job.

Signature

```
FileResult GetFile(int jobIdentifier)
```

Parameters

Name	Description
jobIdentifier	The identifier for the job to retrieve the file for.

Returns

The contents of the file requested.

Errors

Error	Description
InvalidJob	The job does not exist, or is not owned by the user.
JobNotProcessed	The job has not been processed.
FileMissing	The output file is missing.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method retrieves the file that has been produced as a result of processing the job identified. This can be a file containing export data, a validation report from an import or validation job, or a file for printing submission data.

GetJobStatus

Retrieves the status of a job in the submission system and a log detailing events during its processing.

Signature

```
JobStatusResult GetJobStatus(int jobIdentifier)
```

Parameters

Name	Description
jobIdentifier	The identifier for the job to retrieve the file for.

Returns

The current status of the job.

Errors

Error	Description
InvalidJob	The job does not exist, or is not owned by the user.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method retrieves the current status of the job, along with the log for the job once it has completed processing.

GetPrintInfo

Retrieves the types of print jobs that can be requested.

Signature

```
PrintInfoResult GetPrintInfo()
```

Returns

The list of all types of print job that can be requested.

Errors

Error	Description
Unhandled Error	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method should be called in order to get the list of print jobs that can be requested from the REF 2014 web service.

Print

Adds a print job to the job queue and returns the ID of the job.

Signature

```
IntResult Print(string[] submissionList, byte[] reportList, string filename, bool
includeAllJointSubmissionMembers)
```

Parameters

Name	Description
submissionList	The list of submissions to run the report for.
reportsList	The list of identifiers for the reports to run. GetPrintInfo should be called to retrieve the list of valid report identifiers.
filename	The name to give to the file that is produced for printing. If this is not provided then a name is generated.
includeAllJointSubmissionMembers	True to include all members of a joint submission in the report.

Returns

The identifier of the print job created.

Errors

Error	Description
ArgumentMissing	The submissionList parameter does not contain any valid submissions. The reportsList parameter is null or empty.
InvalidArgument	The given filename is longer than 1024 characters.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method allows you to print data for the given submissions and other information in the REF 2014 submission system.

Validate

Creates a validate job in the submission system.

Signature

```
IntResult Validate(string[] submissionList, ValidationForm[] formList, string filename,
ValidationReportFileTypes reportType)
```

Parameters

Name	Description
submissionList	The list of submissions to validate.
formList	The list of forms to validate.
filename	The file name to give to the validation report. A default file name is generated if this is not provided.
reportType	The type of file to return the validation report in.

Returns

The identifier of the validation job created.

Errors

Error	Description
AccessDenied	The user does not have at least reduced-read access to all given forms in all given submissions.
ArgumentMissing	The submissionList argument does not contain any valid submissions. The formList argument is null or empty.
InvalidArgument	The given filename is longer than 1024 characters.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method allows you to validate the data for the given submissions and forms in the REF 2014 submission system. If the XML output format is selected then the validation report is provided in XML using the RAE2008ValidationReport schema.

The schema of the XML returned is at:

http://www.ref.ac.uk/media/ref/content/subguide/REF2014ValidationReport.xsd

UploadOutputPdf

Uploads a PDF for an output.

Signature

```
BooleanResult UploadOutputPdf(string submission, string outputIdentifier, byte[] fileContents,
string filename, string ukprn)
```

Parameters

Name	Description
submission	A string contains the UOA/multiple submission letter pair for the submission to clear e.g. 16A or 14.
outputIdentifier	The identifier of the output that the PDF will be associated with.
fileContents	The contents of the PDF.
filename	The file name to give to the PDF.
ukprn	The UKPRN of the institution that the submission belongs to. If a value is not provided then the user's institution will be assumed. This parameter allows joint submission members to upload a

Name	Description
	PDF for an output in a submission that belongs to another institution, where write permission to outputs (REF2) has been granted by the member institution.

Returns

The Success property of the BooleanResult will be set true if the upload succeeded and false if there was an error.

Errors

Error	Description
AccessDenied	The user's account has been set to read-only by an administrator at your institution.
	The institution has already submitted to REF2014.
	The submission deadline has passed.
	The user does not have write access to outputs (REF2) in the given submission.
ArgumentMissing	No submission was provided.
	No outputIdentifier was provided.
	A null or empty fileContents array was provided.
DuplicateOutputIdentifier	The outputIdentifier exists for more than one output in the submission.
InvalidArgument	The outputIdentifier was not found in the given submission.
	The PDF exceeds the maximum upload size of 100Mb.
	The filename exceeds the maximum length of 256 characters.
	The file was not recognised as a PDF.
InvalidSubmission	The supplied submission does not exist in the user's institution or the user has no access to the supplied submission.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method uploads a PDF for an output.

`DeleteOutputPdf`

Deletes a PDF that has been previously uploaded for an output.

Signature

`BooleanResult DeleteOutputPdf(string submission, string outputIdentifier, string ukprn)`

Parameters

Name	Description
submission	A string contains the UOA/multiple submission letter pair for the submission to clear e.g. 16A or 14.
outputIdentifier	The identifier of the output that the PDF is associated with.
ukprn	The UKPRN of the institution that the submission belongs to. If a value is not provided then the user's institution will be assumed. This parameter allows joint submission members to delete the PDF for an output in a submission that belongs to another institution, where write permission to outputs (REF2) has been granted by the member institution.

Returns

The Success property of the BooleanResult will be set true if the PDF was successfully deleted and false if there was an error. Success will be set to true even if there was no PDF associated with the given output.

Errors

Error	Description
AccessDenied	The user's account has been set to read-only by an administrator at your institution. The institution has already submitted to REF2014. The submission deadline has passed. The user does not have write access to outputs (REF2) in the given submission.
ArgumentMissing	Either no submission was provided or no outputIdentifier was provided.
DuplicateOutputIdentifier	The outputIdentifier exists for more than one output in the submission.
InvalidArgument	The outputIdentifier was not found in the given submission.
InvalidSubmission	The supplied submission does not exist in the user's institution or the user has no access to the supplied submission.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method deletes a previously uploaded PDF for an output.

`DownloadOutputPdf`

Downloads a PDF that has been previously uploaded for an output.

Signature

```
FileResult DownloadOutputPdf(string submission, string outputIdentifier, string ukprn)
```

Parameters

Name	Description
submission	A string contains the UOA/multiple submission letter pair for the submission to clear e.g. 16A or 14.
outputIdentifier	The identifier of the output that the PDF is associated with.
ukprn	The UKPRN of the institution that the submission belongs to. If a value is not provided then the user's institution will be assumed. This parameter allows joint submission members to download the PDF for an output in a submission that belongs to another institution, where read permission to outputs (REF2) has been granted by the member institution.

Returns

The contents of the PDF associated with the output and the file name that was provided when it was uploaded.

Errors

Error	Description
AccessDenied	The user does not have read or write access to outputs (REF2) in the given submission.

Error	Description
ArgumentMissing	Either no `submission` was provided or no `outputIdentifier` was provided.
DuplicateOutputIdentifier	The `outputIdentifier` exists for more than one output in the submission.
InvalidArgument	The `outputIdentifier` was not found in the given submission.
InvalidSubmission	The supplied submission does not exist in the user's institution or the user has no access to the supplied submission.
NoOutputPdf	There was no PDF associated with the given output.
UnhandledError	An unhandled error has occurred in the web service method; a log number is returned.

Remarks

This method downloads a previously uploaded PDF for an output.

Glossary

assessment period

The period from 1 January 2008 to 31 July 2013, in which research impacts, the research environment, and data about research income and research doctoral degrees awarded are assessed.

census date

The date for determining the affiliation of research staff to a particular institution, which is 31 October 2013.

closing date for submitting

The last date that institutions may submit to REF 2014, which is 29 November 2013. The deadline is 12:00 mid-day.

CrossRef

A not-for-profit network founded on publisher collaboration, with a mandate to make reference linking throughout online scholarly literature efficient and reliable. It is also the official DOI® link registration agency for scholarly and professional publications.

full-time equivalent (FTE)

Refers, as appropriate, to:

a. The extent of the contracted duties of a member of staff at the census date, as compared to those of a typical full-time member of staff in the same category (for example, academic). It does not take into account the length of time within the year for which the staff member was employed nor the relative proportion of total contracted time spent on research.

b. The amount of study undertaken in the year of programme of study compared to a full-time student with the same qualification aim studying for a full year. For REF purposes, a student's first year of programme of study starts when they first begin studying towards the qualification. Subsequent years of programme of study start on or near the anniversary of this date.

FTE values must be positive numbers expressed to up to two decimal places (for example, 0.67). The minimum value (contracted FTE of Category A staff) allowed to be reported is 0.2.

guidance on submissions

Refers to the document 'Assessment framework and guidance on submissions', published July 2011, reference REF 02.2011, which is available on the REF site: http://www.ref.ac.uk/pubs/2011-02/.

joint submission

A submission to a unit of assessment formed by a collaboration between two or more institutions. This is in contrast to a 'normal' submission, where each institution makes their own submission to a unit of assessment.

multiple submission

The submission type where, with prior approval from the funding bodies, institutions submit more than one submission to a unit of assessment.

panel criteria

Refers to the document 'Panel criteria and working methods', published January 2012, reference REF 01.2012, which is available on the REF site: http://www.ref.ac.uk/pubs/2012-01/.

publication period

The period from 1 January 2008 to 31 December 2013, research outputs published during which are submissible to REF 2014.

REF form

One of the REF data forms REF1a/b/c, REF2, REF3a/b, REF4a/b/c, REF5.

save

The term 'save' usually refers to use of the **Save** button on a page or form of the system.

staff member

A person included in a submission to the REF. Not to be confused with a user of the REF submission system.

submission

The collection of information (REF forms, etc.) submitted by an institution to a unit of assessment. Also, in *Submissions management*, the name given to the record that holds this set of information.

submission set

The set of all submissions that an institution submits to the REF.

submit deadline

The time from which you can no longer submit (the submission system closes), which is 29 November 2013 at 12:00pm.

submit

The term 'submit' usually refers to use of the *Submit* feature (accessed from the *Administration* menu), which is used to submit the submission set to the REF.

system

The REF 2014 submission system.

unassigned output

An output without an assigned staff member.

unit of assessment (UOA)

A discipline area to which REF submissions may be made.

user

A user of the REF 2014 submission system. Not to be confused with the term 'staff member' (a person included in a submission).

Index

Northavon House
Coldharbour Lane
Bristol
BS16 1QD

tel 0117 931 7477
e-mail info@ref.ac.uk
www.ref.ac.uk

HIGHER EDUCATION *hefce*
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