

EuroDSD Registry User Manual

Trial Version 19th November 2008

1. Introduction

The EuroDSD project is a new initiative, funded by the EU under the Framework 7 e-Health programme, to investigate Disorders of Sex Development (DSD). This registry, developed by the National e-Science Centre (NeSC) based at the University of Glasgow, is central to the project and provides a means of connecting the specialist centres across Europe within a Virtual Research Environment (VRE). This manual will explain the detailed steps to access and use the EuroDSD VRE system. To begin with we have set up two dummy accounts (see below). Once investigators and researchers have explored the registry and are happy with its functionality, we will go live with the registry and set up accounts for all investigators and their supporting staff (research nurses etc).

For more detailed explanations of the core dataset and how to complete the registry forms, please refer to the other documents provided. (These documents are also accessible through the registry front page itself).

2. Security Features of the Registry

To protect patient privacy and restrict access to clinical data sets to authorised individuals, the EuroDSD registry has a high level of security. In addition to authentication (as typified by a username/password), the registry supports finer-grained authorization where privileges (roles) are assigned to individuals and subsequently used to enforce access decisions, i.e. access to the data sets in the registry. To support this we have adopted the Internet2 *Shibboleth* technologies, an open-source implementation for federated identity-based authentication and authorization exploiting SAML. For more information regarding to the Shibboleth system, please refer to <http://shibboleth.internet2.edu/>. Given that no site other than NeSC has an identity provider (IdP – where you log in to and where your privileges/roles are kept/maintained) the details below exploit the NeSC Glasgow IdP. If sites have their own IdP we can of course allow access to the registry through other IdPs. (Let us know if this is the case).

3. Registry Access Manual

To access the EuroDSD registry, open up a browser and point it to <https://tethys.nesc.gla.ac.uk/>

Please note that no specific browser is required to use this service. However, the screenshots and steps described below may vary in different browsers. In this manual, *Internet Explorer 7* from Microsoft will be taken as example for its popularity. We note that many browsers (Firefox, Google Chrome etc) are actually simpler to use and access the registry since they do not raise as many warnings on trusting certificates etc.

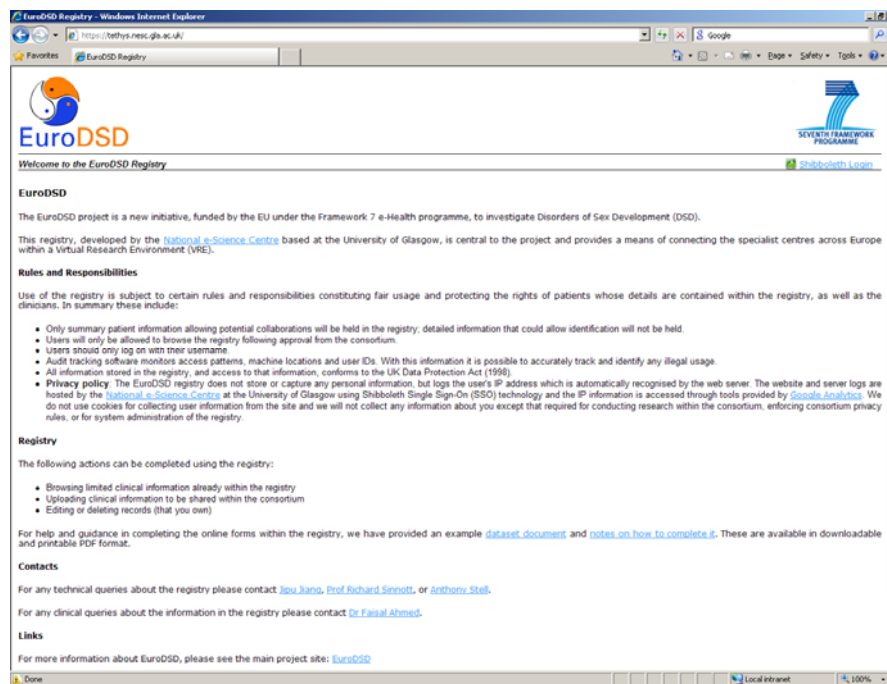


Figure 1. EuroDSD registry index page

The first page you will see is shown in Figure 1. The page describes the information about the project and registry. To login to the registry, click on the link “Shibboleth Login” on the top right corner of the web page.

Upon clicking this link, your browser will direct you to a new page as shown in figure 2. This is the *Where Are You From* (WAYF) service of Shibboleth. The idea of WAYF is to let you select the institution you wish to use for authentication.

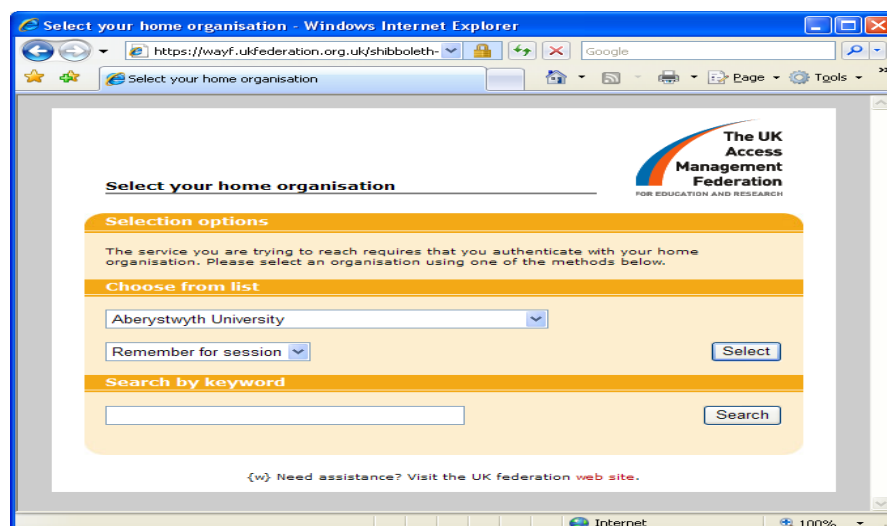


Figure 2. Where Are You From service of Shibboleth.

From the pull down list, you should select the *National e-Science Centre (Glasgow)* option and press the *Select* button, as shown in Figure 3.

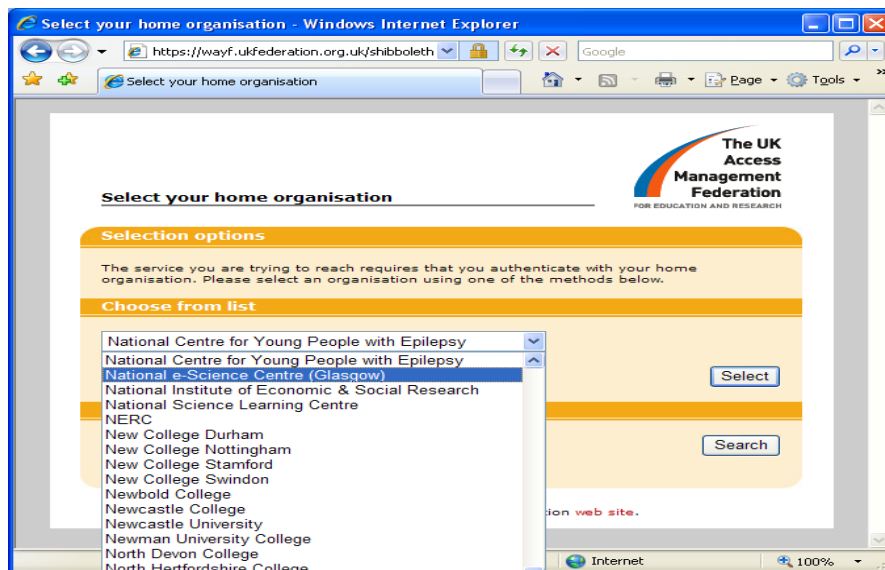


Figure 3. National e-Science Centre (Glasgow) in the WAYF List

Then you are directed to the login service provided by National e-Science Centre (NeSC), as shown in Figure 4.

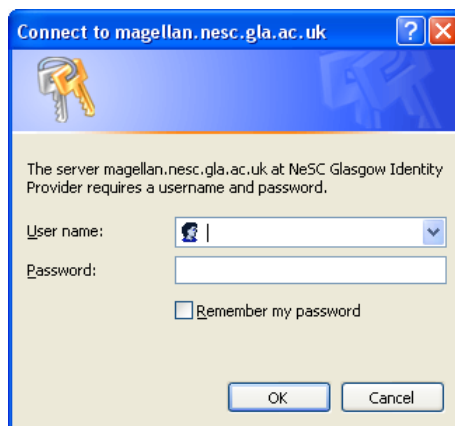


Figure 4. Login screen of National e-Science Centre Glasgow Identity Provider

To begin with we have set up two dummy accounts with username/password *shibb1/shibb1* and *shibb2/shibb2* respectively. You can use either one of these to authenticate in Figure 3. The account *shibb1* has higher privileges in that this account allows to upload, to delete and to query data in the registry. The account *shibb2* is only allowed to query data in the registry.

Once the username and password has been given, you will be redirected to the EuroDSD registry as shown in figure 5 and 6.

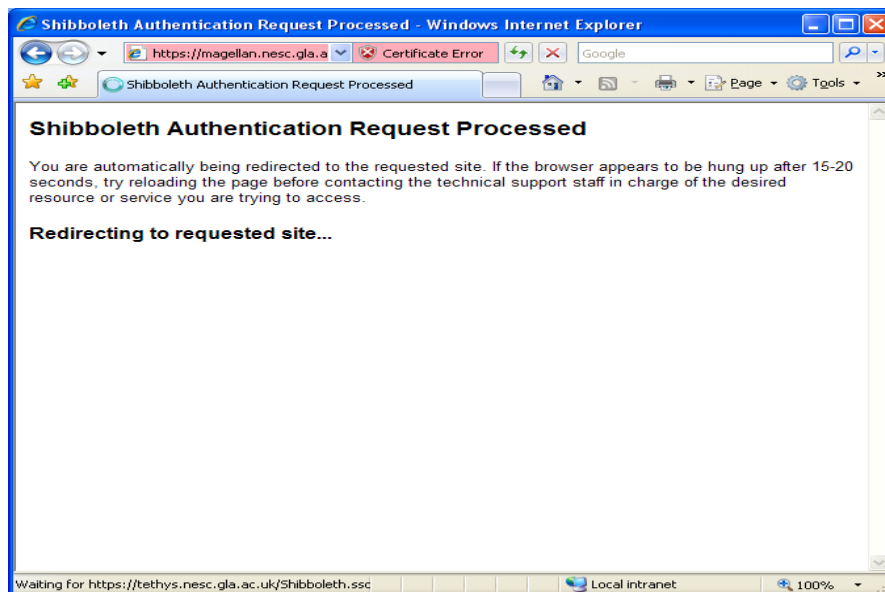


Figure 5. Authentication successful and redirection to EuroDSD registry

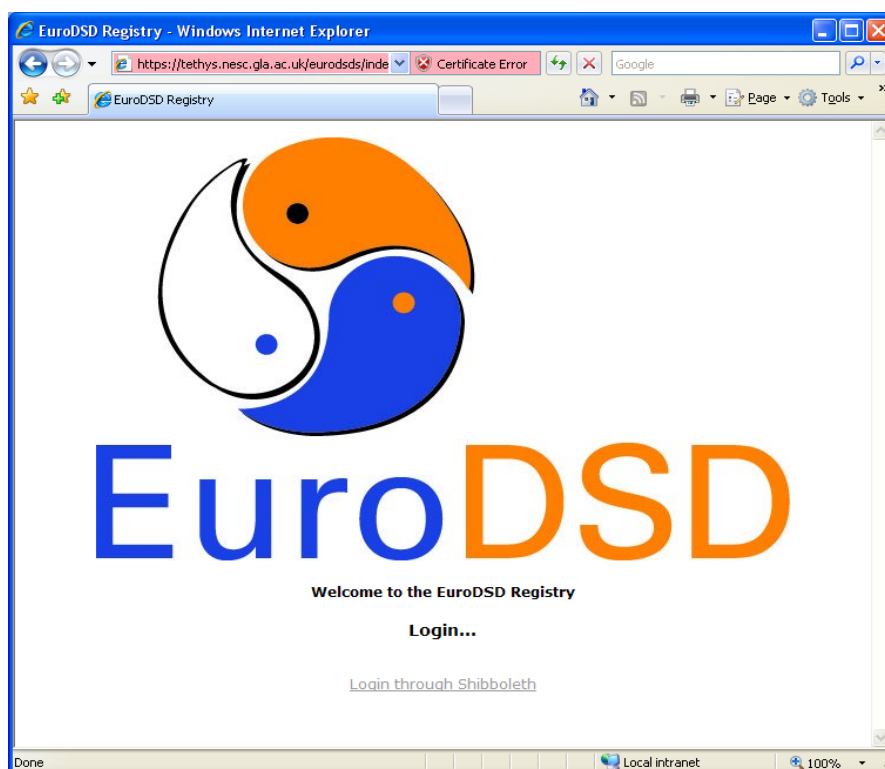


Figure 6. EuroDSD Registry front page.

If you click the link (login through Shibboleth) on the front page, you will enter the home of EuroDSD registry as shown in Figure 7.

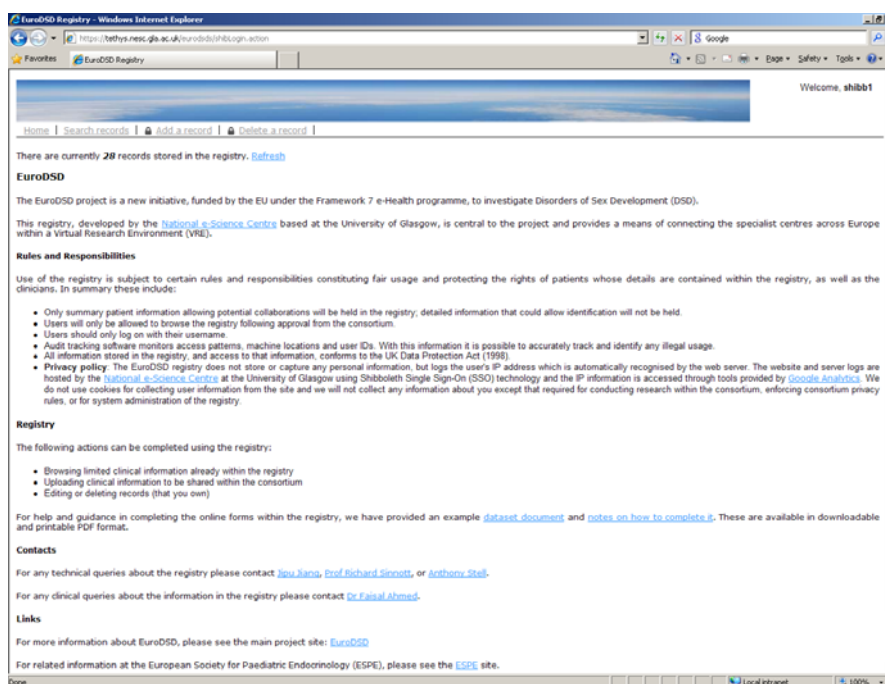


Figure 7. Home page of EuroDSD registry

As you can see from the page, there are several links under the page banner on the top. The Search Records links to the database query interface. The Add a Record links to the interface of record uploads. And the Delete a Record links to the page where you can delete the records you own in the system.

The EuroDSD registry has a sophisticated authorization system allowing only privileged personnel to operate the data. If the user does not have the right role in the registry, he/she will not be able to view the content of the page and databases. If the under privileged user (*shibb2*) were trying to access restricted area of the EuroDSD registry, a page as shown in Figure 8 will show up and stop this user from going any further.

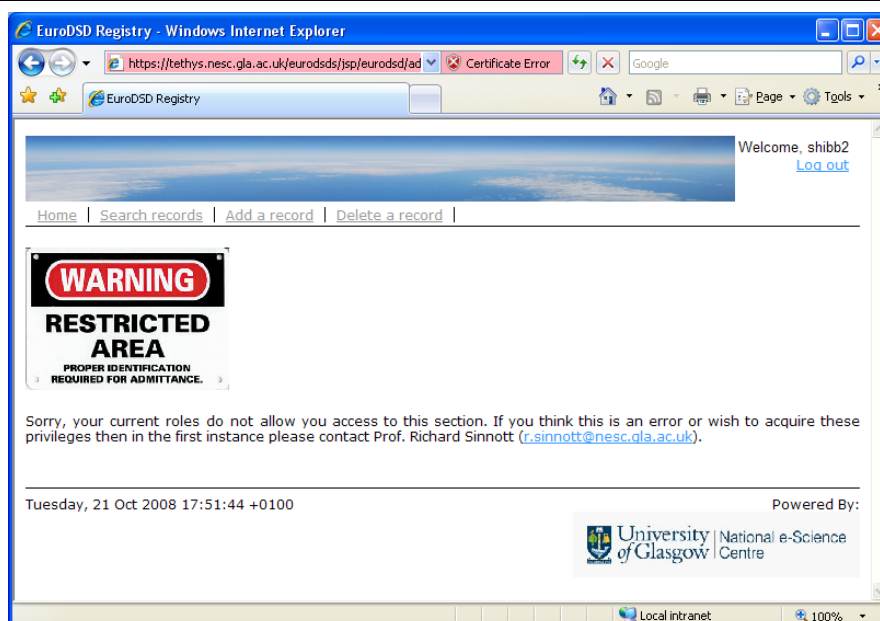


Figure 8. Restricted access to information based on user role

4. Troubleshooting

The above steps are the typical procedures in accessing and using the registry. However many modern browsers often raise security warnings related to trust and certificates used for encrypting traffic for example as shown in Figure 9. This section outlines how such warnings can be dealt with and removed.

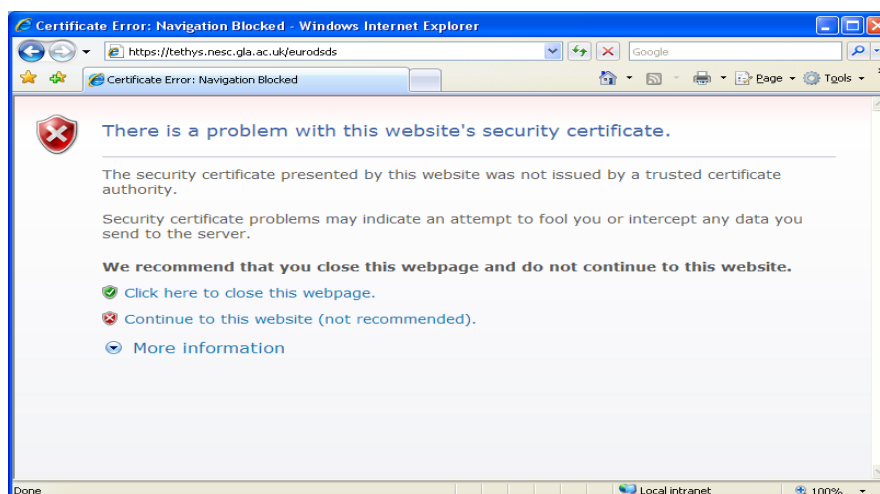


Figure 9. Security warnings when trying to access the EuroDSD registry

The reason for such warnings is that Shibboleth uses X509 certificates to encrypt the communication between the browser and the server for secure transmission (which is a Good Thing). However this certificate, generated by UK e-Science Certificate Authority (CA), is not listed as safe by Microsoft (which does not know the UK CA), and the browser takes anything it

does not know as a potential threat. So the warning can safely be ignored by clicking on *Continue to this website (not recommended)* link.

To avoid seeing this warning again, you can add this certificate to your trusted certificate list. You can do this by clicking on the *Certificate Error* on the browser as shown in Figure 10.

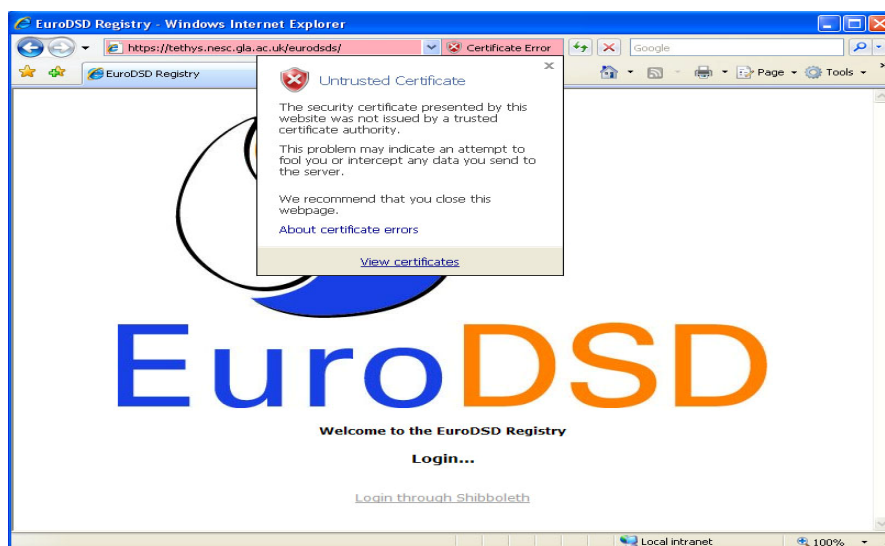


Figure 10. Certificate Error – need to add UK e-Science CA to browser

Then click *View certificates* on the bottom of the *Untrusted Certificate* tab. A window will show up as shown in Figure 11. Open the Certification Path tab as shown in Figure 12, and double click the UK e-Science Root to open another certificate window as shown in Figure 13.

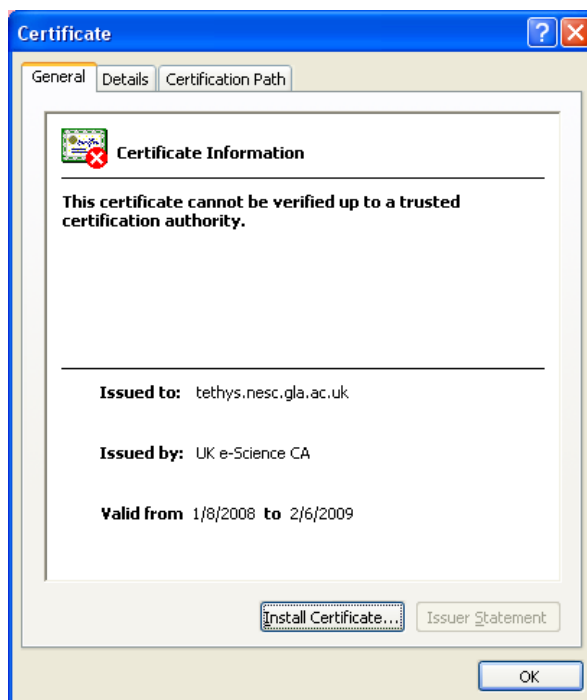


Figure 11. Server Certificate window

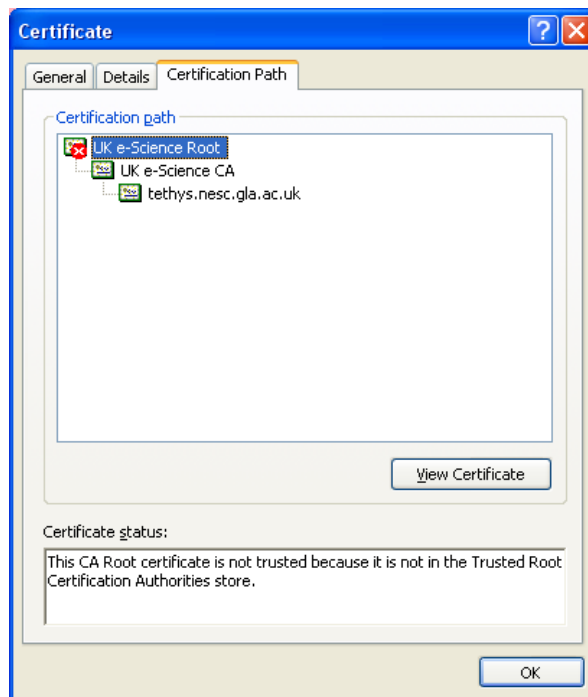


Figure 12. Certification Path tab

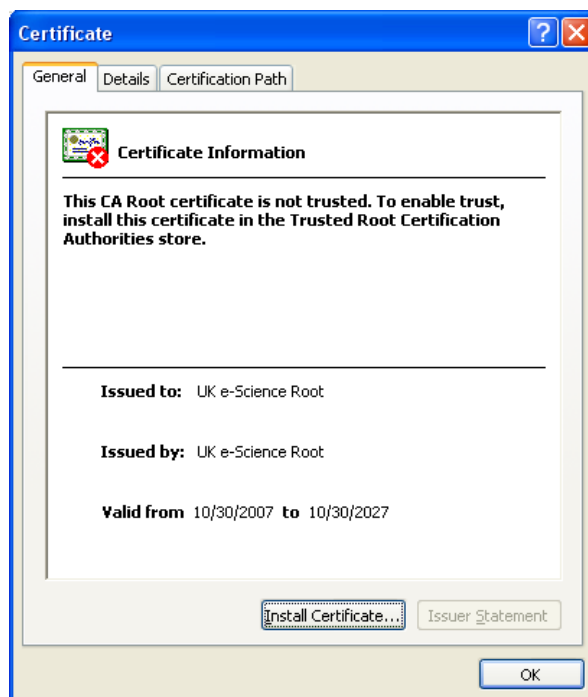


Figure 13. UK e-Science Root Certificate window

To add this certificate to your browser, click on the *Install Certificate* button. A certificate installation wizard will show up as Figure 14. There is nothing to change, so we keep clicking *next* button. The process is shown from Figure 14 to Figure 16.



Figure 14. Certificate Import Wizard

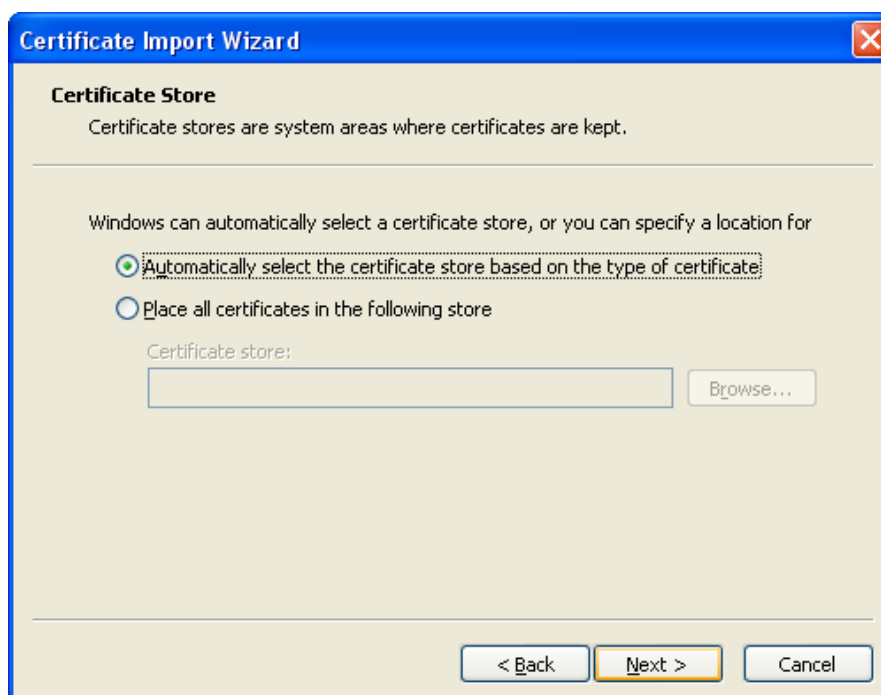


Figure 15. Choose Certificate Store

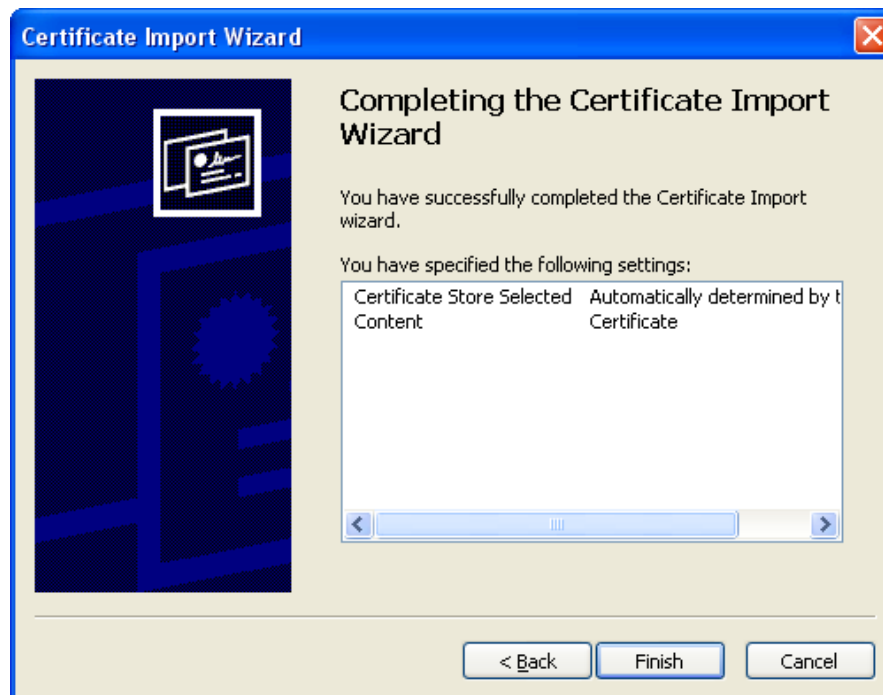


Figure 16. Finishing up the Certificate Import Wizard

After the *Finish* button is clicked, a *Security Warning* window will show up to ask for confirmation of the installation of the certificate, as figure 17. Here we click *Yes*. Then the import process is successful, as Figure 18.

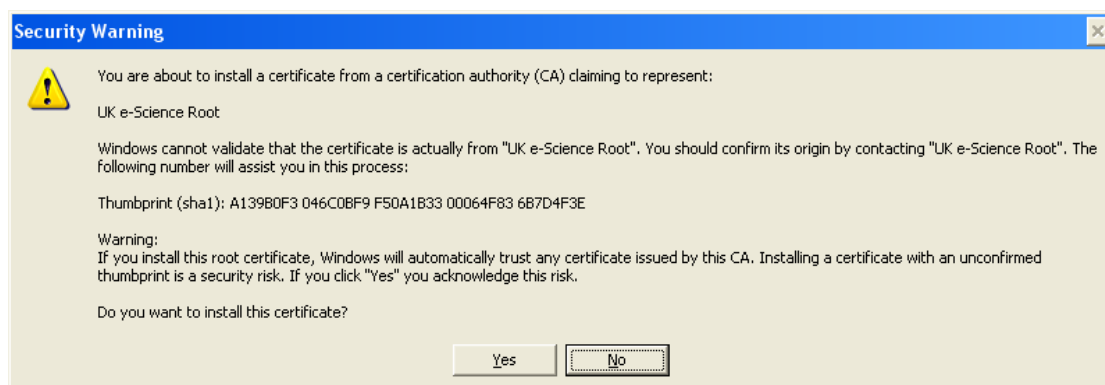


Figure 17. Security Warning when adding UK e-Science CA root certificate to IE7



Figure 18. Import of certificate is successful

Now if you restart your IE7 browser, the warnings will never show up again. To overcome the warnings, similar import process can be performed on other web browsers.

5. Notes

This version is for test purposes only to allow people to try out the system functions – the uploading and querying of data. We recommend that everyone has a play with this system – upload arbitrary data, run arbitrary queries etc. Any issues on the functionality then please let us know. **It is our intention to go live by the Munich meeting on 21st November.**

In this version the only username/password combinations that we accept are shibb1/shibb1 and shibb2/shibb2. We will send out requests for names and privileges of individuals across EuroDSD partner sites that should be given access to the live system in due course. We are currently planning for *EuroDSD-member* and *EuroDSD-guest* roles.

- *EuroDSD-member* will be able to upload data and assign their own data sharing policy which might be “share with rest of world”, “share across all EuroDSD partners”, “share with national partners” or “share with no-one outside of submitting clinic” option. Furthermore users assigned this role will be able to query and retrieve data sets assigned the policy of “share with rest of world”, “share across all EuroDSD partners”, and if in the same country “share with national partners” and if from the same clinic “share with no-one outside of submitting clinic” options.
- *EuroDSD-guest* will only be able to upload and query registry data sets assigned “share with rest of world” option.

A person will only be allowed to delete and edit data sets that they or their clinic have uploaded.

These roles and their assignments are open to discussion and will likely be discussed at the Munich meeting. In particular we shall discuss whether ad hoc data sharing policies should be supported and/or whether other roles such as EuroDSD-investigator should be supported.

6. Further Information

If you need further information or help with the EuroDSD registry, please do not hesitate to contact us at National e-Science Centre at University of Glasgow.

- Professor Richard Sinnott: r.sinnott@nesc.gla.ac.uk
- Jipu Jiang: j.jiang@nesc.gla.ac.uk
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- Prof Olaf Hiort (hiort@paedia.ukl.mu-luebeck.de).