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DBS – Installation Guidance for Windows

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Document Management

Revision History

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1.0	11/07/2014	Final version
2.0	11/03/2015	Approved – Inclusion of new DBS Client / CIS Installation Processes
2.1	15/04/2015	Added further installation steps
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3.0	21/04/2015	Final version

Reviewers

This document must be reviewed by the following people:

Reviewer name	Title / Responsibility	Date	Version
TBC			
TBC			

Approved by

This document must be approved by the following people:

Name	Signature	Title	Date	Version
Tom Johnston		Demographics Senior Project Manager	21/04/2015	3.0

Glossary of Terms

Term / Abbreviation	What it stands for
DBS	Demographic Batch Service

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1 Introduction

1.1 Purpose of Document

The DBS client is a local application that uses secure FTP to send batch files containing patient demographics information to the Spine and receive them once they have been processed. The Spine will email the user when the file is successfully received and again when ready for download.

The DBS is used to allow NHS organisations to verify the patient's NHS Number and retrieve up to date demographics information about them.

This installation guide is intended for users of the Demographics Batch Service (DBS) to enable these users to install and operate the DBS client on a Windows server, to submit batch trace records in a file.

The instructions identify the steps required if performing a new installation of the DBS Client or upgrading from a previous version. Installation of the latest version of the DBS Client is not mandatory, however the recommendation is to always upgrade to the latest version.

This guide should be read in conjunction with DBS User Guide.

1.2 New Installation

If performing a new installation use the following sections of this document:

- 2. Before Performing a New Installation
- 4. Windows Installation
- 5. New Client End Point Certificate Installation
- 6. Post Installation Tasks

1.3 Upgrade

If performing an upgrade to an existing installation use the following sections of this document:

- 3. Before Performing an Upgrade
- 4. Windows Installation
- 6. Post Installation Tasks

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2 Before Performing a New Installation

This section details the steps to be performed before installing the DBS Client as a new installation.

It is assumed that the user performing the installation has logged onto the server with administration rights in the case of a Windows server or root permissions on a UNIX based operating system.

2.1 Configuration and Network Access Check

In conjunction with your local Technical Lead it is necessary to test the access to DBS.

The DBS requires that port 443 (TCP) in the local firewall(s) is open outbound to the VIPs (Virtual IP Addresses) associated with the following Spine service:

- demographic.batch.ncrs.nhs.uk

  - Live A 155.231.108.14
  - Live B 155.231.108.46

It is essential that access to both Live A and Live B VIPs is allowed for each service.

Using telnet check the above links to ensure connectivity from the client machines follows:

Open a command prompt and enter the following commands:

```
telnet 155.231.108.46 443
telnet 155.231.108.14 443
telnet demographic.batch.ncrs.nhs.uk 443
```

If you get anything other than a blank screen you will need to get the IP addresses added to the local firewall.

Note: Unless specified by HSCIC these will not change.

2.2 End Point Registration

All **new** DBS Client installations require an end point registration to be performed.

Please Note: The Endpoint Registration Form is only required for **new applications**, existing users can obtain security certificates by contacting the National Service Desk.

Complete the DBS End Point Registration (EPR) form and submit it to the DBS Implementation Team at demographics@hscic.gov.uk.

When completing the endpoint registration form, it must adhere to the DNS Naming Schema for End Point Sites, details of which can be found at column C within the EPR form.

The naming convention for the DBS is:

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- DBS-<ODS Code>.<Organisation name>.nhs.uk

An example:

- DBS-RZZ.anytowntrust.nhs.uk

You should receive endpoint information from HSCIC within 7 days.

Once the registration is complete and approved you will be provided with an ASID number to be used when installing the software and confirmation of the FQDN (URL).

2.3 Installation Prerequisites

The following prerequisites need to be fulfilled before commencing the new DBS Client installation.

- The host environment must have the following minimum software environment: Java Runtime Environment 1.7
- It is recommended that the host system has a minimum memory of 1Gb RAM.
- Sufficient HDD space for the client and the log files. It is recommended to allocate additional space on the server/PC hard drive for archive reports and sent/received folders.
- Since the service provides access to patient identifiable data, it is recommended that the software is installed on a server or in a secured environment. Users can either authenticate directly onto the server or have shares established to the inbox and outbox folders.
- An initial Administrator's email address. This email will be used by the DBS to send confirmation of receipts and collections of files processed and is entered during the installation. This can be changed following the installation see section 6.2 for details.

The filenames for submission via the DBS client are restricted to the basic 36 character set of 'A' to 'Z' (both upper and lower case), 0 to 9, hyphen and underscore with period permitted for the separation of filename and suffix.

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3 Before Performing an Upgrade

This section provides instructions to how to perform before upgrading an existing DBS Client installation.

It is assumed that the user performing the installation has logged onto the server with administration rights in the case of a Windows server or root permissions on a UNIX based operating system.

3.1 Take Backup of Existing Installation

Before commencing an upgrade to the DBS Client a backup of the existing installation should be taken.

Navigate to the folder containing the <DBS_APP_HOME>folder.

Take a copy the <DBS_APP_HOME> folder into a `oldDBS_APP_HOME` folder.

Note: The configuration data stored in the DBS Client folder is not overwritten by the installation, however it is recommended that a backup is taken in the unlikely event that there are issues and the previous version needs to be restored.

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4 Windows Installation

4.1 Overview

The following sections describe the installation method for installing the DBS Client on a Windows server. The following steps should be followed if performing a new DBS Client installation or an upgrade to an existing DBS Client installation.

4.2 Install Software on Windows

Step 1:

Download the latest installer package to a local drive.

Step 2:

Extract the zip file into a temporary directory and change to the extracted directory.

Ensure that the jar file is executable, right click on the file, select Properties and check the type of file shows as Executable Jar file

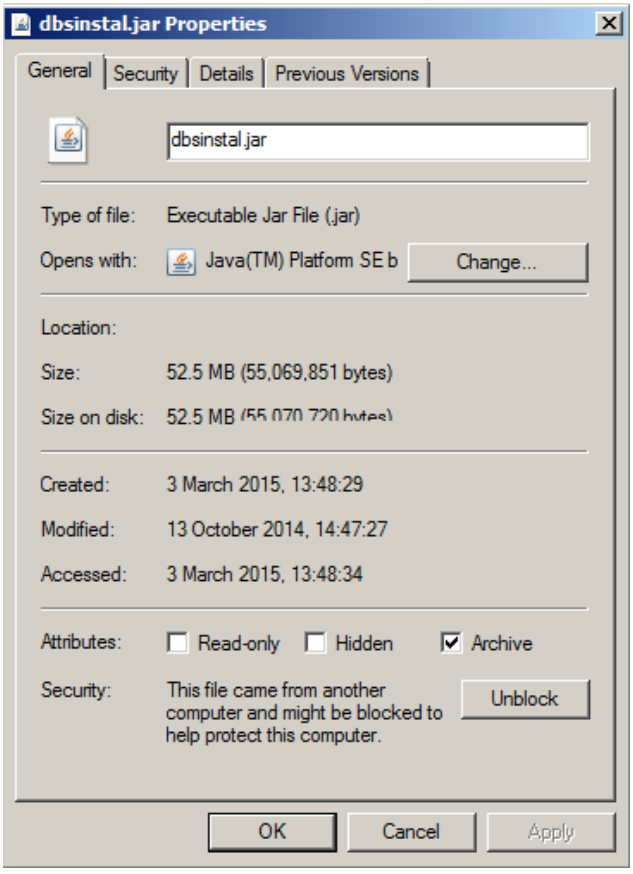

Figure 1 - Confirm that the jar file is executable (windows)

Step 3:

Run the file by either double clicking on it or Right-click on the jar file and select Open With, then select the appropriate Java Runtime. Alternatively the jar file can be executed using the following command:

- `java -jar dbs-installer-installer.jar`

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Step 4:

The following screen will be displayed:

Click the Next button

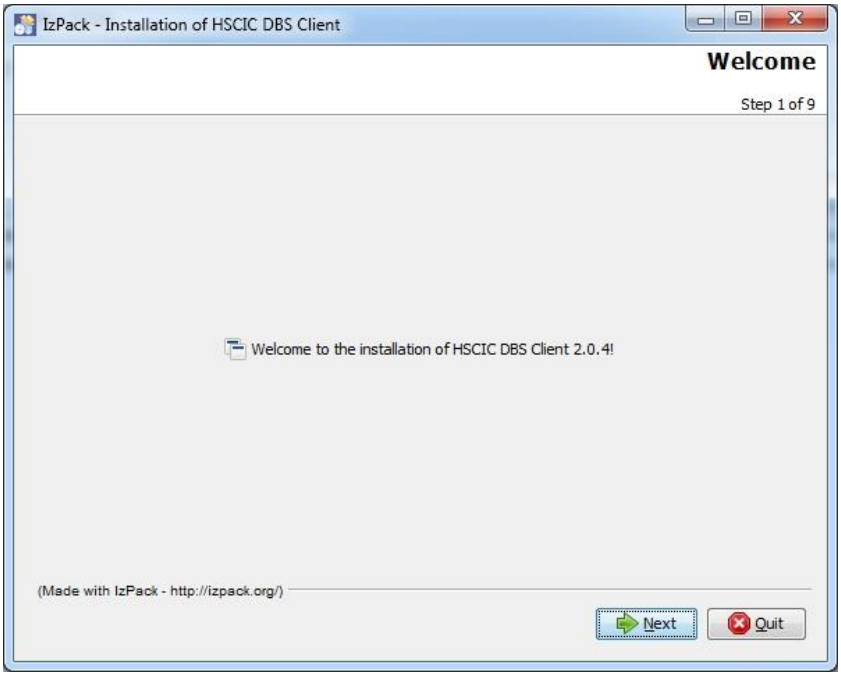

Figure 2 - Installation Step 1 of 9 (Windows)

Step 5:

You will be prompted to select the installation path the installation process will suggest a path; this can be changed using the Browse button if required.

Note: Selecting the Quit button will stop the installation process.

Click the Next button.

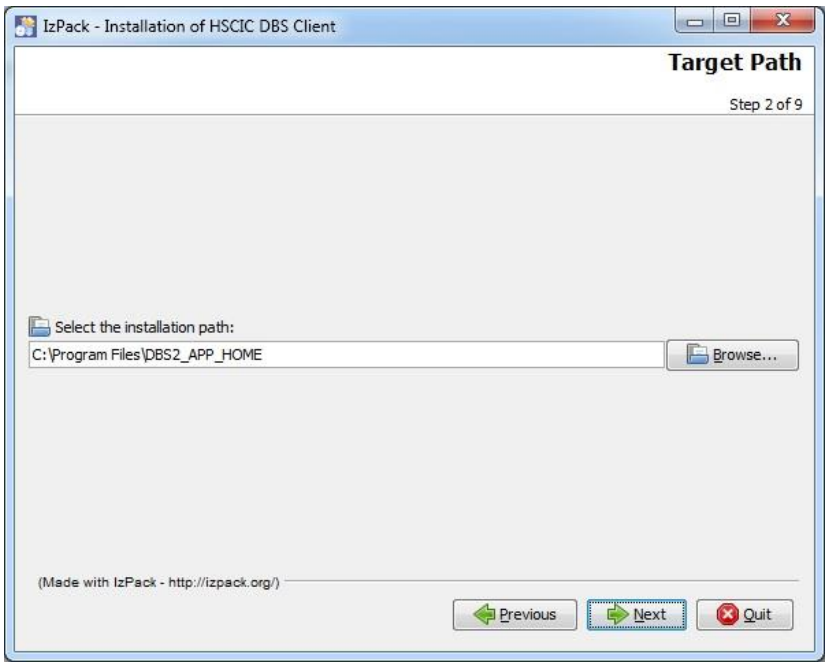

Figure 3 - Installation Step 2 of 9 (Windows)

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Note: If the target directory does not exist you will be warned that the installer will create it.

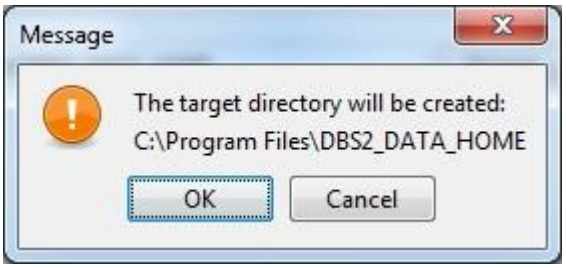

Figure 4 - Warning that directory will be created (Windows)

If the target directory does exist you will be warned that the installer may overwrite files in this directory.

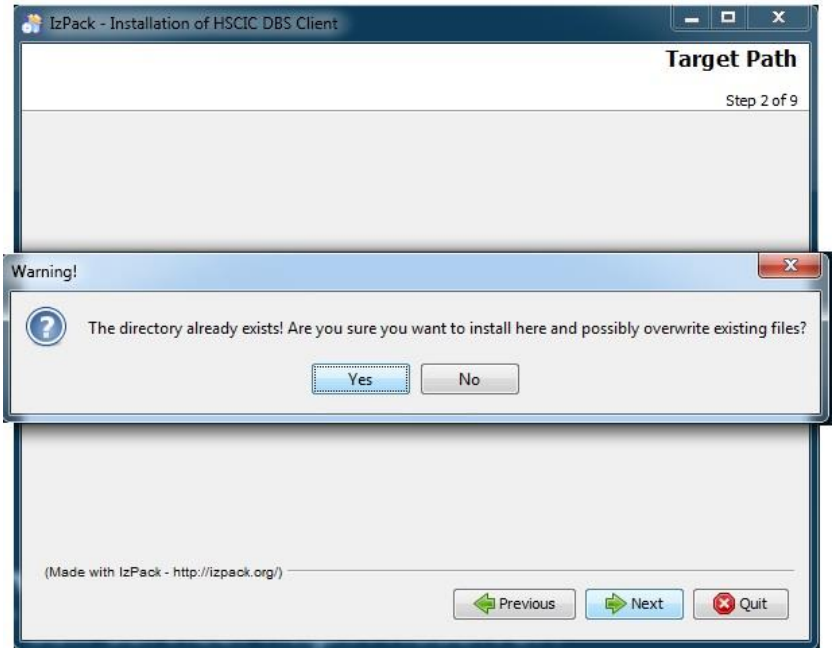

Figure 5 - Warning that directory already exists (Windows)

Step 6:

You will now be prompted to select the path where the DBS data will be held. This is where the submitted batch files will be stored. Response files from Spine will also be stored in this location.

Select ‘Yes’ if you want the directory to be created by the installer.

The installer will make a suggestion for this location, this can be accepted or enter the desired value directly or navigate to the directory using the Browse button.

Click the Next button.

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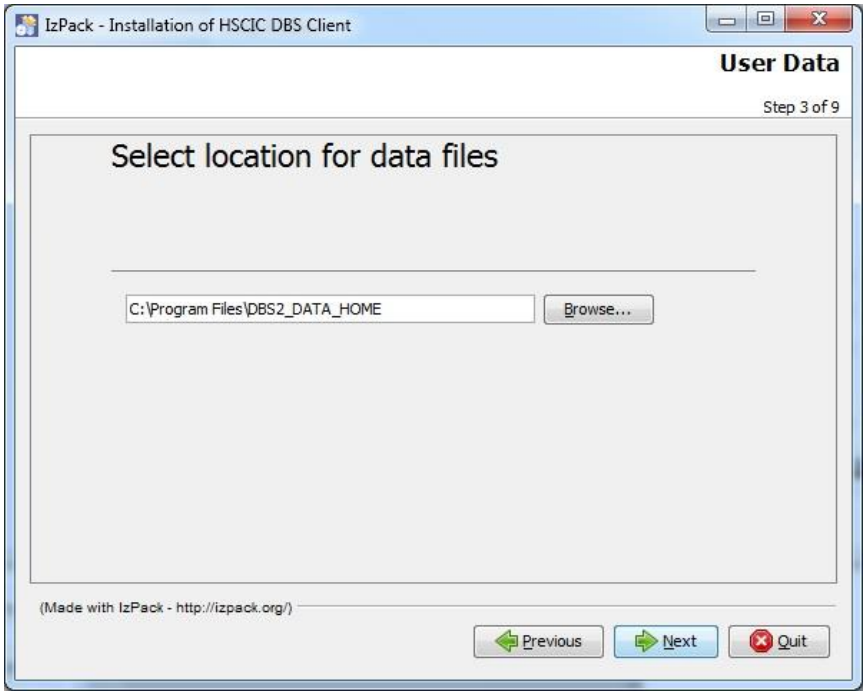

Figure 6 - Installation Step 3 of 9 (Windows)

Note: If the target directory does not exist you will be warned that the installer will create it.

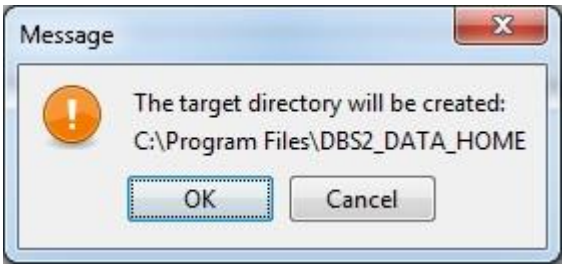

Figure 7 - Warning that directory will be created (Windows)

Note: If the target directory does exist your installation will use this folder and not prompt.

Step 7:

You will now be prompted to provide the Organisation Details

Please enter the ASID that was produced as part of the EPR process this is a 12 digit numeric and should include all leading zeros.
Note: The installer will verify that the details entered match the formatting mask for an ASID, however no verification of the value beyond that is performed.

Click the Next button.

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Figure 8 - Installation Step 4 of 9 (Windows)

Step 8:

You will be prompted to provide an initial Administrator's email address. This email will be used by the DBS to send confirmation of receipts and collections of files processed.
Note: Additional email reciepts can be added and removed following installtion.

Click the Next button.

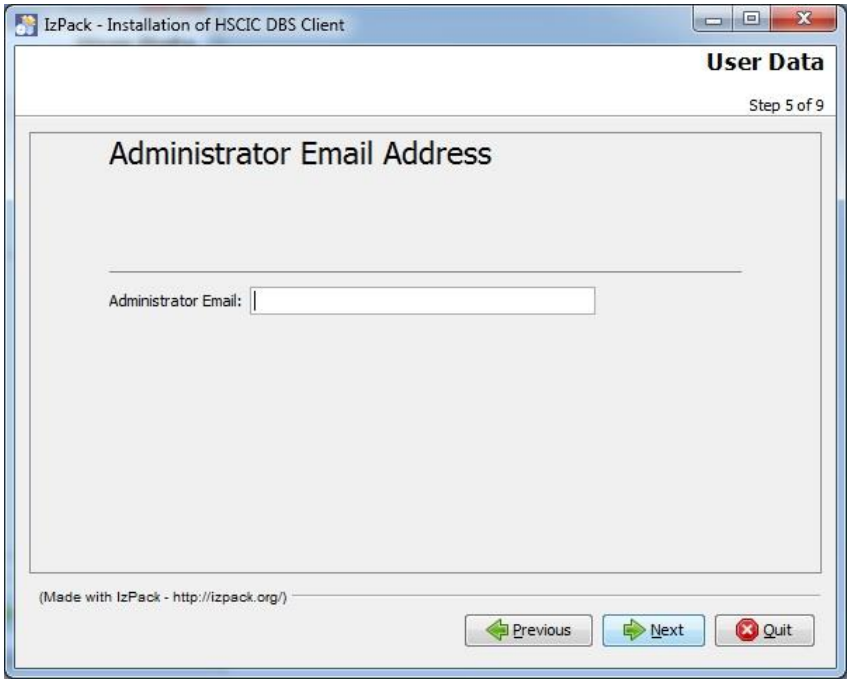

Figure 9 - Installation Step 5 of 9 (Windows)

Step 9:

The installer will now detail the Installation packages.

If you are happy with your installation so far then click the Next button.

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Otherwise you can either return to a previous page using the Previous button or you can stop the installation using Quit.

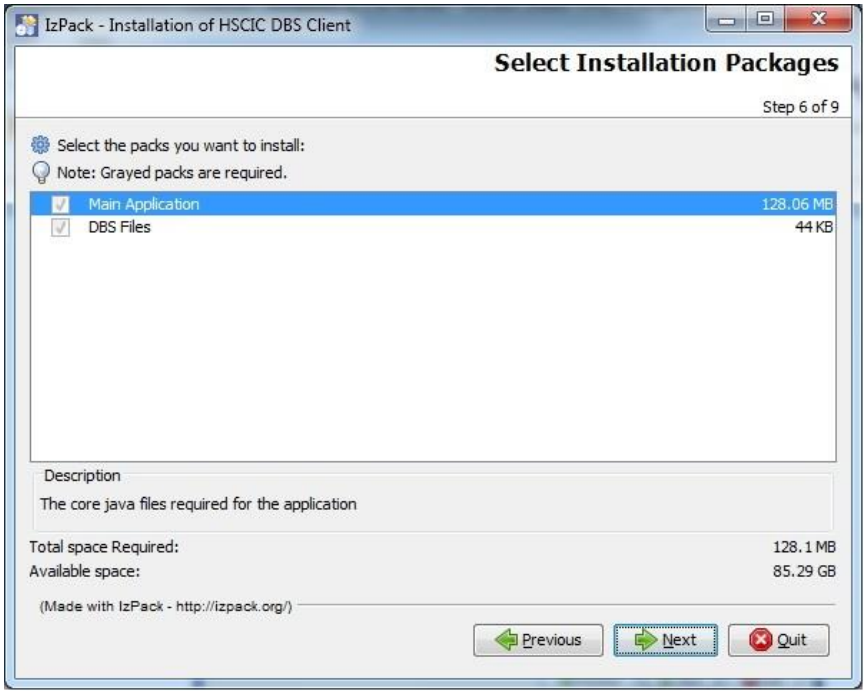

Figure 10 - Installation Step 5 of 9 (Windows)

Step 10:

The installer will now summarise the installation tasks it will perform.

If you are happy with your installation so far then click the Next button.

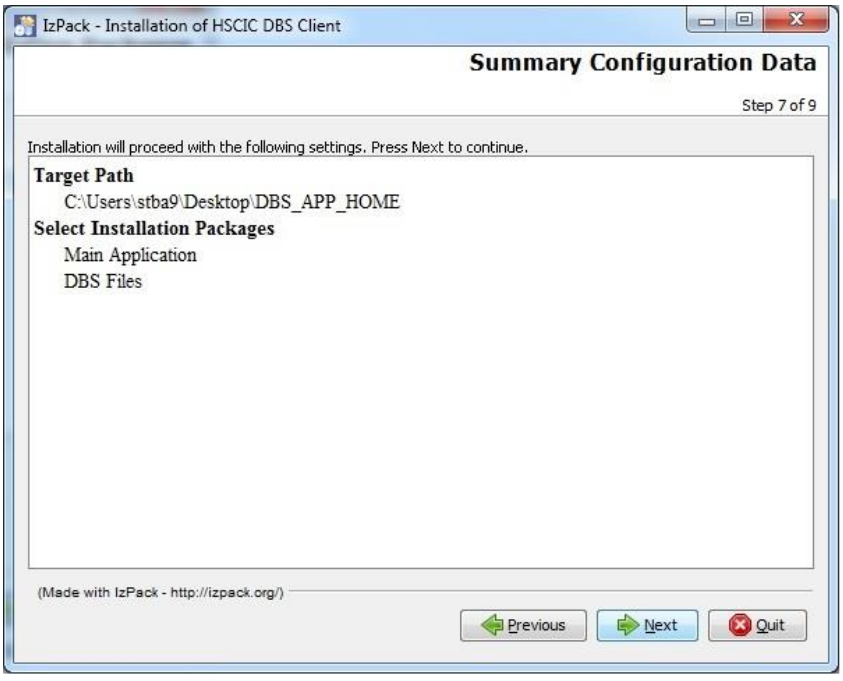

Figure 11 - Installation Step 7 of 9 (Windows)

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Step 11:

The installer will now install the required packages, once it has completed the following screen will be displayed:

Click the Next button

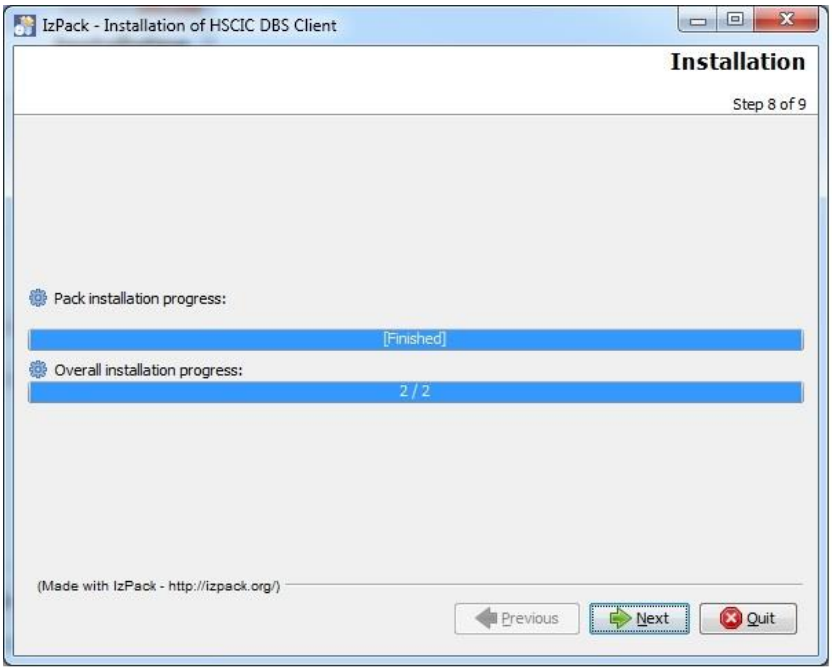

Figure 12 - Installation Step 8 of 9 (Windows)

Step 12:

The Installer will now summarise its actions.

Once you are satisfied press Done.

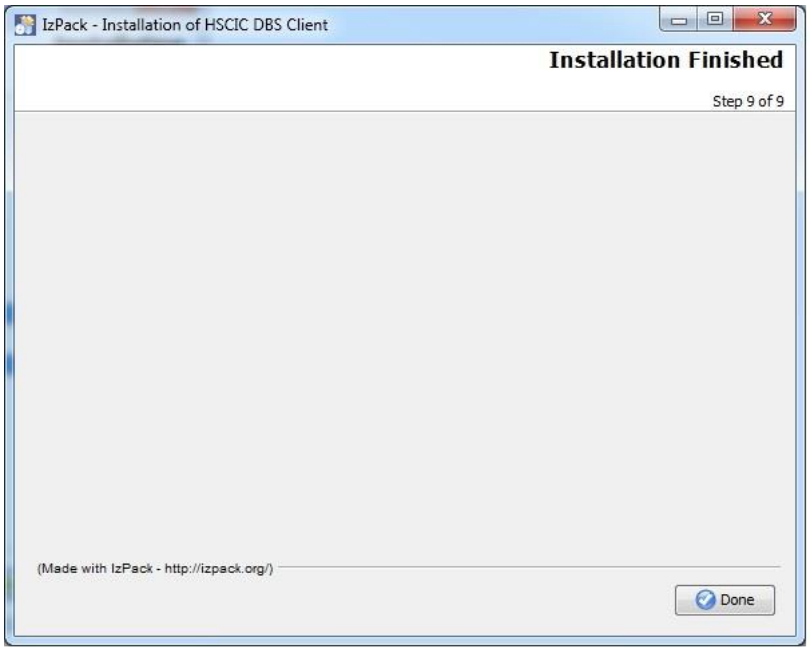

Figure 13 - Installation Step 9 of 9 (Windows)

The DBS Client has now been installed successfully.

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5 New Client End Point Certificate Installation

This section describes the end point certificate configuration required if performing a **new** installation of the DBS client.

Note: This section does not have to be performed if upgrading from an existing DBS Client as the end point certificates will already be installed in the `<DBS_APP_HOME>\keystore` folder. If the new client was installed into the same folder as the previous version, the `keystore` folder will not have been overwritten by the installation.

5.1 End Point Certificate Association

This step provides information on how to associate the certificates that were generated as a result of the End Point Registration process with the DBS client that has been installed.

The NHS Certificate Enrolment website also has links to download the Root CA and New SUB CA certificate(s).

5.2 Downloading the Certificates from the ESW Interface

To access the ESW browse to the following URL. This is the URL to import DIGITAL Certificates to create the secure environment for mutual authentication.

The URL to access the Live ESW interface is:

`https://esw.national.ncrs.nhs.uk/cda-cgi/clientcgi?action=start or`

`https://portal.national.ncrs.nhs.uk/esw/`

Note: it is strongly recommended that the following steps are performed using Internet Explorer. Other browsers may not enable you to save the certificates correctly.

Note: If you receive a warning “Revocation information for the security certificate for this site is not available. Do you want to proceed?” Click the Yes button to continue.

5.3 Download the DBS Signed certificate

As part of the registration process an FQDN (url) was created, use this in the following step:

From a command line navigate to the <DBS_APP_HOME> directory in the DBS client installation directory and perform the following command:

`keystore-tool.bat Generate_CSR [FQDN] EDT.csr`

Please Note: Do not to include the [ ] brackets as this is accepted but will generate incorrect certificates.

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```
C:\DBS2_APPS_HOME>keystore-tool.bat Generate_CSR DBS.test.nhs.uk EDT.csr
INFO  KeyStoreGenerator - Generating public/private key pair
INFO  KeyStoreGenerator - Public/private key pair generated
INFO  KeyStoreGenerator - Generating CSR
INFO  KeyStoreGenerator - CSR generated
INFO  KeyStoreGenerator - Finished

C:\DBS2_APPS_HOME>
```

Figure 14 - Generating the Certificate Signing Request

This will create the certificate signing request in the `<DBS_APP_HOME>\keystore` folder as EDT.csr. Please send this file to the DIR team (DIR@HSCIC.Gov.uk) and include the Site details including the ASID and FQDN. They will then return a certificate which should be saved to the `<DBS_APP_HOME>\keystore` directory with a name of `servercert.bin`

5.4 Downloading the RootCA

Go to the ESW interface https://esw.national.ncrs.nhs.uk/cda-cgi/clientcgi?action=start `or https://portal.national.ncrs.nhs.uk/esw/`

Click the Install RootCA cert (DER format) link from the menu (left panel).

Figure 15 - Download the rootca.der (ESW)

Save the certificate in the `<DBS_APP_HOME>/keystore` directory with the default name of rootca.

5.5 Downloading the SubCA

Click the Install New SUBCA cert (DER format) link from the menu (left panel).

Note: Take care to select the correct SUBCA, as old SUBCA are no longer supported.

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Figure 16 - Download the newsubca.der (ESW)

Save the certificate in the `<DBS_APP_HOME>/keystore` folder with the default name of newsubca.

From the command prompt (navigating to the <DBS_APP_HOME> directory again if required) run the following commands (order is important) to import the signed certificate and the root ca and sub CA certificates:

```
keystore-tool.bat Import_CA_Cert rootca.der ca_cert

keystore-tool.bat Import_CA_Cert newsubca.der subca_cert

keystore-tool.bat Import_Signed_Cert servercert.cer
```


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6 Post Installation Tasks

This section details post installation tasks that need to be performed when performing either new installation or upgrade.

6.1 Installation Verification

Upon a successful installation the directory structure (shown below) will be created in the specified locations and loaded with the DBS software.

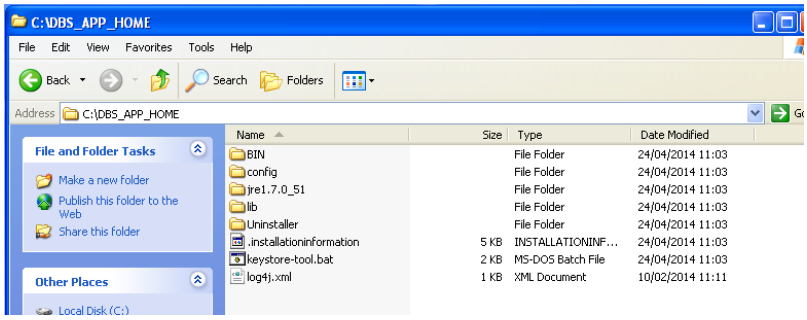

Figure 17 - DBS Application Directory structure (Windows)

Data:

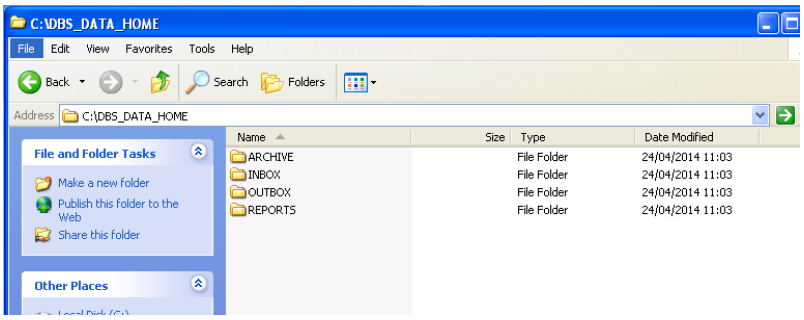

Figure 18 - DBS Data Directory structure (Windows)

Folder	Description
DBS Client installation folder	
BIN	Contains the DBS executables and scripts
Config	Contains the configuration files for the DBS Client.
Keystore	Contains the keystore where the certificates are secured. This directory is generated during the Generate CSR process is run.
Lib	Contains the DBS client library files.
Logs	Contains the logs that are generated by the Client during its operations. This directory is generated when the DBS Client runs.
Uninstaller	The Uninstaller for the DBS client.
DBS Data directory	
INBOX	Contains any files that are to be sent to DBS

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OUTBOX	The Client will place any files received from DBS in this directory.
ARCHIVE	Archive of processed files under relevant subdirectories
ARCHIVE/FAILED	If a message fails then the DBS Client will move the message to this directory. The end user needs to be proactive and investigate this directory when checking results.
ARCHIVE/SENT	Successful messages are moved here.
REPORTS	Upload reports will be placed in this directory.

6.2 Email Administration

From version 2.0.0 of the DBS Client, the details of email addresses are maintained within the client's configuration. The following types of email addresses are maintained:

- Administrator Email Address - The email address of the DBS Administrator(s) who will be the primary point of contact within the organisation.
- Default Email Addresses - These emails will be notified of the progress of DBS batch requests regardless of the Organisation defined in the DBS Batch File.
- Organisation Specific Email Addresses -

The Administrator Email Address is configured during the DBS Client installation but the other email address should be configured before the submission of DBS Batch requests.

Email Addresses can also be supplied in the Footer of the DBS Query File so that additional people will be notified about the status & progress of specific files. A comma separated list of emails prefixed by "990" will be accepted in the final row of the batch file:

"990user1@org.nhs.net,user2@org.nhs.net"

The maintenance of the email addresses is performed from the command line using a script which is located in the `<DBS_APP_HOME>\bin` folder within the DBS Client installation folder. On Windows clients this is called `runDBSEmail_admin.bat` and can be executed from Windows command tool.

6.2.1 View Current Email Addresses

To get a list of all of the currently configured email addresses then execute the following command:

```
runDBSEmail_admin.bat list
```

Example Output:

```
Administrator Email: dbs_admin@test.com

Organisation Specific Email Addresses

==================================
Default Email: test@test.com,test2@test.com
```


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Org Code: XX07 Email:test@xx07.nhs.net

6.2.2 Changing Local DBS Administrator Email Address

To alter the email address designated as the local DBS Administrator then execute the following command, supplying the new email address of the local administrator:

runDBSEmail_admin.bat setAdmin dbs_admin@org.nhs.net

6.2.3 Changing Default Email Addresses

To add a new email address to the list of those to be notified for ALL files uploaded from this installation of the DBS Client:

runDBSEmail_admin.bat addDefault myemail@org.nhs.net

To remove an email address from the list of those to be notified for ALL files uploaded from this installation of the DBS Client:

runDBSEmail_admin.bat removeDefault myemail@org.nhs.net

6.2.4 Changing Organisation Specific Email Addresses

To add a new email address to the list of those to be notified for files uploaded for a specific Organisation Code from this installation of the DBS Client:

runDBSEmail_admin.bat add ORG01 myemail@org.nhs.net

To remove an email address from the list of those to be notified for files uploaded for a specific Organisation Code from this installation of the DBS Client:

runDBSEmail_admin.bat remove ORG01 myemail@org.nhs.net

To remove all email address for a specific Organisation Code from this installation of the DBS Client:

runDBSEmail_admin.bat removeAll ORG01

To get help on the usage of the script, just execute the script without any additional parameters from the command line:

Input:

runDBSEmail_admin.bat

Output:

Usage: command [options]

Available commands:
list - List the details of the email addresses associated with organisations
add {orgId} {email} - Add an email address to the list of those associated with an Organisation
addDefault {email} - Add an email address to the list of those which will receive emails for ALL Organisations

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remove {orgId} {email} - Remove an email address from the list of those associated with an organisation
removeDefault {email} - Remove an email address from the list of those which will receive emails for ALL Organisations
removeAll {orgId} - Remove all email addresses associated with an Organisation
setAdmin {email} - Set the email address for the DBS Administrator

6.3 Manual Creation of Sender Files

Once the installation is complete and prior to submission of DBS files, individual SenderID folders should be created within the INBOX/DBS and OUTBOX/DBS folders.

This will enable the administrator to define appropriate shared folders if required.

Any names may be used and this is to allow the end user to differentiate between the various users of the DBS client.

6.4 Send a Test Request

The Client can now be used to send a test request to Spine to ensure connectivity. To perform this action the user should download the test DBS file listed under the Installation section from of DBS - Installation Guidance found at http://nww.hscic.gov.uk/demographics/dbs/guidance

Follow the instructions on the website to update the test file for your organisation, then place the file in the subdirectory of the INBOX\DBS folder and run the Client in validate_send mode.

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