Oracle® Hospitality Hotel Mobile

OPERA Web Services Server Installation Guide
Release 1.2
E97378-01

September 2018

ORACLE

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Contents

1 Preface

This document explains how to install and configure OPERA Web Services server components for Oracle Hospitality Hotel Mobile.

Audience

This document is intended for system administrators, support personnel, and users familiar with Oracle Hospitality Hotel Mobile.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at http://docs.oracle.com/en/industries/hospitality/

Revision History

Date	Description of Change
May 2017	• Initial publication
September 2018	• Part number and date revision.

2 Prerequisites

Verify that the OPERA Web Services host computer has Microsoft Windows Server 2008 R2 or higher. If the server does not have Internet access, use the Microsoft Windows installation CD to install the operating system.

3 Configuring Microsoft .NET Frameworks

Verify that the OPERA Web Services server has Microsoft .NET Frameworks 4.5 and 4.6.1. If the server does not have the frameworks, install them.

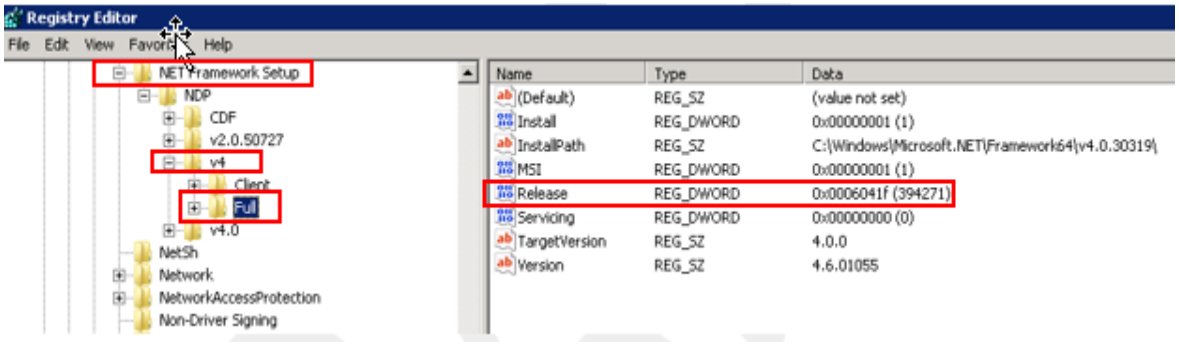
Verifying Microsoft .NET Frameworks

Follow these steps to check the server registry for Microsoft .NET Frameworks 4.5 and 4.6.1:

1. Log in to the OPERA Web Services server.
2. Select **Run** on the **Start menu**.
3. In the Open box, enter **regedit.exe**. You need administrative credentials to run regedit.exe.
4. In the Registry Editor, open the following subkey:

   HKEY_LOCAL_MACHINE -> SOFTWARE -> Microsoft -> NET Framework Setup> NDP -> v4 -> Full

   The path to the full subkey includes the subkeys **(Net Framework)** and **(.NET Framework)**. The right subkey is **Net Framework Setup**.



5. Check for a DWORD value of **Release**. The **Data** column indicates which version of the .NET Framework is installed. The following URL provides more information on installed versions: https://support.microsoft.com/en-gb/help/318785/how-to-determine-which-versions-and-service-pack-levels-of-the-microsoft-.net-framework-are-installed.

Installing Microsoft .NET Frameworks

If one or both .Net 4.5 and 4.6.1 frameworks are not installed, download the frameworks from: https://www.microsoft.com/download. Run the .exe on each file as an administrator to install and follow the prompts on the screen to compete installation.

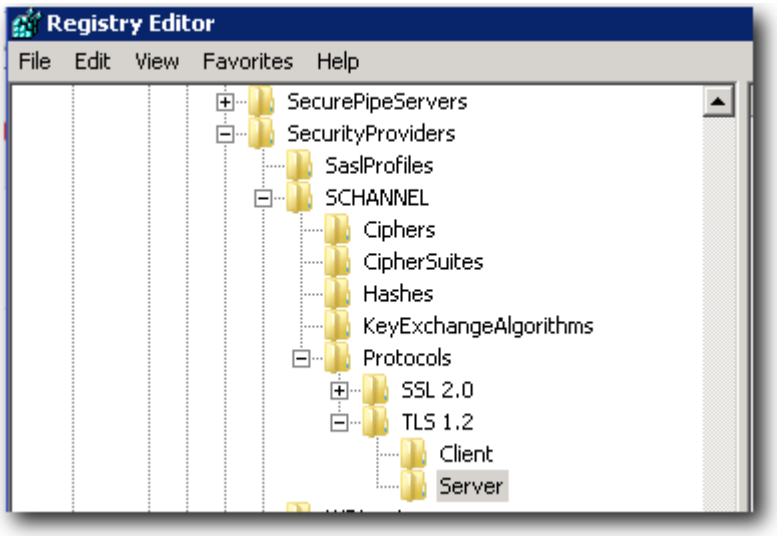
4 Configuring Transport Layer Security

The OPERA Web Services server uses Transport Layer Security (TLS) to secure connections between servers and web browsers. By default, TLS is not enabled on Microsoft Windows Server 2008 R2 servers.

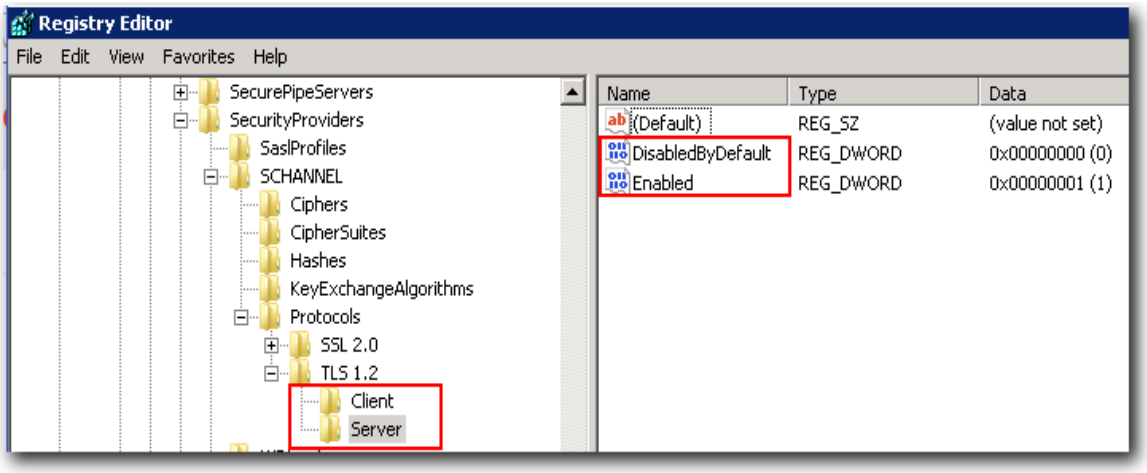
Verifying TLS

Follow these steps to verify TLS 1.2 is enabled on the server:

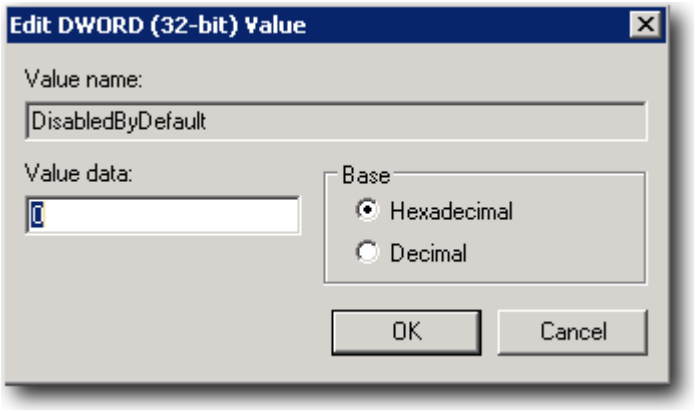
1. Start the registry editor by clicking on **Start** and **Run**. Type in **regedit** into the **Run** field.
2. Browse to the following registry key: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols



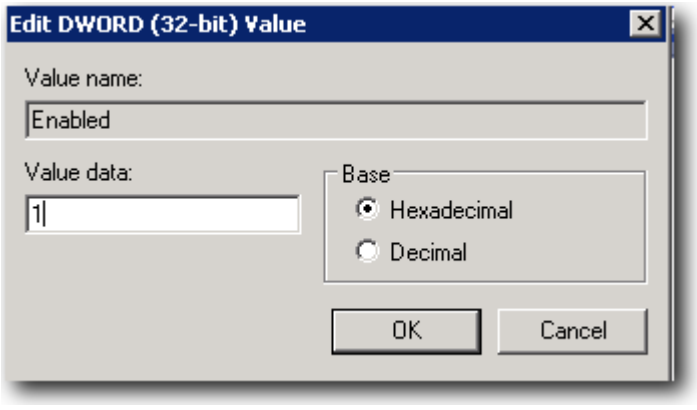
3. Expand the **Protocols** folder, and then expand the **TLS 1.2** folder.
4. Within the **Client** and **Server** folders, there are **DisabaledByDefault** and **Enabled** DWORD keys.



5. Right-click and select **Modify** on each **DisabledByDefault** DWORD Key under both **Client** and **Server** folders, and then verify that the **Value** data field is set to **0** and the **Base** is **Hexadecimal**.



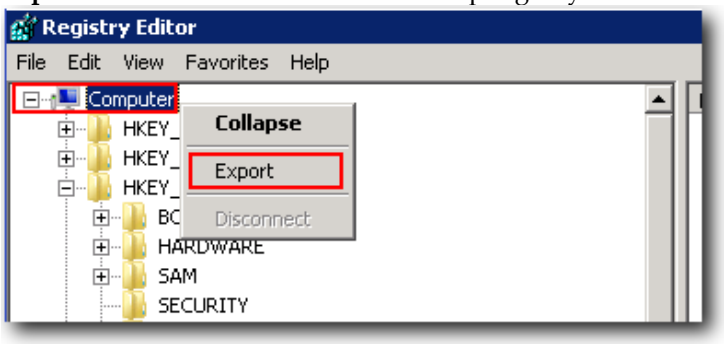
6. Right-click and select **Modify** on each **Enabled** DWORD Key under both **Client** and **Server** folders, and then ensure that the **Value** data field is set to **1** and the **Base** is **Hexadecimal**.



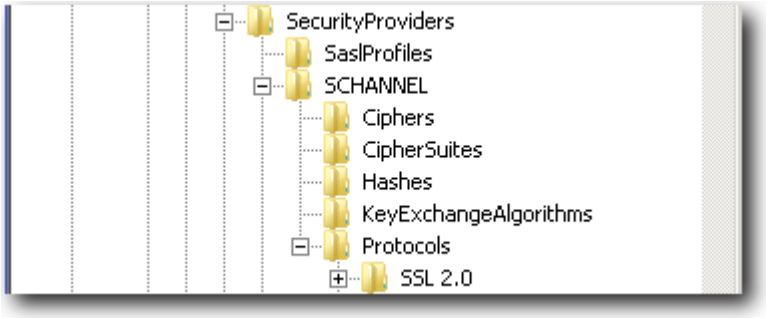
Enabling TLS

If TLS 1.2 is not enabled, follow these steps:

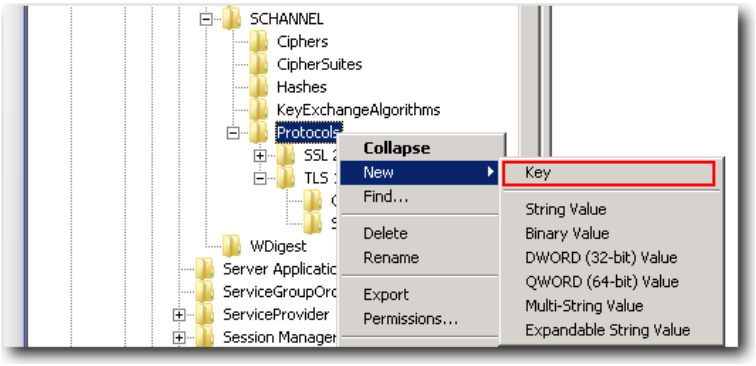
1. Start the registry editor by clicking on **Start** and **Run**. Type in **regedit** into the **Run** field.
2. Select **Computer** at the top of the registry tree. Backup the registry by selecting **File** and then **Export**. Select the location for the backup registry file.



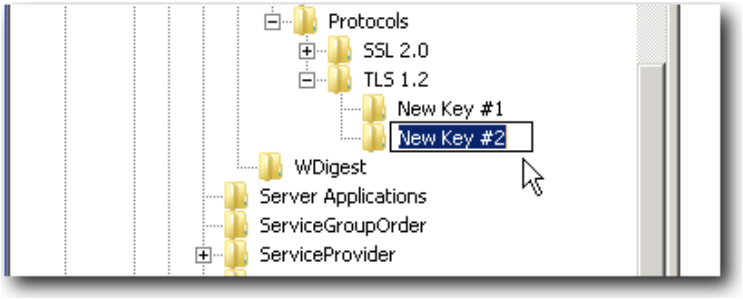
3. Browse to the following registry key:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols



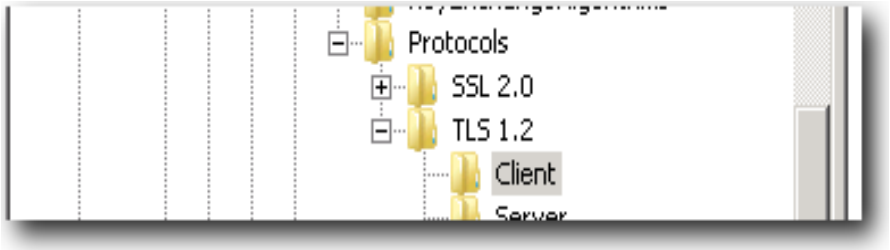
4. Right-click the **Protocols** folder, select **New**, and then select **Key**. This creates a folder. Rename the folder to **TLS 1.2**.



5. Right-click the **TLS 1.2** key, and then add two new keys.



6. Rename the two new keys to **Client** and **Server**.



7. Right-click the **Client** key, select **New**, and then select **DWORD (32-bit) Value** from the drop-down list.
8. Rename the **DWORD** to **DisabledByDefault**.
9. Right-click the name **DisabledByDefault** and select **Modify**.
10. Ensure that the **Value** data field is set to **0** and the **Base** is **Hexadecimal**, and then click **OK**.
11. Create another **DWORD** for the **Client** key as you did in **Step 7**.
12. Rename this second **DWORD** to **Enabled**.
13. Right-click **Enabled**, and then select **Modify**.
14. Ensure that the **Value** data field is set to **1** and the **Base** is **Hexadecimal**, and then click **OK**.
15. Repeat steps **7** to **14** for the **Server** key (by creating two DWORDs, **DisabledByDefault** and **Enabled**, and their values underneath the **Server** key).
16. Reboot the server.
    If you make a mistake or run into issues, revert to your previous registry settings by opening the Registry Editor and importing the backup file you made in step 2.

5 Configuring Internet Information Services

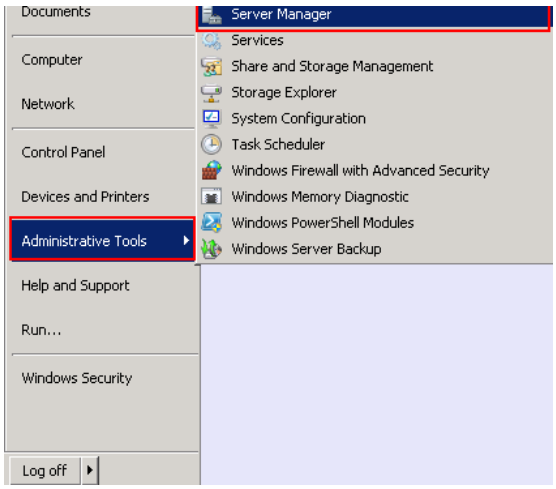
Verifying IIS

Follow these steps to verify that IIS 7 is installed on the server :

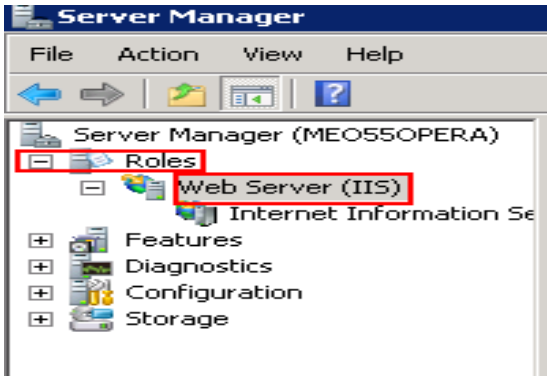
1. Open a web browser and go to http://localhost/. If ISS is installed, the following screen appears:

2. Make sure that the following IIS features are installed:

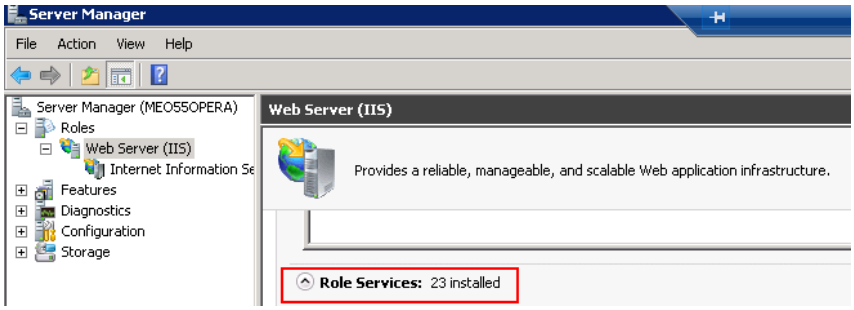
   a. Go to **Start -> Administrative Tools -> Server Manager**.



   b. Expand the **Roles** folder, and then select **Web Server (IIS)**.

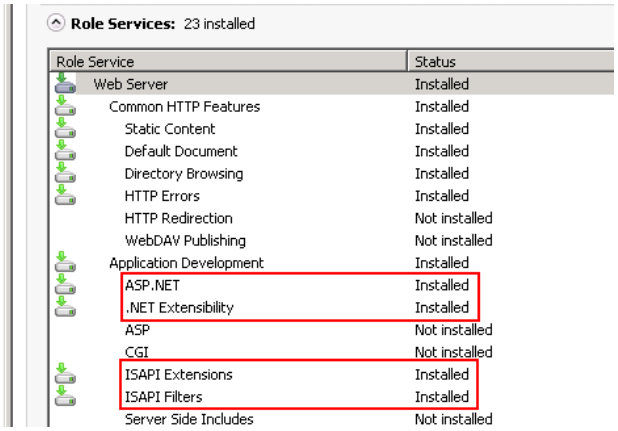


c. Click **Role Services**.



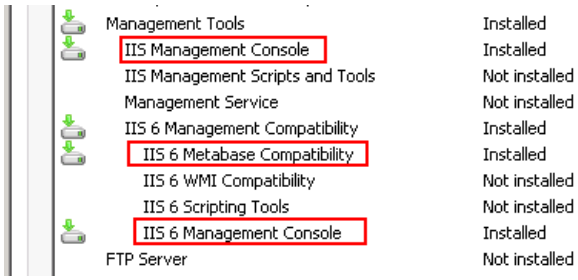
d. Verify that the following components are installed:

- ASP.NET
- .NET Extensibility
- ISAPI Extensions
- ISAPI Filters



e. Scroll down and verify that the following components are installed:

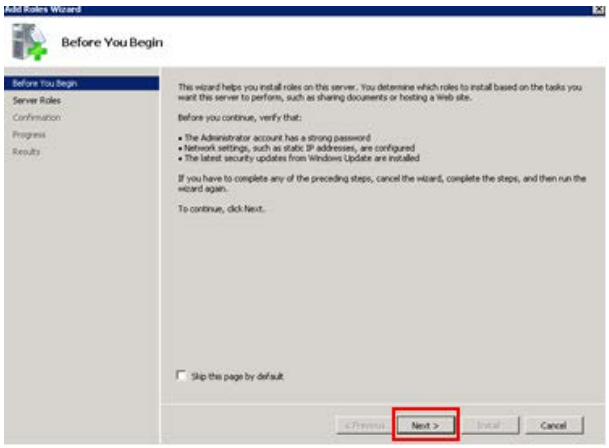
- IIS Management Console
- IIS 6 Metabase Compatibility
- IIS 6 Management Console



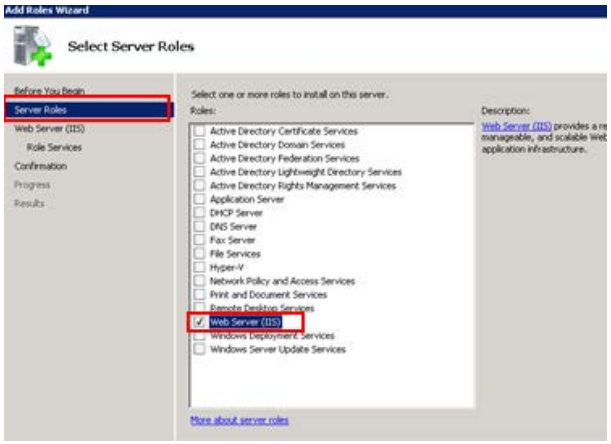
Installing IIS

To install IIS:

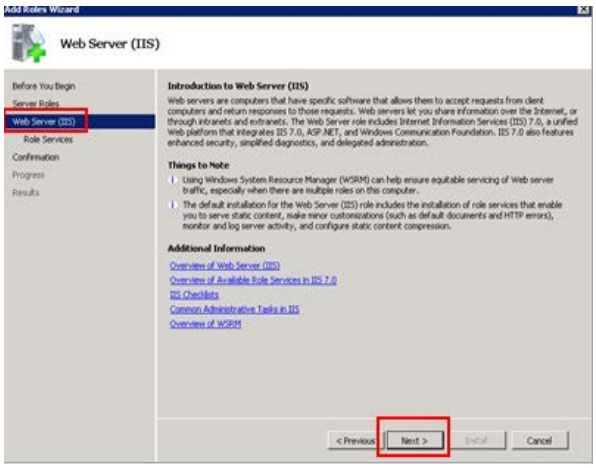
1. Click on **Start -> Server Manager -> Roles -> Add Roles**.
2. Click **Next**.



3. Select **Web Server (IIS)**, and then click **Next**.

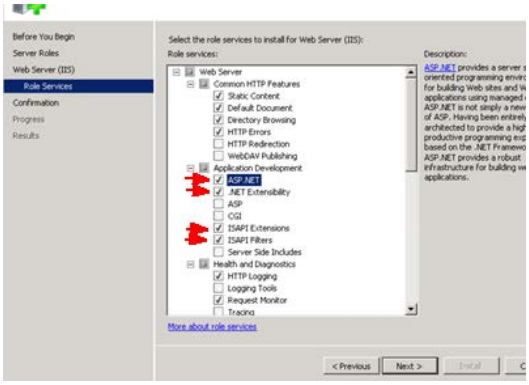


4. Click **Next** in Introduction to Web Server (IIS).

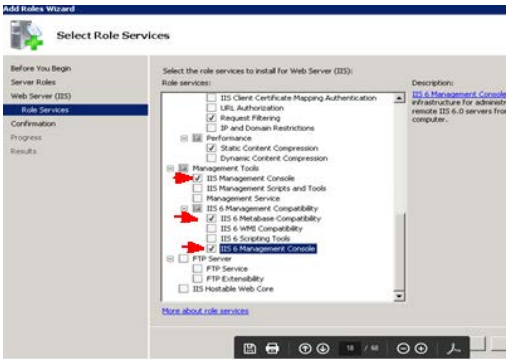


5. Select the following components to install them:

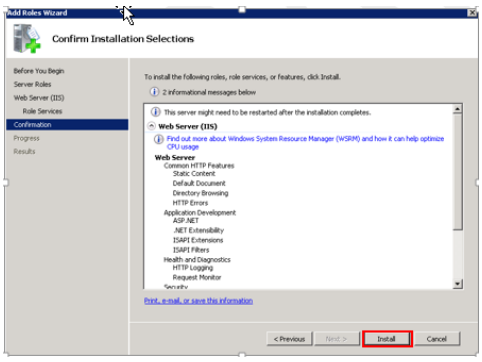
    - .NET Extensibility
    - ISAPI Extensions
    - ISAPI Filters
    - ASP.NET



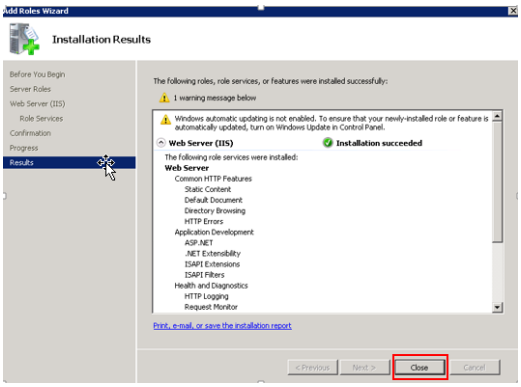
6. Scroll down, select the following components, and then click **Next**.
    - IIS Management Console
    - IIS 6 Metabase Compatibility
    - IIS 6 Management Console



7. Click **Install**.



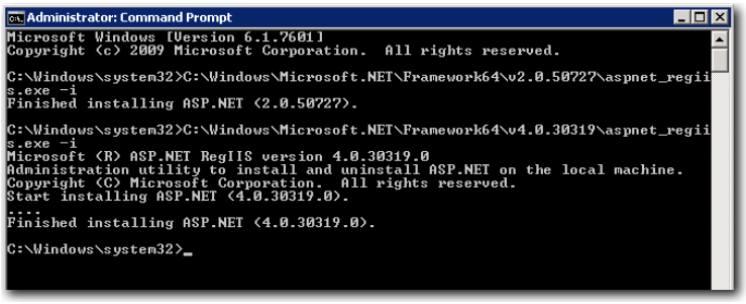
8. Click **Close**.



9. Register .NET with IIS by running the following commands as an administrator:

   C:\Windows\Microsoft.NET\Framework64\v2.0.50727\aspnet_regiis.exe –i

   C:\Windows\Microsoft.NET\Framework64\v4.0.38319\aspnet_regiis.exe –i



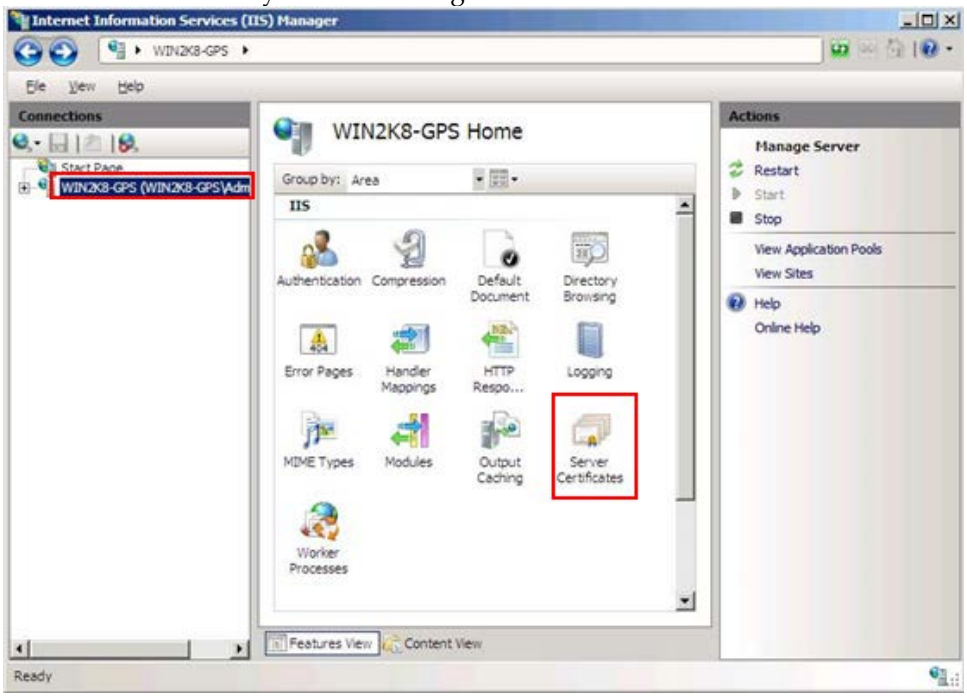
10. To verify that IIS 7 is installed on the server, open your web browser and go to http://localhost/. If ISS 7 is installed, the following page appears:

6 Generating the SSL Certificate Request

Oracle Hospitality Hotel Mobile uses an SHA-2 SSL certificate signed by a known public certificate authority. The SSL should handle TLS 1.2. This section explains how to generate the certificate request for hotels to generate and use the certificate.
Do not use commas in any of the fields when creating your Certificate Signing Request (CSR). Commas are interpreted as the end of the field and cause an invalid CSR to be generated. Do not use any of the following characters in the web server distinguished name:
! @ # $ % ^ * ( ) ~ ? > < & /\

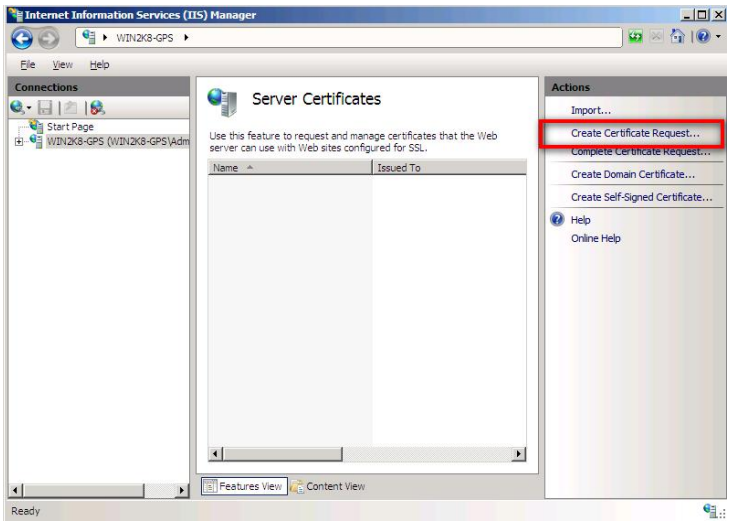
1. Go to **Start -> Control Panel -> Administrative Tools -> Internet Information Services (IIS) Manager** to launch the Internet Information Services (IIS) Manager.

2. In the Connections panel on the left, select the correct server name and open the **Server Certificates** features by double-clicking the Server Certificates.

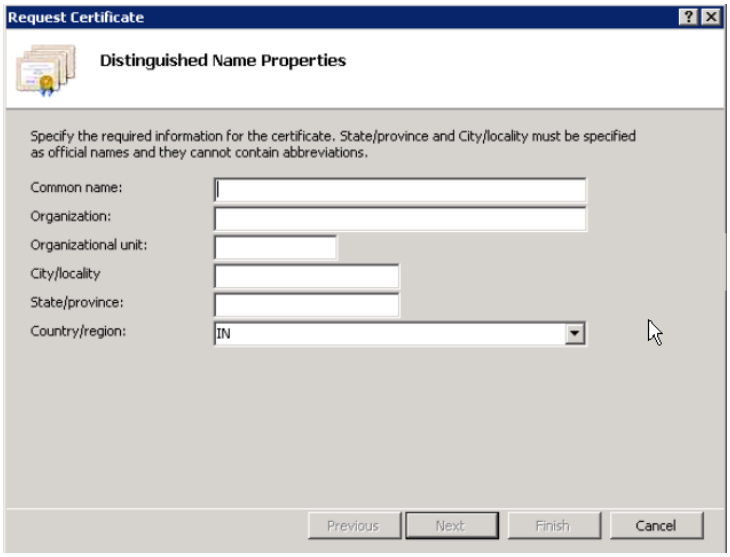


3. In the Actions panel, click **Create Certificate Request** to open the **Request Certificate** wizard.

   If you already have a certificate that is near expiration date and you need to renew it, select **Create Certificate Request**. Do not use the Renew option on the certificate from the Server Certificates action menu. The renewal function can sometimes create an incompatible CSR.

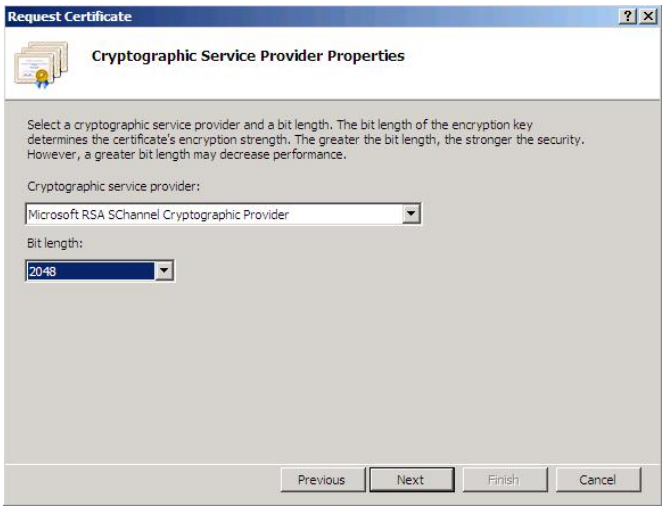


4. Enter the Distinguished Name information in the **Distinguished Name Properties** window in the wizard:

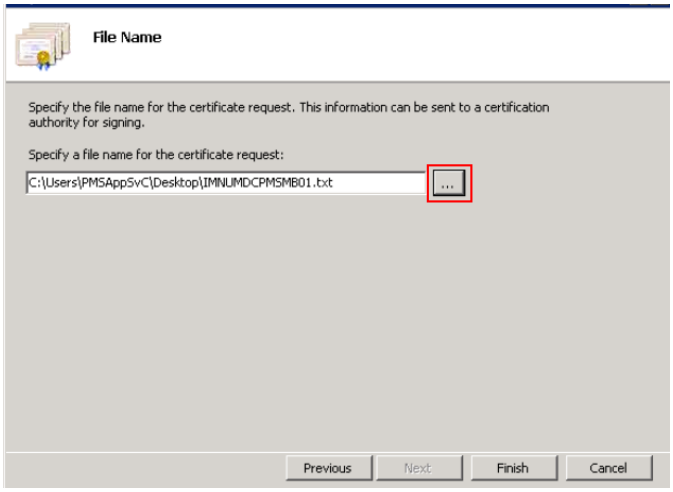


Attribute	Description
Common name	Domain to be secured by certificate
Organization	Organization's legal business name
Organizational Unit	Department in the organization
City/Locality	Business location - city
State/Province	Business location – state/province
Country/Region	Business location - country

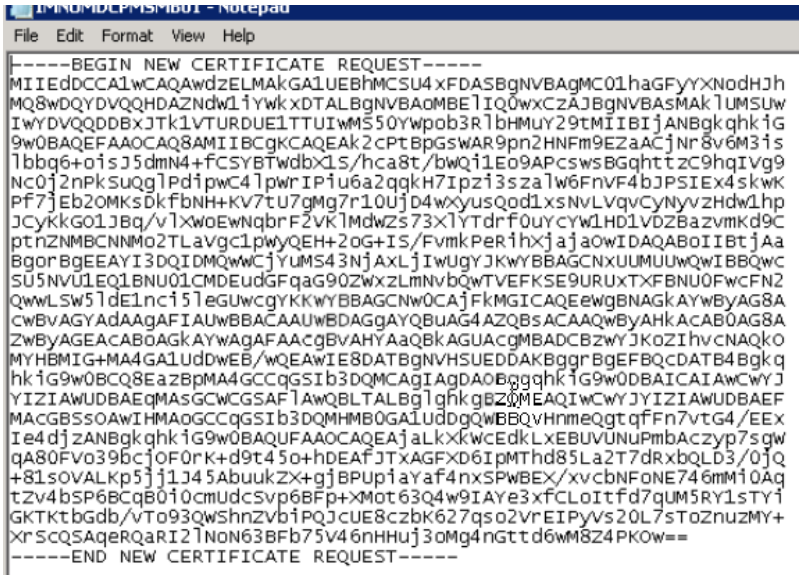
5. Click **Next**.
6. Select Microsoft RSA Channel Cryptographic Provider as the **Cryptographic service provider**. For **Bit Length**, select 2048, and then click **Next**.



7. Specify the location and file name for your CSR as shown in the following figure:



8. Take note of where the CSR is being stored, as the hotel needs to access this file when requesting a certificate. The file should contain a CSR similar to what appears in the following example:



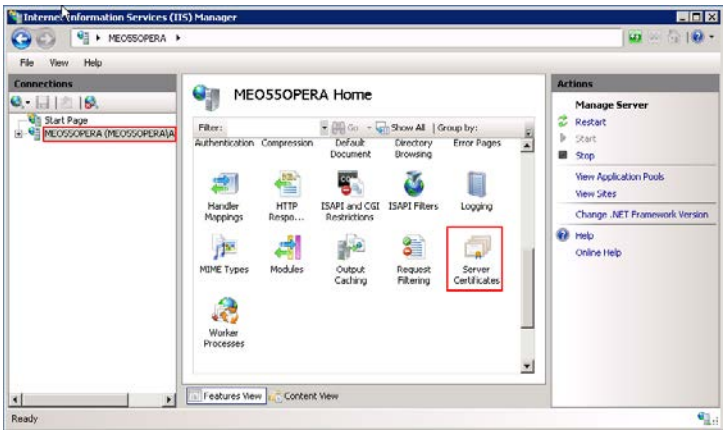
9. To request a certificate from the Certificate Authority, the hotel needs to open the generated file containing the newly created Certificate Signing Request (CSR) and copy its content into the specified field.

10. Copy the full CSR including the
    -----BEGIN NEW CERTIFICATE REQUEST-----
    and
    -----END NEW CERTIFICATE REQUEST-----
    lines. Make sure that here are no trailing spaces or carriage returns in the CSR.

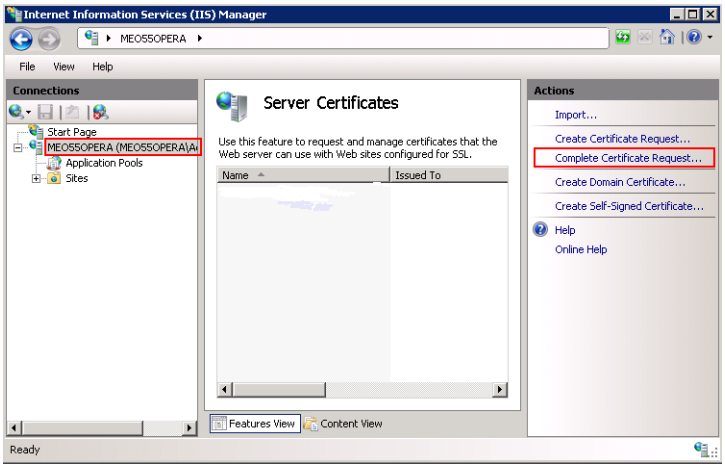
7 Installing the SSL Certificate

To install the SSL acquired by the property, copy the certificate files to the OPERA Web Services server and follow these steps:

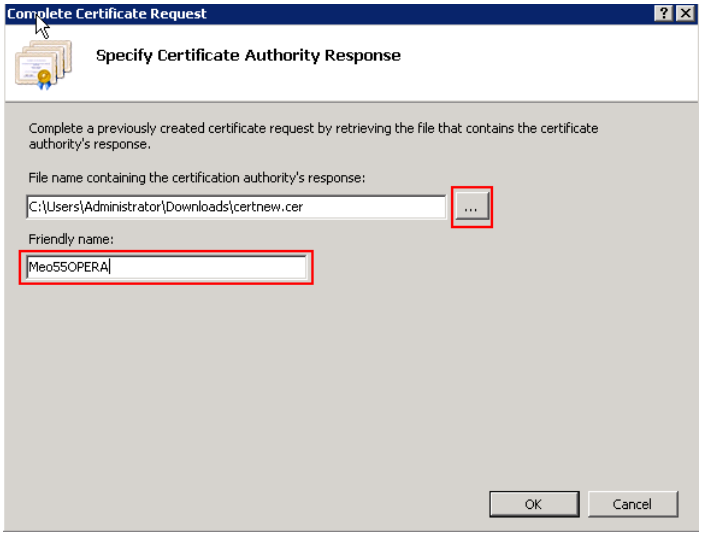
1. Go to **Start -> Control Panel -> Administrative Tools -> Internet Information Services (IIS) Manager**.
2. In the Connections panel on the left, select the correct server name and open the **Server Certificates** features by double-clicking the Server Certificates.



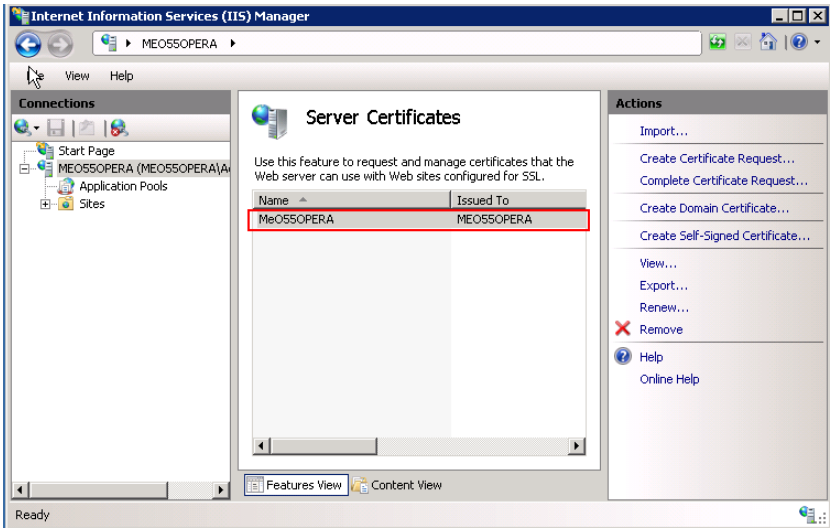
3. In the Actions panel on the right, click **Complete Certificate Request**.



4. Click the button to select the server certificate you received from the certificate authority. If the certificate does not have a **.cer** file extension, select to view all types. Enter any name so you can keep track of the certificate on this server. Click **OK**.



5. If successful, the newly installed certificate will be shown in the list. If an error stating that the request or private key cannot be found, make sure that the correct certificate is used and that it is installed in the same server that the CSR was generated from. If you are not sure about those two things, ask the property for verification so they can contact the certificate authority if the problem persist.

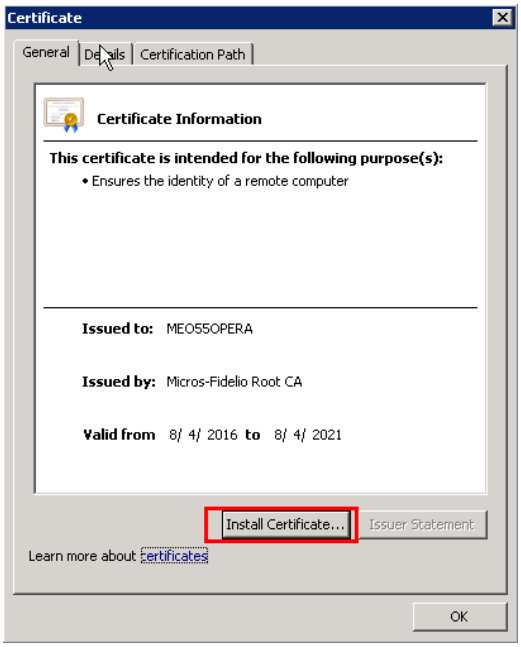


Intermediate Certificate

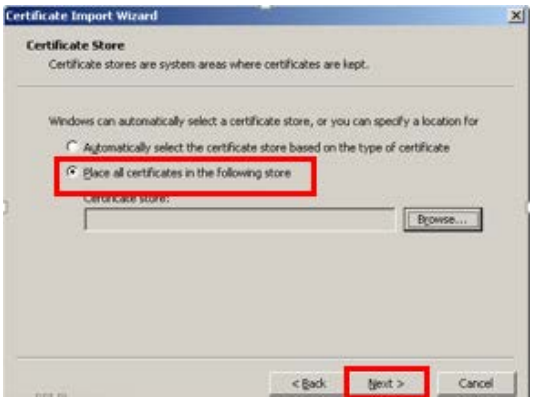
Most SSL providers issue server certificates of an Intermediate certificate so you install this Intermediate certificate to the server as well or will receive a Certificate Not Trusted Error. Follow these steps to install each Intermediate certificate:

1. Locate the intermediate certificate where Certificate files where stored on the OPERA Web Services server.
2. Double-click each intermediate certificate to open the certificate details.
3. At the bottom of the General tab, click **Install Certificate** to start the certificate import wizard.

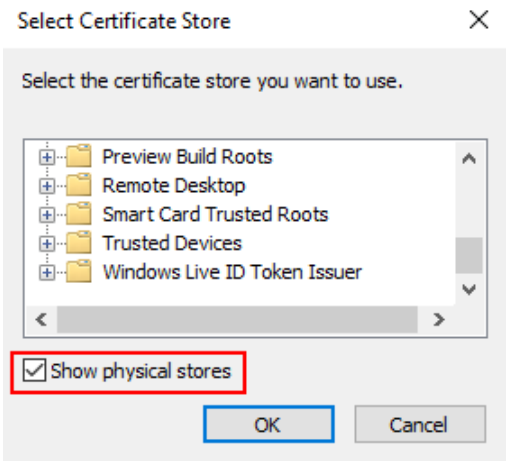
4. Click **Next**.



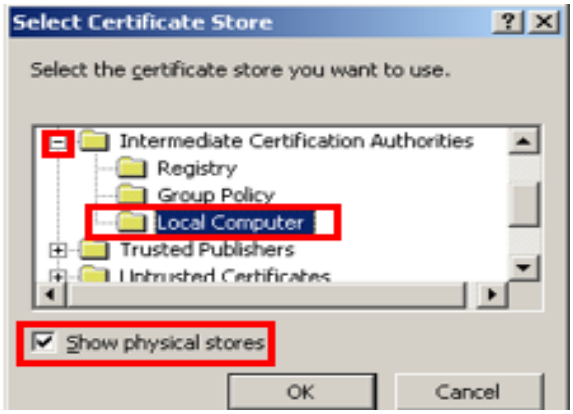
5. Select **Place all certificates in the following store**, and then click **Browse**.



6. Select **Show physical stores** as shown in the following figure:



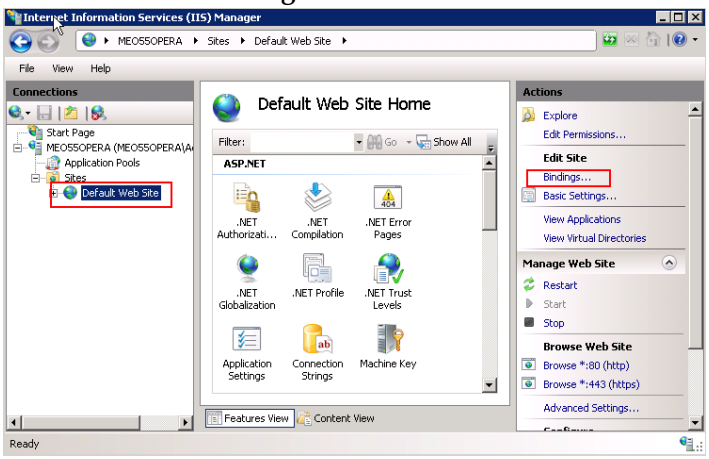
7. Expand the **Intermediate Certification Authorities** folder, and then select **Local Computer** beneath it.



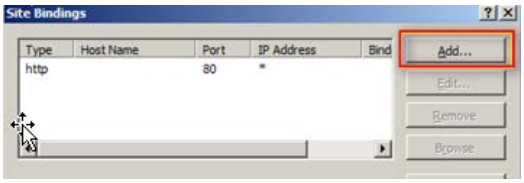
8. Click **OK**, **Next**, and then **Finish**.

8 SSL Bindings

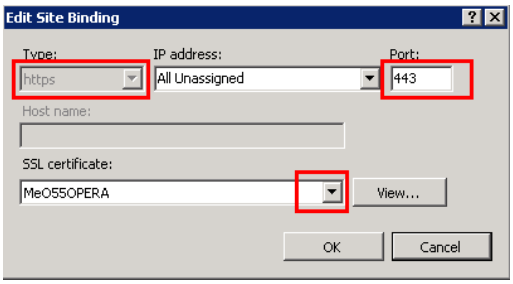
1. Go to **Start -> Control Panel -> Administrative Tools -> Internet Information Services (IIS) Manager** to bind the certificate to the website.
2. In the connections column, expand the **Sites** folder, and then click the website to bind to the certificate. Click **Bindings** in the Edit Site section.



3. Click **Add**.



4. Change the Type to **https**, and then select the SSL certificate you just installed. Click **OK**.



The binding for port 443 appears.

5. Click **Close**.