

Installation Guide

**HLA Fusion™ Research Software
Version 6.0**

Catalog #: FUSREPGRX



IVD for EU Only.

**For Research Use Only in USA and
Canada, Not for Use in Diagnostic
Procedures.**

This software may be used to aid in suggesting results, but should not be used as the sole method for determining reportable results. This software is meant as a laboratory aid, not as a source of definitive results. The laboratory director or technologist trained in histocompatibility testing is required to review all data to detect any problems with the software. Please note that this document was prepared in advance of the HLA Fusion Research software release. Therefore, you may notice slight differences in the content of the actual application screens.

IVD for EU Only. For Research Use Only in USA and Canada, Not for Use in Diagnostic Procedures.



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Table of Contents

System Requirements.....	1
Minimum Software Required	1
Minimum Hardware Required	1
Choosing an Installation Type	3
Client Installation.....	3
Server/Standalone Install.....	3
Installing HLA Fusion Research Software.....	4
Step 1: Insert the HLA Fusion Research Software CD	4
Step 2: Install Microsoft Components (if applicable).....	4
Step 3: Install HLA Fusion Research	8
Step 4: Connect to a Database.....	14
Uninstalling the HLA Fusion Research Software.....	21
1. (Optional) Back Up Your Fusion Research Database.....	21
2. Uninstalling the HLA Fusion Research 6.0 Program.....	22
Appendix.....	23
Checklist for Installation Configuration	23
Server/Standalone Installation Checklist.....	24
Client Installation Checklist.....	25

Before You Begin

You will need Administrator level access on your computer to install HLA Fusion™ Research 6.0 Software. If you do not have Administrator access, contact your system administrator for help with this installation.

System Requirements

Minimum Software Required

- Microsoft® Windows 7 or Windows 10 (32 bit or 64 bit)
- Microsoft® .NET Framework Version 4.6.1*
- Visual JSharp (version must match the .NET Framework version you are using)*
- Microsoft SQL 2008 R2, Microsoft® SQL Express 2014 (also requires Microsoft .NET Framework Version 3.5 SP1)
- Microsoft .NET Framework Version 3.5 SP1 is not included with HLA Fusion Research software distribution

Note: Before you upgrade to a new Windows Service Pack, contact your One Lambda representative to verify that HLA Fusion Research supports it. If you are missing some of the Microsoft software requirements listed, see the Microsoft.com website.

* Included with the HLA Fusion Research installation

Minimum Hardware Required

- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- DirectX 9 graphics device with WDDM 1.0 or higher driver
- 4 GB available hard disk space (more may be required for large databases)
- 4 GB RAM
- 8-bit graphics adapter and display (for 256 simultaneous colors)
- VGA display with minimum of 1280 x 960 resolution
- A mouse or another Windows® compatible pointing device; mouse with wheel required for certain products
- A Windows® compatible printer driver is installed (PDF Distiller, or the Microsoft Document Image Writer are available for free)

Microsoft SQL Server Considerations

With the HLA Fusion™ Research Software, great care has been taken to allow you to access and select a Microsoft SQL Server database from any location that you can connect to from your computer. The **Fusion Research Database Utility** allows you to connect to any SQL server on your local drive or the network, depending on your permissions and your organization's security policies.

If you are planning to use SQL Server from a standalone computer, use the standalone installation process described in the **Appendix, Checklist for Installation Configuration**. If you want to use a SQL Server from another location, one of two things must be done:

- Use a functioning SQL Server in your environment, but make sure it is configured to receive remote communication from your machine. If need be, please see your system administrator for the server name,

as well as your user ID and password for the server.

- If you do not have an accessible SQL Server in your environment, you can install SQL Server Express which is located on the HLA Fusion Research program. You can then use SQL Server Express as the database server for you and the other HLA Fusion Research users in your environment.

Note: The SQL Server Express version supplied on the HLA Fusion Research program CD does not have all of the functionality of the full version of SQL Server. For example, it allows a maximum of 10 GB of storage space. There are a variety of SQL Server versions you can use with HLA Fusion Research, so be sure to check the limitations of the version you plan to use. See your system administrator for further guidance and information on installing SQL Server.

Choosing an Installation Type

The installation type you select during installation of HLA Fusion Research depends on where the SQL Server to which you are connecting is located and on how it is configured. HLA Fusion Research software is designed to work in a centralized database environment on the network, or in a standalone configuration on your computer. The main difference between these two is the software or utilities you are required to install on your machine:

- Client installations – do not require the installation of SQL Server or the Fusion Research Database Utility.
- Server/Standalone installations – require both SQL Server and the Fusion Research Database Utility.

Note: Use of the Fusion Research Database Utility requires System Administrator privileges.

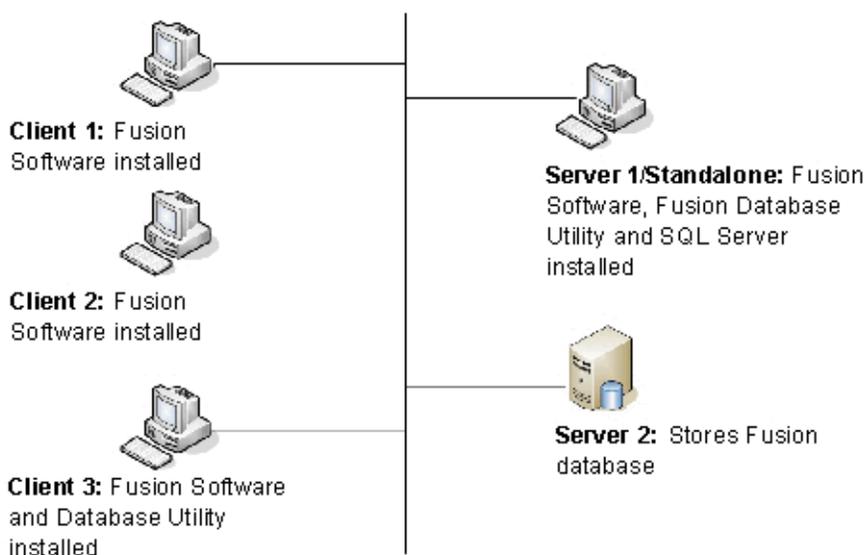


Figure 1: Installation Types

Client Installation

This is the option to choose if your computer will be accessing the Fusion Research database in a network environment and your machine does not actually store the HLA Fusion Research database locally (clients 1-3 in Figure 1 above). In this case you will need to connect to a server containing the HLA Fusion Research database. The installation of the Fusion Research Database Utility is optional if you choose this installation type.

If you install on a client machine, you'll only be allowed to connect to a database during the HLA Fusion Research installation process and will not be allowed to create a new database. Make sure you contact your database administrator for a list of server names and access rights.

Server/Standalone Install

This is the option to choose if your machine is the only computer storing and accessing the HLA Fusion Research database (Server 1/Standalone in Figure 1, above), or if other machines will connect to you and share your database (Server 1 and 2 in Figure 1, above).

Note: For details, see the Appendix, Checklists for Installation Configuration.

Installing HLA Fusion Research Software

Note: This version of HLA Fusion Research can be installed and used in parallel with any previous version of the HLA Fusion Research software. Once this version is installed you'll see both the folder for it and also for earlier versions of Fusion Research in C:\Program Files (x86)\One Lambda. If you would prefer to uninstall earlier versions of HLA Fusion Research, see **Uninstalling the HLA Fusion Research Software** for instructions.

We recommend that you back up your existing HLA Fusion Research Database before installing the new version. (See: the Uninstalling the HLA Fusion Research Software for details).

Step 1: Insert the HLA Fusion Research Software CD

If the installation process does not automatically start, open the drive containing the HLA Fusion Research CD, and click the **HLA_Fusion_Research_6.0_Setup.exe** file. You must have administrator equivalent privileges to install the HLA Fusion Research software. The installer will ask you for the destination location for the software.

Step 2: Install Microsoft Components (if applicable)

Once installation begins, the installer looks for the required components on your computer (Microsoft SQL Server and Microsoft .NET Framework) and automatically prompts you to install any missing component. If you already have these components on your computer, go to Step 3 to begin the HLA Fusion Research installation process.

If you see the following requirements dialog box, click **Install** to start the installation process for the required component(s). If you do not see the following dialog box, then the required programs are already installed, and you may proceed to Step 3 to start HLA Fusion Research installation.

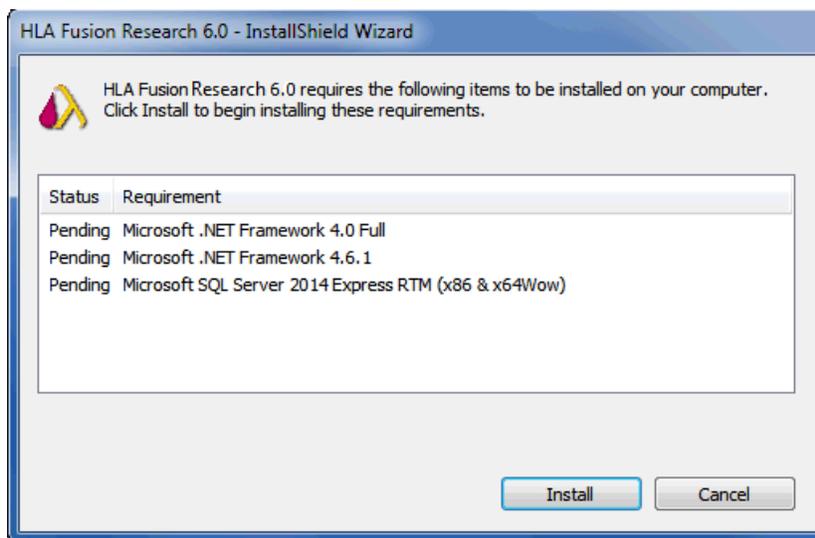


Figure 2: Install Dialog

Note: In some cases, you may see a message asking you whether you want to reboot following the .NET installation. You do not need to reboot now, but should do so following the installation of HLA Fusion Research.

If a version of Microsoft SQL Server with an HLA Fusion Research instance is not detected on your computer, you will be prompted to install it - *it is not required if you are connecting to a SQL Server on the network*. If you want to install it, click the **Yes** button when prompted; otherwise, click the **No** button.

Note: If you have these programs installed already, go to Step 3 to start HLA Fusion Research installation.

Please wait while the required program files are extracted. The exact messages you see may vary depending on the configuration of your computer:

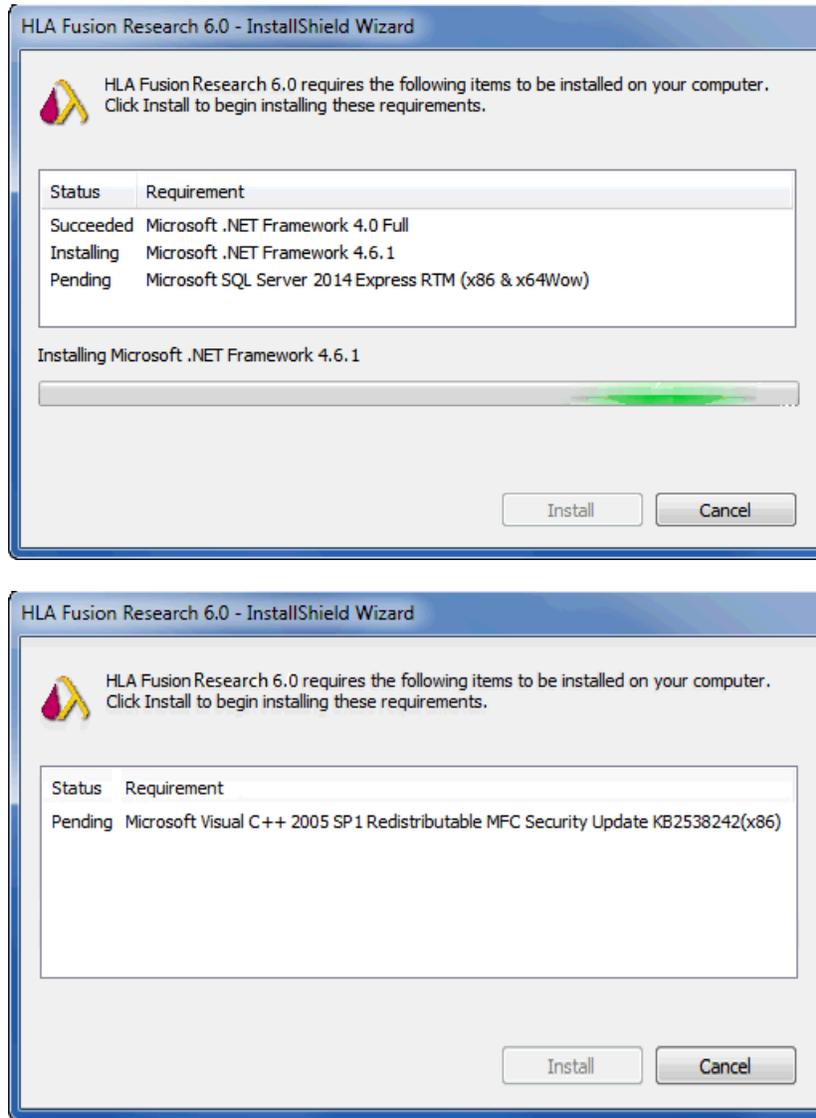


Figure 3a: Installing required components

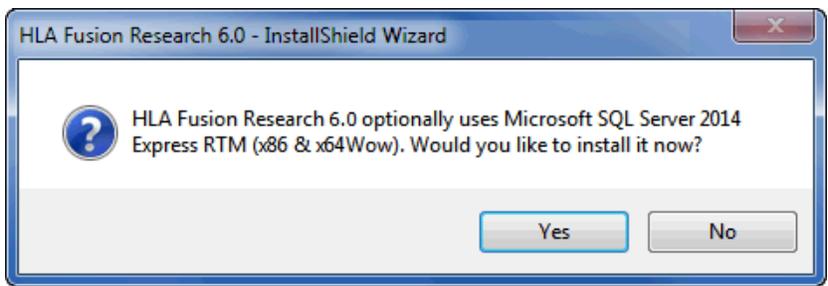


Figure 3b: Answer “yes” to SQL Server Install Message

Note: Need to have latest Microsoft® Windows updates for installation of SQL Server 2014 Express.

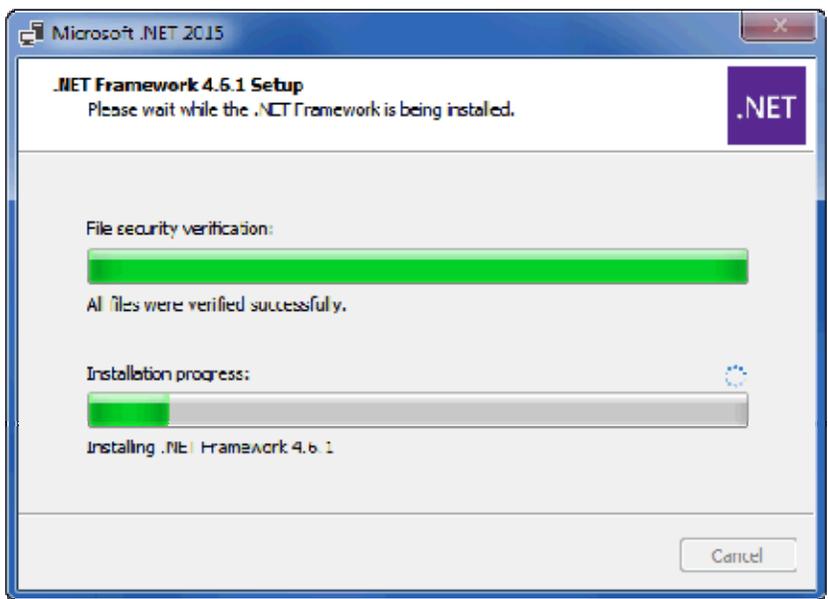


Figure 4: Progress Indication during installation of .NET 4.6.1

If you get an error such as following (most likely on Windows 10), it means that you do not have the Microsoft .NET 4.6.1 Framework installed and/or enabled on your computer.

In this case, follow the steps on the next screen to activate the .NET 4.6.1 Framework or consult your Systems Administrator for assistance.



Figure 5a: Microsoft .NET 4.6.1 Not Present Error Message

To fix this problem, click the **Windows Start button** , click **Control Panel**, click **Programs and Features**, and then click **Turn Windows features on or off**. Then place a check mark in the checkbox that activates the .NET Framework 4.6.1 and click OK:

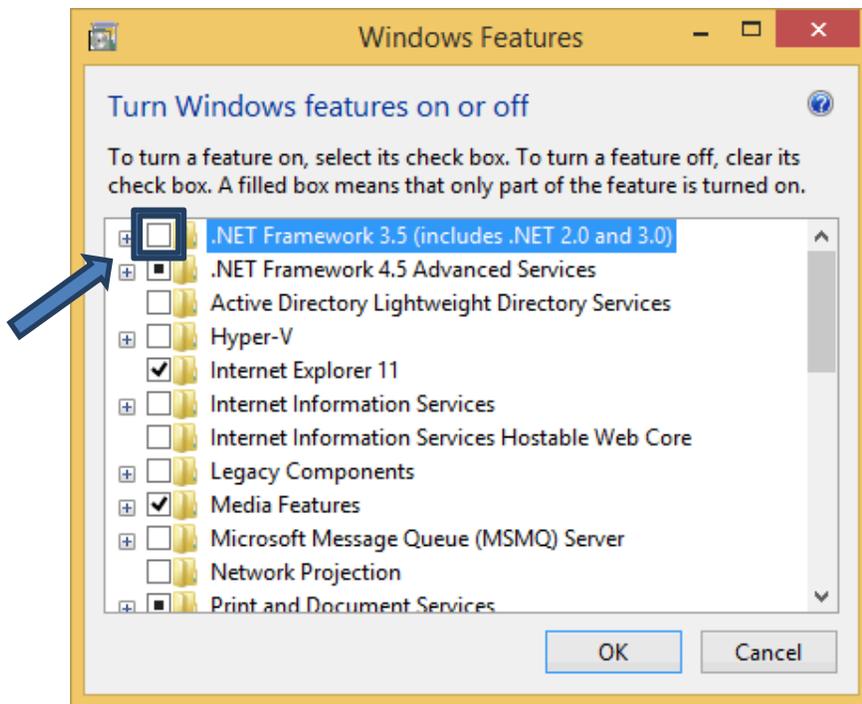


Figure 5b: Enabling the .NET 4.6.1 Framework

Step 3: Install HLA Fusion Research

The HLA Fusion Research installer indicates that it is extracting the files needed to install HLA Fusion Research:

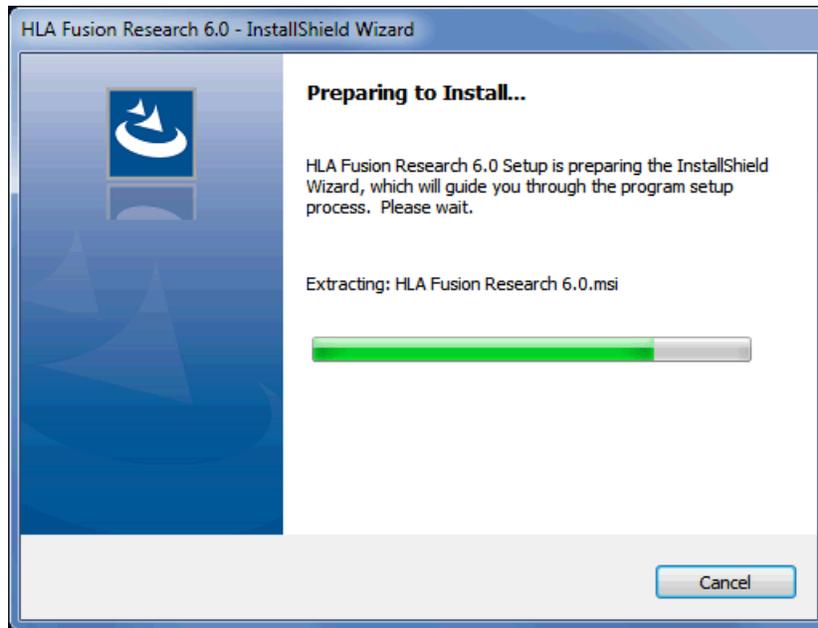


Figure 6: Fusion Research Software Preparation

At the welcome screen, please wait while your system space requirements are calculated:

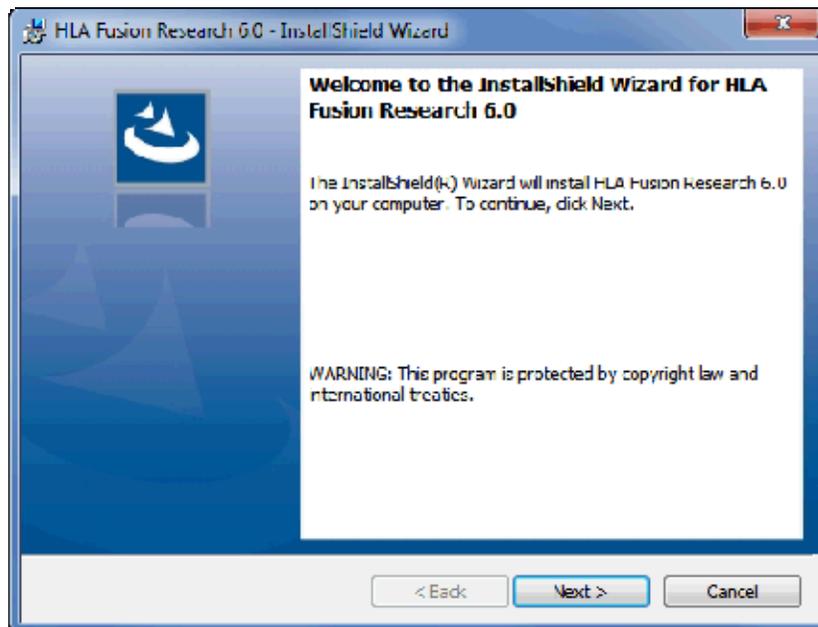


Figure 7: HLA Fusion Research Welcome Screen

When the **Next** button is activated, click it to proceed.

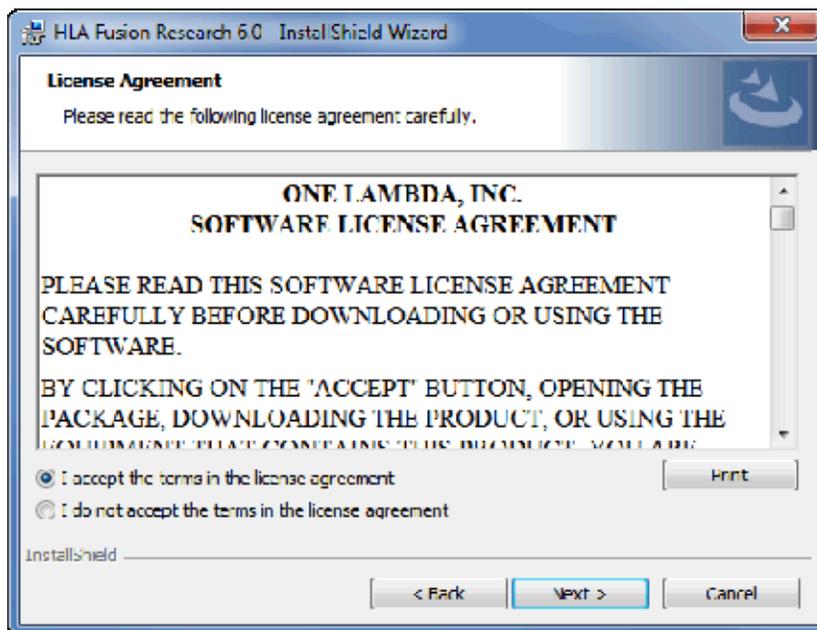


Figure 8: Software License Agreement

The License Agreement is displayed. Please read and accept the terms of the License Agreement (Figure 8, above). Select the option **I accept the terms in the license agreement** and click the **Next** button to continue.

The Destination Folder dialog box is now displayed.

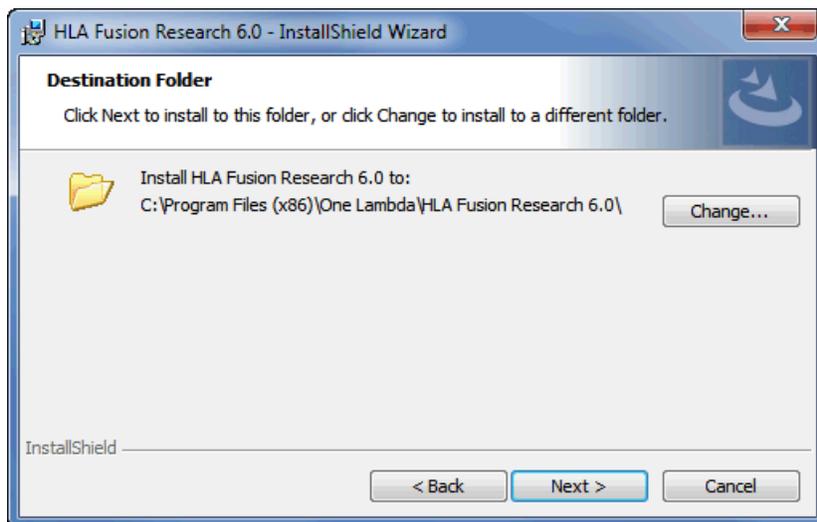


Figure 9: Software Installation Folder

Verify or change the destination folder for the HLA Fusion Research program files and click the **Next** button to continue. The **Setup Type** dialog box (Figure 10, below) is displayed:

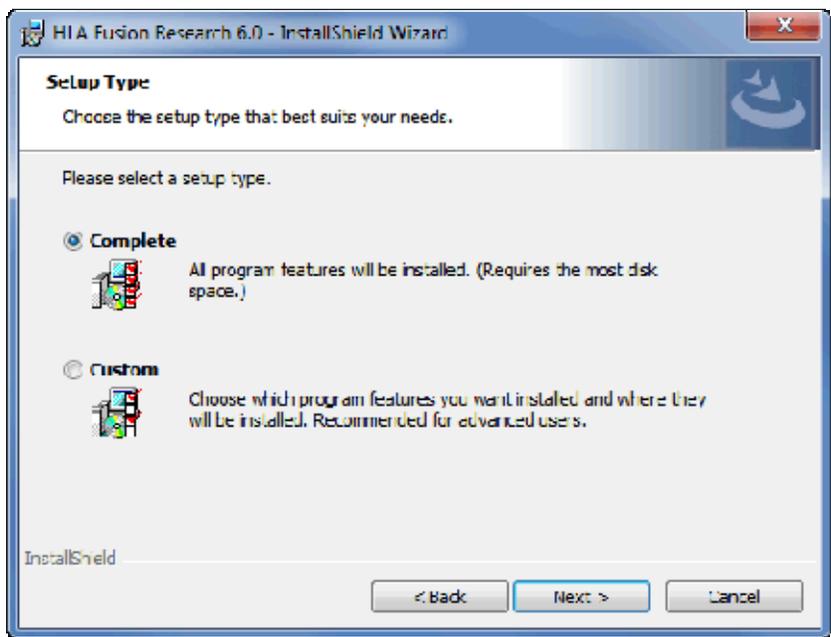


Figure 10: Choose Type of Setup

Select one of the following program setup types and click **Next**:

- **Complete (recommended):** Both the HLA Fusion Research application and the Fusion Research Database Utility are installed.
- **Custom:** You can choose to install either, or both, the HLA Fusion Research application (specific products) and the Fusion Research Database Utility. If you select this option, the following dialog box is displayed:

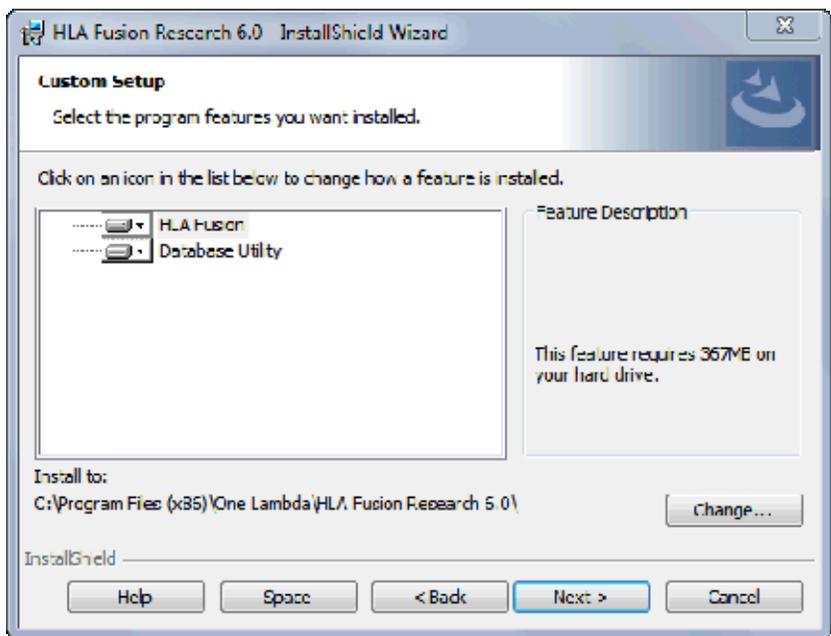


Figure 11: Custom Setup

To expand the list of modules listed under HLA Fusion Research 6.0, click the **plus sign** to the left.

- To modify the installation choice for any of the items displayed on the **Custom Setup Screen**, click the down arrow next to the item and make your selection.

Note: The installation of HLA Fusion Research creates a directory called `C:\OLI Fusion`, as well as some sub directories such as `data`, `rpt`, and `temp`. The location of these directories is set during installation. Please do not copy, modify or remove any files from the `C:\OLI Fusion\data\catalog` or `C:\OLI Fusion\rpt` directories.

To change the Current Destination Folder, click the **Change** button. You will then see a dialog box that allows you to specify the desired location:

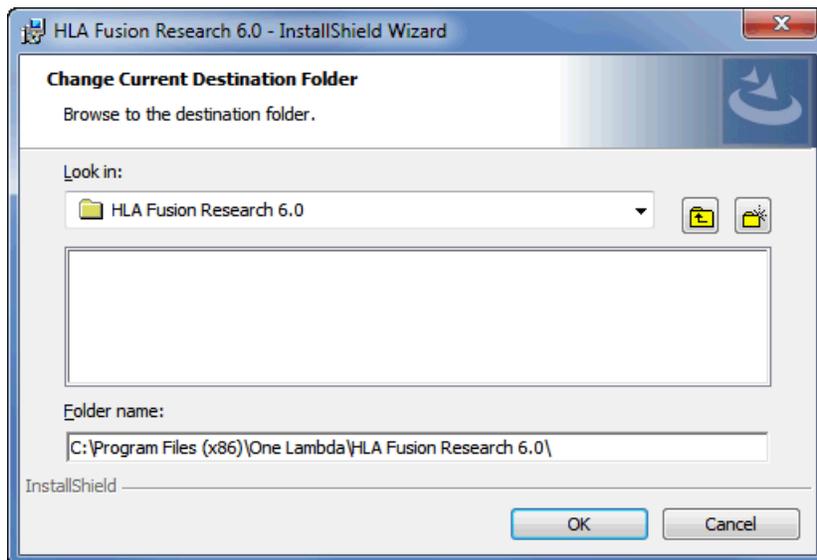


Figure 12: Custom Setup with new directory location

Note: If you are using HLA Fusion Research in a central server environment, you may wish to install the Fusion Research DB Utility.

After you've made your installation choices, click the **Next** button. The installer is now ready to install the HLA Fusion Research program files:

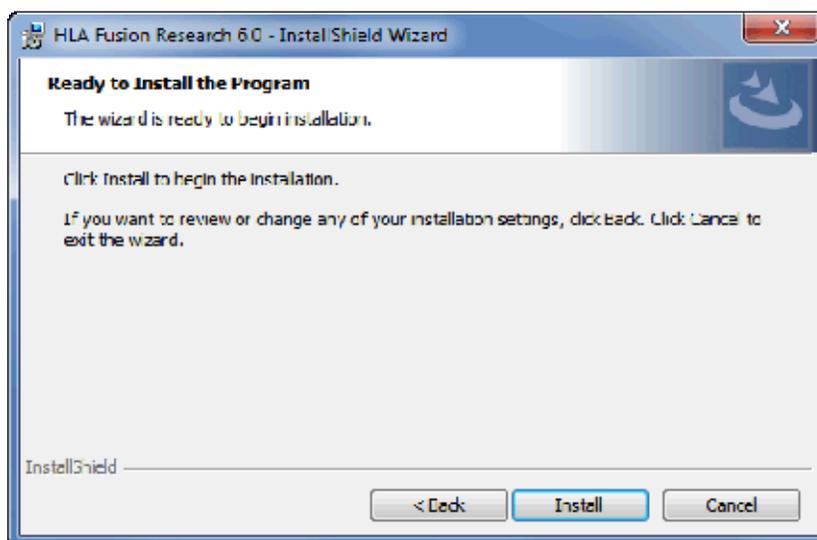


Figure 13: Ready to Install HLA Fusion Research

Click the **Install** button to begin installing HLA Fusion Research. Please wait as installation progresses:

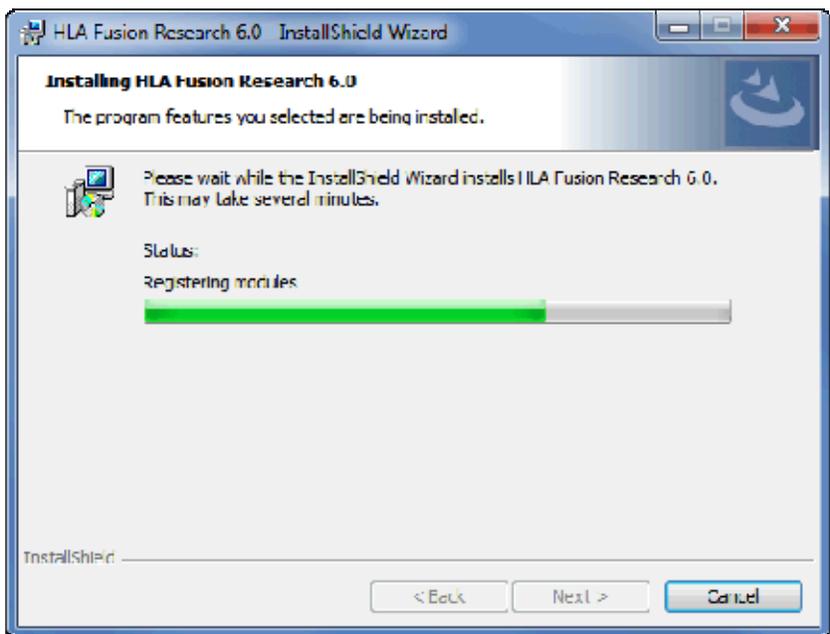


Figure 14: Program is being installed

The Installer wizard displays an **Installation Completed** message when the HLA Fusion Research installation is finished.

When installation is complete, select the check box for **Launch HLA Fusion Research 6.0**, and then click the **Finish** button.

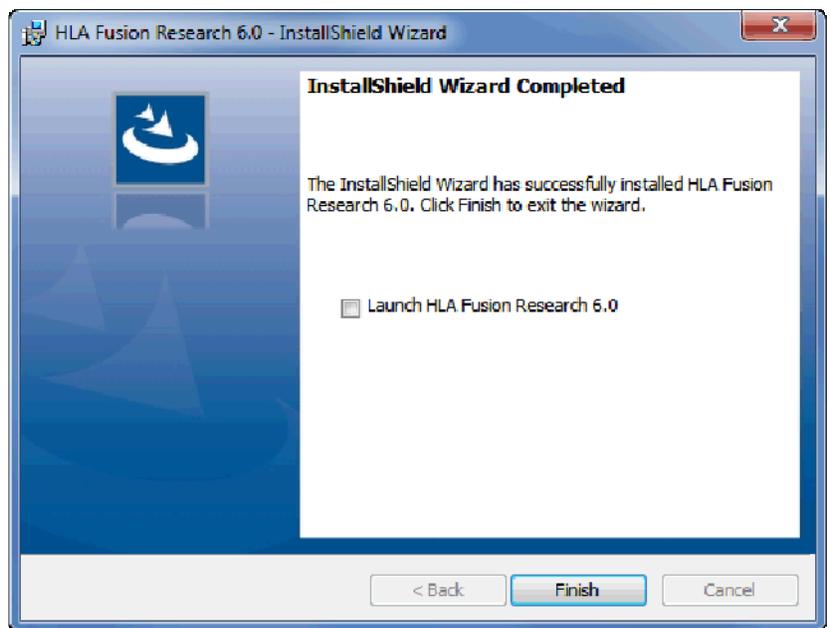


Figure 15: Installation is complete.

The installer automatically launches the HLA Fusion Research application (This may take a few moments.) If HLA Fusion Research does not start, double-click the **HLA Fusion Research 6.0 icon** on your computer desktop.

Proceed to Step 4 to create and/or connect a database to the HLA Fusion Research application.

If the HLA Fusion Research database connection is not yet set up when the program is launched (as is the case the very first time it is launched), a **System Initialization** message is displayed to indicate this. Click the **Continue** button and proceed to step 4 to create and/or connect a database to the application.

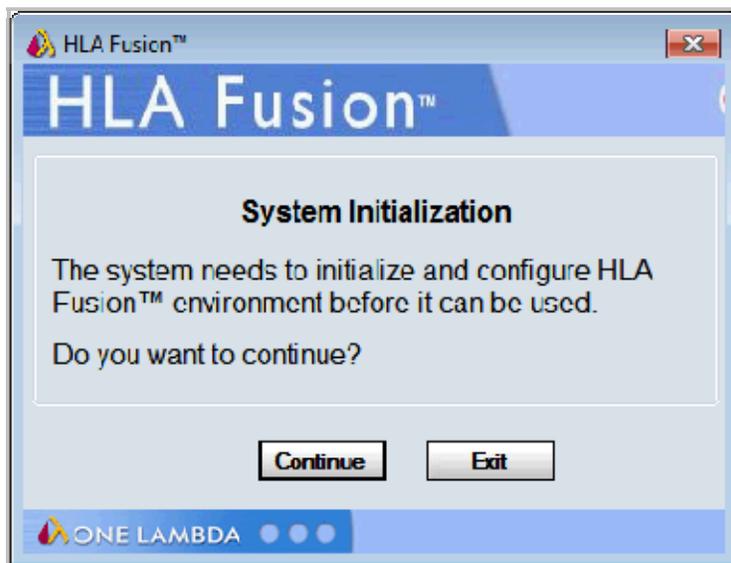


Figure 16: System Initialization

Step 4: Connect to a Database

Note: If you did not choose to install the Fusion Research Database Utility, please click the **Exit** button and skip to step 5.

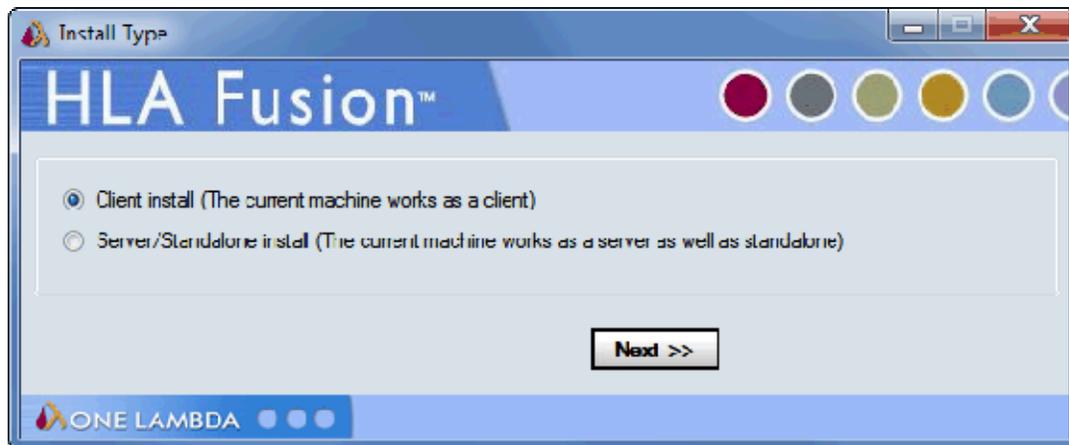


Figure 17: Choose Database Installation Type

Select the appropriate installation type from the Fusion Research Database Utility window that displays after HLA Fusion Research has been installed (Figure 17, above).

For more information about each installation type, *refer to section: **Choosing an Installation Type.***

Note: If the Database Utility does not automatically launch after the HLA Fusion Research installation, you can manually launch it by double-clicking the **Fusion Research DB Utility 6.0 icon** on your computer desktop, or by opening it from the Start menu.

Regardless of the installation type you choose, the SQL Server connection process is nearly identical. However, when you get to the actual database connection steps, the Client Install will only be allowed to connect to an existing database, not create a new database.

Connect to a SQL Server

Note: Be sure you know which SQL server you should connect to. See Appendix A, *Checklists for Installation Configuration*, for guidelines.

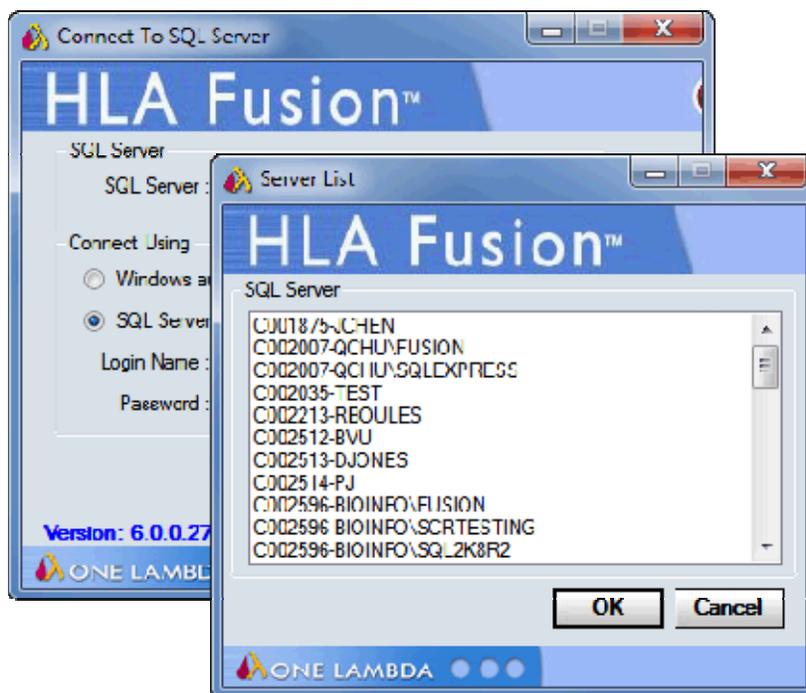


Figure 18: Choose Database Server

Select a SQL Server by doing one of the following:

- Type in the full path, directory and server name.
- Click the drop-down arrow in the SQL Server field to display a list of local SQL Servers.
- Click the Browse button  to display a list of SQL Servers available from your network.

Note: The specified SQL Server must be allowed to receive remote connections and you must have the appropriate user ID and password to connect to it. If necessary, contact your system administrator to determine whether the specified SQL Server is configured for Windows or for SQL Server authentication or both.

Select a security connection type. SQL Server authentication is recommended. For SQL Server authentication, enter your **Login Name** and **Password**, (Windows authentication usually requires configuration by administrator). Now Click the **OK** button.

Connect to a Database

Note: Make sure you either create a new database or connect to a database on the SQL server to which you connected.

1. Create a new database and/or connect to an existing one

Do one of the following to connect to a database:

- (Server/Standalone only) To create a new database, enter a unique name for the new database, set the database size, and click the New Database button. After the database has been created, click the Set button.
- (All installation types) To connect to an existing database after you have followed the HLA Fusion Research Installation open the HLA Fusion Research Database Utility for Fusion Research 6.0 by double-clicking the shortcut on your computer desktop.
 - i. Choose the function, Upgrade prior versions of **HLA Fusion Research database to 6.0** from the Fusion Research Database Utility Menu. Note that only the migration of databases created by HLA Fusion versions 3.0 or higher is supported.
 - ii. Select the database you want to update from the Database Name drop-down list, and specify a location in which you want to store a backup copy
 - iii. Click the **'Upgrade'** button
 - iv. Choose the **'Select Database'** function from the Fusion Research Database Utility
 - v. Select the database you upgraded and click the **'Set'** button

Note: This option is not available if you are installing as a client machine and/or have chosen not to install the Fusion Research Database Utility.

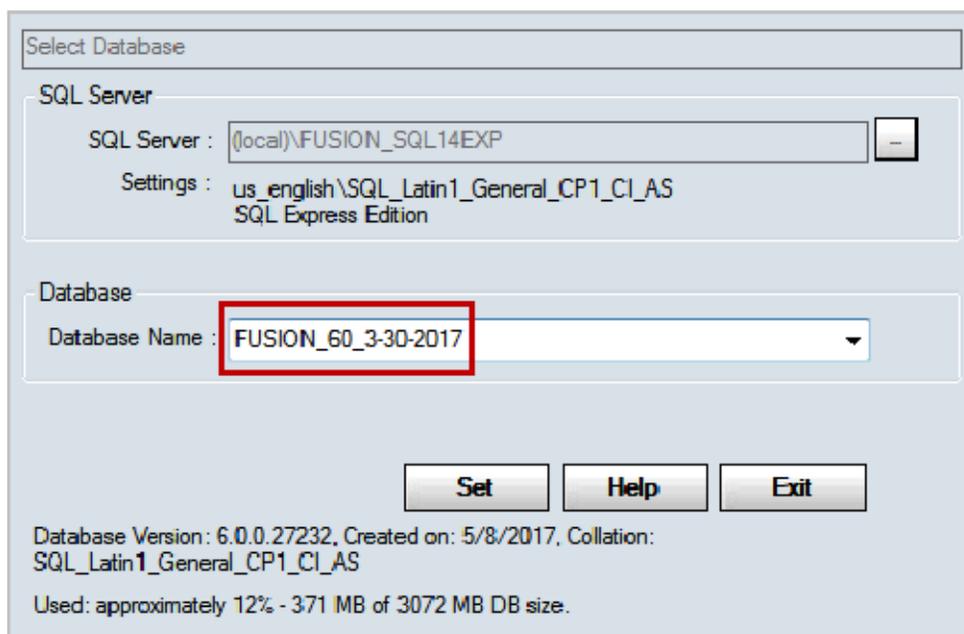


Figure 19: Connect to an Existing Database

A confirmation message is displayed when you have successfully connected to a database:

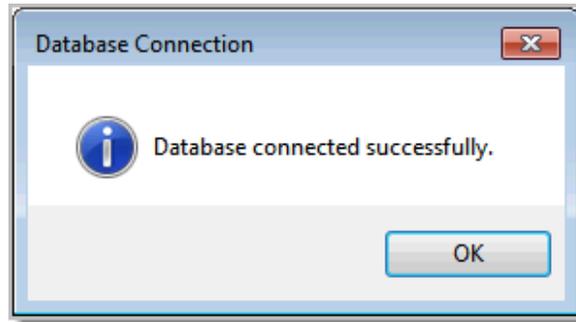


Figure 20: Database Connection Confirmation

Click the **OK** button. The HLA Fusion Research application should automatically launch. If it does not, double-click the **HLA Fusion Research 6.0 icon** located on your computer desktop.

Note: If this is the first time you have connected to this database, you will need to set up User and Lab profiles.

2. Set up the first User profile and Lab Profile

Note: This step only applies the first time you connect to a new database.

When the software launches with a connection to a new database, the **User Info Screen** appears. Fill in all required fields (denoted with an asterisk*) to set up a **User Profile**, and click the **Next** button. If you attempt to click **Next** without supplying a required field, the system flashes a red icon next to it:

The screenshot shows a 'User Info' window for HLA Fusion. The window title is 'User Info' and the application name is 'HLA Fusion™'. The form contains the following fields and controls:

- Last Name*: Smith
- First Name*: Bob
- M. I.:
- Role*: Lab Supervisor
- Active
- Can Email Report
- User Name*: BSmith
- Password*: (with a help icon)
- Confirm Password*: (with a help icon)
- What is the name of your best childhood friend?: Mike Jones
- What is the name of the city in which you were born?: New York
- Buttons: Next >> and Cancel
- Bottom bar: ONE LAMBDA logo and three dots

Figure 21: User Profile Setup

Note: The first user is always set to the **Lab Supervisor Role**. Lab name and contact information will be displayed in the footer section of the HLA Fusion Research reports.

Enter all necessary information on the **Lab Profile Screen** (an asterisk * denotes required fields) and click the **Next** button:

The screenshot shows the 'Lab Profile' window in the HLA Fusion software. The window title is 'Lab Profile' and the logo 'HLA Fusion™' is at the top left. The form contains the following fields:

- Lab Name*: Your Lab's Name
- Institute: [Empty]
- Address*: Your Street Address
- City: Your City
- State: State or Territory
- Region: [Empty]
- Country: [Empty]
- Postal Code: [Empty]
- Director or Contact*: Director/Contact Name
- E-mail: Contact email address
- Phone: 212-555-1212
- Fax: [Empty]
- Staff Count: [Empty]
- Note(s): [Empty]
- Mail Server Name: [Empty]

Below the main form is a table for Lab Codes:

Lab Code(s)	Lab Code Description	Default
[Empty]		

To the right of the table are three buttons: 'Add Lab Code', 'Edit Lab Code', and 'Delete Lab Code'. At the bottom of the form are fields for 'One Lambda Distributor' and 'Contact Email', and a 'Next >>' button. A note at the bottom states: 'Note: The Lab information will be printed on HLA Fusion™ reports.' The One Lambda logo is in the bottom left corner.

Figure 22: Laboratory Profile

Note: If you will be using HLA Fusion Research to generate NMDP code reports, add a **Lab Code** to the **Lab Profile**.

In the **Security Login Screen**, enter the **User Name** and **Password** you entered in the User Info Screen, (Figure 23, below). Click **Log In** to open the program.

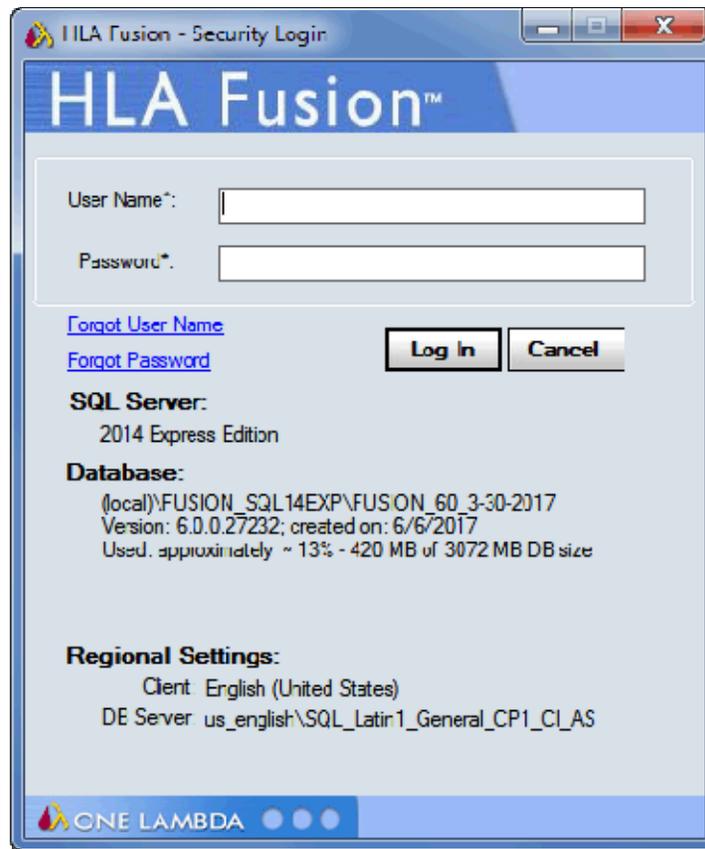


Figure 23: HLA Fusion Research Login

Note: The SQL Database listed reflects the SQL database you previously connected to.

Please refer to the **HLA Fusion Research User Manual**, or to the online help for detailed information about using the HLA Fusion Research Software application.

Uninstalling the HLA Fusion Research Software

Note: Please note that your existing HLA Fusion Research database contents will not be impacted by removal of the HLA Fusion Research application. You can continue to use your existing database with any new version of HLA Fusion Research that you install. See the *HLA Fusion Research Release Notes* or the *Readme* file for the most current database upgrade information.

1. (Optional) Back Up Your Fusion Research Database

- Within the Database Utility window, click the **Database Tasks > Backup Database** option.
- From the **Database Name** drop-down list, select a database.
- Click the **Browse Button**  next to the **Destination** field. This brings up a new window where you can select a destination folder for the database backup.

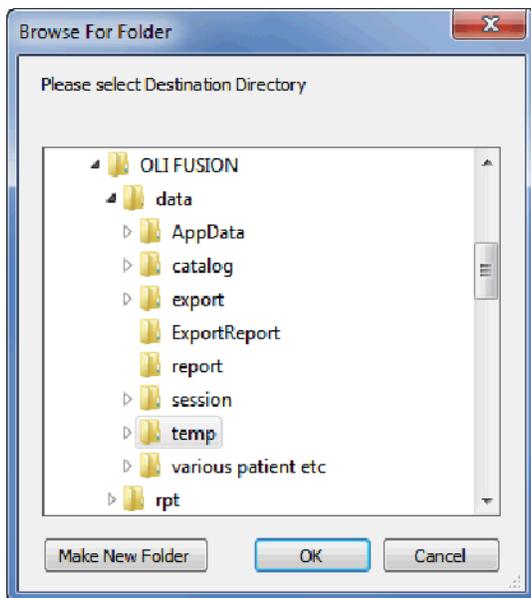


Figure 24: Selecting a Location for Backup

Note: The location you select for the database backup must be somewhere on your local hard drive. You cannot store it on your desktop, in your My Documents directory, or on a network directory.

1. Indicate a database Backup File Name in the **Backup File** field. The backed up files are stored with a backup (.bak) file extension.
2. Click the **Backup** button. After backup, the following message is displayed.

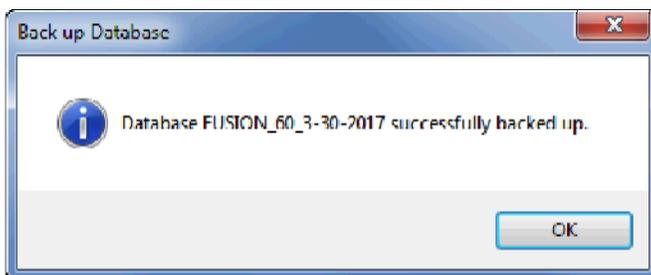


Figure 25: Database Backup Successful

3. Click the **OK** button. The database is saved as a backup file in the location you specified.

2. Uninstalling the HLA Fusion Research 6.0 Program

From the Control Panel, Programs and Features section, select HLA Fusion Research 6.0. Right click and select Uninstall.

Note: If the **Remove Button** is not displayed, contact your system administrator - you may not have the necessary privilege level to uninstall software programs.

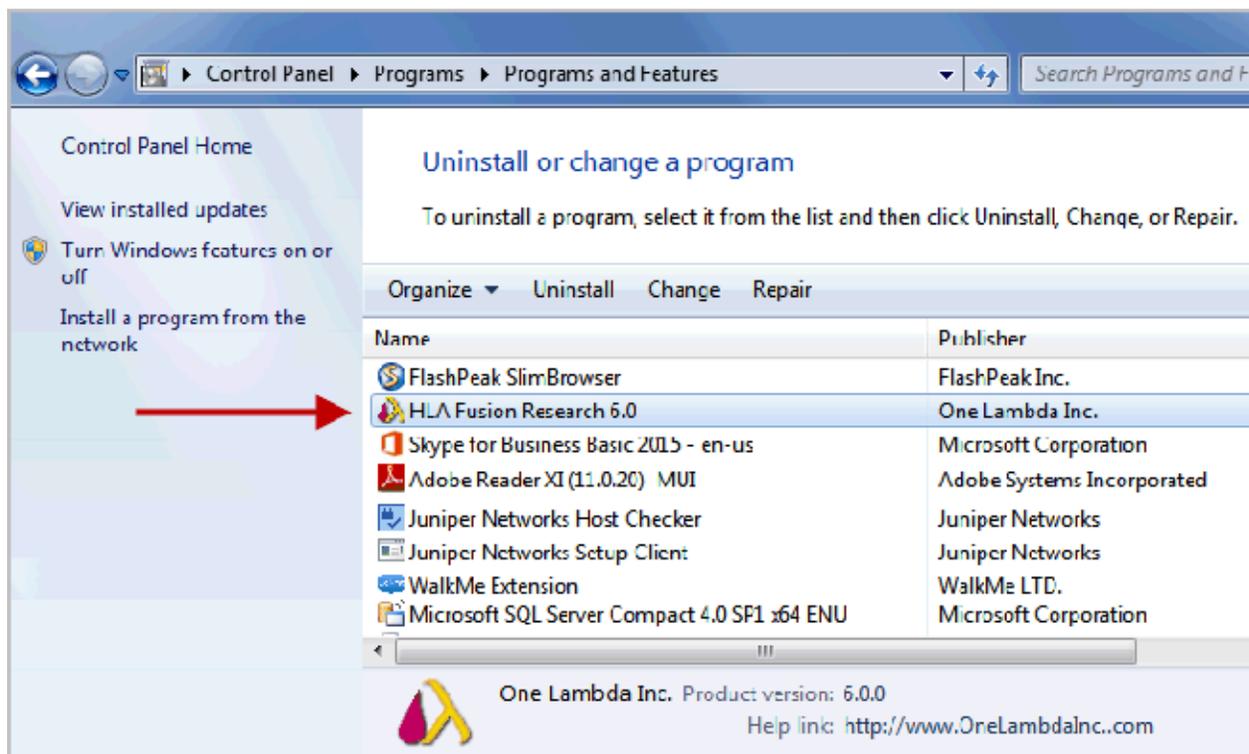


Figure 26: Programs and Features Installed

After uninstalling the program, verify that the program folder has been removed from **C:\Program Files (x86)\One Lambda\HLA Fusion Research 6.0**.

If not, please delete the appropriate sub-folder from the HLA Fusion Research folder.

Appendix

Checklist for Installation Configuration

Note: If you've read this appendix and find you still need installation assistance, please contact One Lambda technical support. (+1 800 822 8824, or 1lambda-techsupport@thermofisher.com)

The sections in this appendix list the key steps you should follow when installing HLA Fusion Research in the described configurations. They are based on the processes for the installation type you choose and reflect certain steps that are important to follow for each one.

Server/Standalone Configurations

Follow the installation process for a Server if your computer is storing the HLA Fusion Research Database and Database Utility and the other computers on the network (the clients) will be accessing your computer to use the Fusion Research software application.

If your computer is the only computer storing and accessing the HLA Fusion Research application, and the HLA Fusion Research Database and Database Utility are also installed on your computer, follow the installation process for a Standalone configuration.

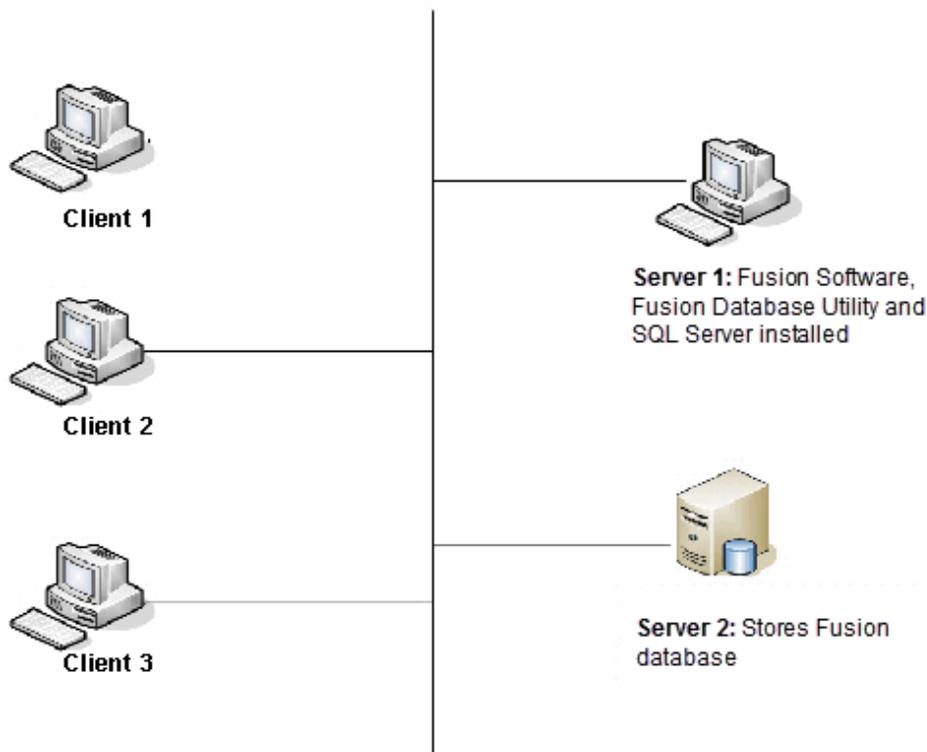


Figure 27: Typical Server/Standalone Configurations

Server/Standalone Installation Checklist

- ✓ If you are accessing a central SQL Server, make sure it is set up to receive remote connections.
- ✓ Insert the HLA Fusion Research Software CD and begin the installation process.
- ✓ Make certain to install SQL Server and the **.NET** Framework, if prompted to do so.
- ✓ Follow all the prompts for installing HLA Fusion Research, including accepting the license agreement, until the installation is complete.
- ✓ Open the Fusion Research Database Utility, making sure to select the **Server/Standalone Install** for *Install Type*.
- ✓ Connect to a *local SQL Server, or a SQL server on the network* to which you have access.
- ✓ Connect to an existing database on the SQL server you selected in the previous step, or create a new database on that SQL server.
- ✓ Set up your user and lab profiles.

Client Configurations

Follow the installation process for a Client system if your computer is accessing the Fusion Research Database Utility and the Fusion Research Database via a network.

Note: Make sure you know the name and network location of the Fusion Research application server and database server to which it is connected. If your client machine has the Fusion Research Database Utility installed, (which is optional) it can connect to any server containing the Fusion Research SQL Server database - otherwise, the server must also have the Fusion Research Database Utility installed.

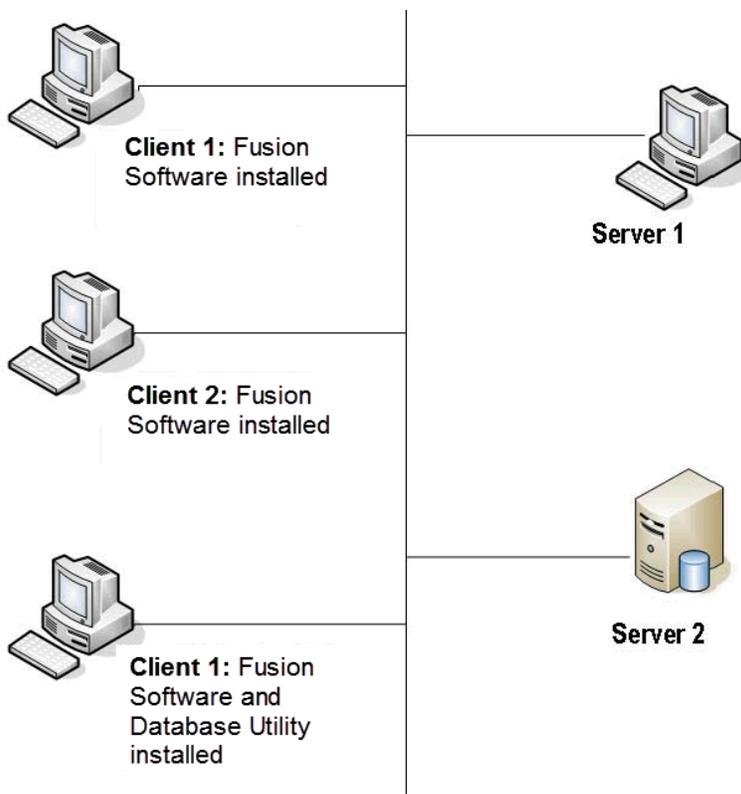


Figure 28: Typical Client Configurations

Client Installation Checklist

- ✓ Have a system administrator add TCP (1433) and UDP (1434) ports for HLA Fusion Research to the Exceptions tab in the Windows Firewall option of the Control Panel. This allows remote connections from the central SQL Server.
- ✓ Insert the HLA Fusion Research Software CD and begin the installation process.
- ✓ Make certain to install SQL Server and the .NET Framework if prompted to do so.
- ✓ Follow all the prompts for installing Fusion Research, including accepting the license agreement, until the installation is complete. Note: The installation of the Fusion Research Database Utility is optional.
- ✓ Open the Fusion Research Database Utility and select the Client Install for Install Type.
- ✓ Connect to the appropriate SQL server on the network.
- ✓ Connect to an existing database on the SQL server you selected in the previous step, or create a new database on that SQL server.
- ✓ Set up your user and lab profiles.