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LIGHTHOUSE

Installation and Upgrade Guide

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INTRODUCTION

The purpose of this document is to provide initial installation and upgrade instructions for Torque Software's Lighthouse software system.

This document describes all aspects of the installation and upgrade process.

Note: see the Lighthouse Technical Guide for further information, including application schematics, architecture and security.

Checklist

A number of skills and pieces of information are required to install Lighthouse; following is a breakdown of the tasks involved, the information required (and from whom) as well as the skills required to perform those tasks.

Component	Details	Responsible
Implementation Coordination	Coordinate implementation of Lighthouse as per this guide	Lighthouse Implementation Project Manager
IIS Configuration	Application installation on IIS server, configuration of IIS and Windows Components	IIS Administrator; Windows Server Administrator
Lighthouse System Configuration	Providing Lighthouse with technical resources, e.g. SQL Server details and SMTP Server credentials	SQL Database Administrator (DBA); Windows Server Administrator
Database Configuration	Access to SQL Server to create database; Running SQL Server scripts	SQL Database Administrator (DBA)
Lighthouse Administrator Training	Training Lighthouse Users in how to administer and maintain Lighthouse	Lighthouse Administrators; Torque Software

Installation requires that the user have expertise in Windows Server, Microsoft IIS and SQL Server configuration and management, with a working knowledge of deploying ASP.NET applications.

If you do not have access to the required level of skill or require assistance, please contact Torque Software to arrange technical resources and implementation support.

Best Practice Approach

As per information technology best practice, Torque Software strongly recommends implementation of two Lighthouse instances: one for testing and training and one for the production system.

The Test instance of Lighthouse should not have any access to the production environment to ensure that implementation and new version testing does not interfere with the production instance.

IIS SERVER CONFIGURATION

Before you begin

Lighthouse runs on Microsoft's Internet Information Services (IIS) platform. IIS administration requires expert knowledge; if you do not have access to the necessary skillset please contact Torque Software.

Server Pre-requisites

- Windows Server 2012 or later running IIS8 or later
- .NET Framework 4.5.2
- CPU: recommended: 4 or more cores, 2GHz or faster
- Memory recommended: 8GB RAM or greater
- Disk Space required for software and initial database: 100mb
- Server must be on the AD domain to allow single sign-on (if not on domain, users will be prompted to log in with Logon ID and Lighthouse password)

Installation Requirements

The following Server Roles must be installed at a minimum:

- Server Roles
    - Application Server
        - .NET Framework 4.5.2
    - Web Server (IIS)
        - Common HTTP Features
        - Performance
            - Static Content Compression
            - Dynamic Content Compression
        - Security
            - Basic Authentication
            - Windows Authentication
        - Application Development
            - .NET Extensibility 4.5
            - Application Initialization
            - ASP.NET 4.5

- ISAPI Extensions
- ISAPI Filters
- Server Side Includes
    - Management Tools
- Features
    - .NET Framework 4.5.2
        - .NET Framework 4.5.2
        - ASP.NET 4.5

Optional: The Organisation structure and users within Lighthouse may be updated Organisation Structure & User Update via Web Services. If this service is to be used, ensure the following features are also installed:

- Features
    - .NET Framework 4.5.2
        - WCF Services
            - HTTP Activation
            - TCP Port Sharing
    - Windows Process Activation Service
        - Process Model
        - Configuration APIs

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New Instance Installation

This section only applies when you are installing a new Lighthouse instance. If you are upgrading an existing Lighthouse instance, please read Existing Instance Upgrade below.

1. Unpack the provided .zip file to the c:\inetpub\wwwroot folder on the web server, ensuring that the folder structure and filenames are retained when unzipping.

Existing Instance Upgrade

This section only applies when you are upgrading an existing Lighthouse instance. If you are installing a new Lighthouse instance, please read New Instance Installation above.

1. Backup the Lighthouse database

2. Backup the Lighthouse application folder (typically c:\inetpub\wwwroot)

3. Delete all files from the application folder (the new application package will include all support files required)

4. Unpack the provided .zip file to the c:\inetpub\wwwroot folder on the web server, ensuring that the folder structure and filenames are retained when unzipping.

IIS Configuration

If you are upgrading from an existing instance of Lighthouse which is Version 3.99 or earlier, skip steps 1-8 below and start at step 9.

> Note: these instructions assume configuration of Lighthouse as the default IIS web site.

1. Go to Start → Control Panel → Administrative Tools and open Internet Information Services (IIS) Manager

2. Expand the server name and the Sites folder, then select Default Web Site in the list

3. Double click the Default Document icon
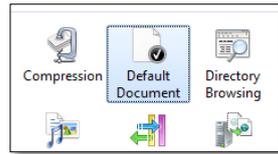
4. Move default.aspx to the top of the list, then click back into Default Web Site.

5. Double click the Authentication icon
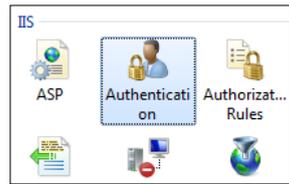
6. Enable Windows Authentication and disable Anonymous Authentication, then click back into Default Web Site

7. Click Basic Settings, you will see a dialog like the one below:
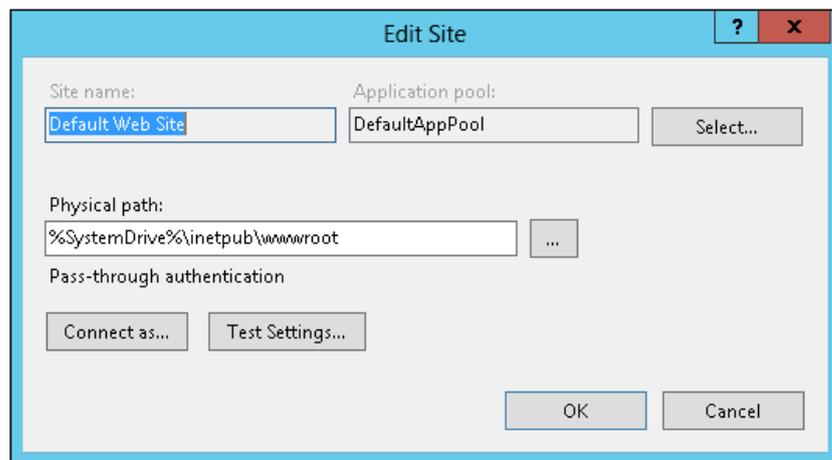
8. Ensure the Physical path is pointing to the same location you unzipped the application files (typically %SystemDrive%\inetpub\wwwroot).

9. Click on Application Pools in the tree on the left

Note: to find the name of your Lighthouse instance's application pool, select Lighthouse site and then select Basic Settings from the Actions menu on the right.

The Edit Site dialog lists the Application pool name.

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10. Right click the name of Lighthouse instance's application pool noted in the list on the right, select Basic Settings and ensure the .NET Framework version is set to v.4.0.x:
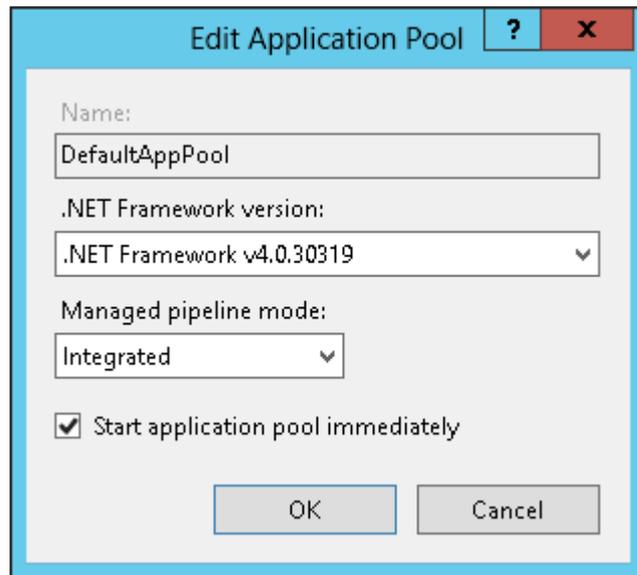
11. Right click the name of the application pool again and select Recycling. Turn off all recycling conditions except Specific Time, which should be set to 4:00AM (or some other convenient time for the application to recycle). Click Next

12. Turn on all event log types, click Finish

NEW DATABASE INSTALLATION

Note: Only perform the instructions in this section if you are installing a new instance of Lighthouse. If you are upgrading an existing Lighthouse instance, skip this section and perform the upgrade steps outlined in the EXISTING DATABASE UPGRADE section.

Before you begin

Lighthouse database runs on Microsoft's SQL Server platform. SQL Server administration requires expert knowledge; if you do not have access to the necessary skillset please contact Torque Software.

Server Requirements

- SQL Server 2008 or later
- Expect the database to increase in size by approximately 200-500mb per year (attachments to breaches and applications are the primary source of database growth)

Installation Requirements

- IIS Configuration and application setup complete; site should be accessible via nominated URL
- SQL Server user with sufficient permission to create databases, users, roles and modify database schemas and data.
- Details of initial Lighthouse administrator
- Lighthouse License (provided by Torque Software)
- SMTP Server configuration, including account to be used by Lighthouse

Initial System Configuration

Once you have deployed Lighthouse application files and configured IIS, access the site by its URL and you will be presented with the New Instance Setup.

Step through the New Instance Setup ensuring you have access to the information identified in the Installation Requirements above.

If you wish to create a new Lighthouse database select the "Create a new FMCS Database".

Enter all the relevant information in the New Instance Setup screen. For help at any time during the initial setup process, click the Help icon in the top right.

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If you selected the "Create a new FMCS Database" option you are presented with the option of automatically creating the Lighthouse database or manually creating the Lighthouse database by generating the script required to create it.

Automatic Database Creation

Lighthouse has the capability to connect to your SQL Server and create its own database, ensuring correct implementation without the need to run any scripts manually.
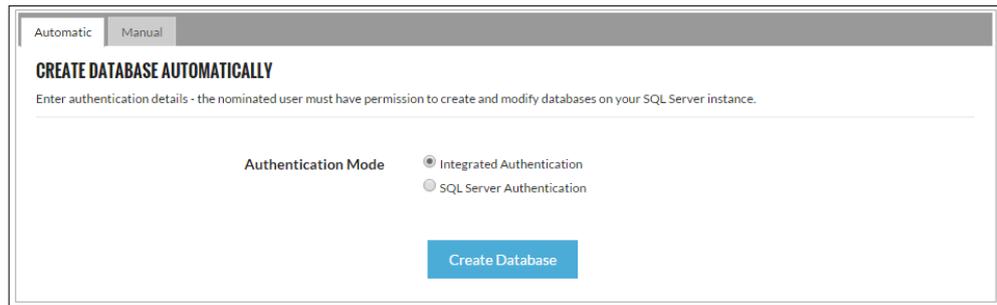
1. Select the Authentication Mode to connect to the SQL Server – the nominated security context (integrated or the SQL user) must be a member of the sysadmin role on the server.

2. Click Create Database, Lighthouse will run the appropriate scripts and notify you of the outcome.

> Note: no security information is retained from this step – it is only used to create the database at this time.

Manual Database Creation

1. To generate the script required to create and configure Lighthouse database, change to the Manual tab:

2. Click Generate Script and you will be presented with a screen containing the script:

MANUAL DATABASE SCRIPT - GENERATED

Copy and run the script below. When you are finished, click here to restart the system and log in.

```
USE [master];
GO
CREATE DATABASE [FMCS];
GO
USE [FMCS];
GO
CREATE ROLE fmcs_users AUTHORIZATION db_securityadmin;
GO
/****** Object:  Table [dbo].[BreachNoted]   Script Date: 09/29/2011 15:38:10 ******/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
CREATE TABLE [dbo].[BreachNoted](
    [BreachNotedId] [int] IDENTITY(1,1) NOT NULL,
    [BreachNoted] [nvarchar](50) NOT NULL,
    [SortOrder] [int] NULL,
    [Active] [bit] NOT NULL,
  CONSTRAINT [PK_BreachNoted] PRIMARY KEY CLUSTERED
(
    [BreachNotedId] ASC
) ON [PRIMARY]
) ON [PRIMARY]
GO
```

3. Copy and run the script on your SQL Server– the nominated security context (integrated or the SQL user) must have sufficient permission to create databases, users, roles and modify database schemas and data.

4. Click the link to restart the system and log in.

> ✓ Note: Lighthouse is now operational.

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EXISTING DATABASE UPGRADE

Note: Only perform the instructions in this section if you are upgrading an existing Lighthouse instance. If you are installing a new Lighthouse instance, go to the NEW EXISTING DATABASE UPGRADE section and perform the new installation instructions.

Before you begin

The Lighthouse database runs on Microsoft's SQL Server platform. SQL Server administration requires expert knowledge; if you do not have access to the necessary skillset please contact Torque Software.

Config File Update

If you are upgrading from version 3.1 or earlier of Lighthouse:

1. Open the web.config file in the old backed up application root and copy FMCSConnectionString details from the connectionStrings section
2. Open the connection.config file under the application root / config folder
3. Set the connectionString property to the value you saved from Application Upgrade above into the GovernorConnectionString key
4. Save the file

If you are upgrading from any version of Lighthouse between version 3.2 and version 4.99:

1. Replace the connection.config file under the application root / config folder with the same file backed up during the Existing Application Upgrade section above
2. Open the connection.config file under the application root / config folder
3. Change the word FMCSConnectionString to GovernorConnectionString
4. Save the file

If you are upgrading from version 5.x of Lighthouse:

1. Replace the connection.config file under the application root / config folder with the same file backed up during the Existing Application Upgrade section above

Database Update Routine

Once the Lighthouse upgrade has been completed and the config file has been updated, launching Lighthouse will display the Database Update Required screen.

> Note: Database scripts (manual or automatic) must be executed in the security context of a user with sufficient permission to change the database schema, assign table permissions to Lighthouse_users role, and modify data; as per best practice, *this should not be the security context that the platform connects as for normal use*.

To apply the database update:

1. Select either the Automatic or Manual method.

2. For Automatic Update, simply select the appropriate user to run as (this user must have sufficient permission on Lighthouse database to run the script, see the important note above) and click Update

3. For Manual Update, select this tab, copy the script and run it in SQL Server Management Studio (or similar) as a user with sufficient permission on Lighthouse database to run the script, see the important note above.

4. When you have run the script, click the link click here to login.

> Lighthouse should now run as normal, and present either the Login screen, or the dashboard (when using integrated authentication).

POST INSTALLATION CONFIGURATION

Scheduled Task

To ensure Lighthouse runs its maintenance tasks, such as emailing out the periodic reports and sending reminder emails, a Windows Scheduled Task must be set up.

Server Requirements

- Any server (can be the same as the IIS server) from which to run the scheduled task
- Configuring user must have administrative access to server

Installation Requirements

- Lighthouse must be pre-configured and running correctly

Scheduled Task Configuration

Create a Windows Scheduled Task to access the following URL at least once an hour: http://<Lighthouse_URL>/RunMaintenance.aspx

Test Mode

Test mode is useful in a test environment to prevent automated emails being inadvertently sent to users who are not part of the test team. Turn test mode on by adding the following to the test instance /config/settings.config file:

```
<add key="TestMode" value="1" />
<add key="TestEmailGroup" value="Test Members" />
```

Organisation Structure & User Update via Web Services (Optional)

The web services are SOAP-based, and allow updating of the organisation structure and system users within Lighthouse. Updates can be performed at any frequency, however overnight is recommended.

To enable the web service functionality within Lighthouse, please ensure the relevant WCF Components are installed on the IIS server, as specified in IIS SERVER CONFIGURATION / Installation Requirements above.

For more information on integrating with Lighthouse web services, visit Lighthouse knowledge base at http://help.fmcs.com.au/web-service-integration/

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TROUBLESHOOTING

Following are examples of problems encountered and their suggested solutions.

System Responsiveness

IIS's default behaviour is to "put sites to sleep" after a specified idle period (typically 30 minutes). After this time, the next user to hit the site will cause the application to be loaded into memory and cached, resulting in a sometimes-significant lag while loading depending on the capabilities of the IIS server.

If you wish to avoid this behaviour, the suggested approach is to change the application pool timeout duration to a period longer than your business hours, and set up a scheduled task to "ping" the website just prior to the start of the work day to "wake up" Lighthouse.

> Note: Microsoft and Torque Software do not recommend disabling application pool timeouts – we strongly recommend allowing the application pool to recycle at least once a day.

Required permissions cannot be acquired

If you see this message after installation and configuration of Lighthouse, see http://stackoverflow.com/questions/1846816/iis7-failed-to-grant-minimum-permission-requests for a possible solution.

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