Installation Guide

Oracle® Health Sciences InForm Adapter
Release 1.3.7

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About this guide

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Overview of this guide

This guide provides a brief overview of the InForm Adapter software and step-by-step instructions for installing and uninstalling the software, and setting security options, as well as troubleshooting information.

Audience

This guide is for IT administrators and others who are responsible for integrating the InForm software with other applications, including Oracle-provided products, third-party products, and custom client processes.

Documentation

The product documentation is available from the following locations:

- **Oracle Software Delivery Cloud** (https://edelivery.oracle.com)—The complete documentation set.

- **My Oracle Support** (https://support.oracle.com)—*Release Notes* and *Known Issues*.

- **Oracle Technology Network** (http://www.oracle.com/technetwork/documentation)—The most current documentation set, excluding the *Release Notes* and *Known Issues*.

All documents may not be updated for every InForm Adapter release. Therefore, the version numbers for the documents in a release may differ.

Document	Description
Release Notes	The *Release Notes* document describes hardware and software requirements and describes the new features, enhancements, and fixed issues in this release.
Known Issues	The *Known Issues* document provides detailed information about the known issues in this release, along with workarounds, if available.
Installation Guide	The *Installation Guide* provides a brief overview of the InForm Adapter software, step-by-step instructions for installing and uninstalling the software, setting security options, and troubleshooting information.
Interfaces Guide	The *Interfaces Guide* provides information on using the interfaces that are included with the InForm Adapter software.
Secure Configuration Guide	The *Secure Configuration Guide* provides an overview of the security features provided with the InForm Adapter application including details about the general principles of application security and how to install, configure, and use the InForm Adapter application securely.
Third Party Licenses and Notices	The *Third Party Licenses and Notices* document includes licenses and notices for third party technology that may be included with the InForm Adapter software.

Documentation accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

If you need assistance

Oracle customers have access to support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info, or if you are hearing impaired, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs.

Finding InForm Adapter information and patches on My Oracle Support

The latest information about the InForm Adapter application is on the Oracle Support self-service website, My Oracle Support. Before you install and use the InForm Adapter application, check My Oracle Support for the latest information, including *Release Notes* and *Known Issues*, alerts, white papers, bulletins, and patches.

Creating a My Oracle Support account

You must register at My Oracle Support to obtain a user name and password before you can enter the site.

1   Open a browser to https://support.oracle.com.

2   Click the **Register** link.

3   Follow the instructions on the registration page.

Finding information and articles

1   Sign in to My Oracle Support at https://support.oracle.com.

2   If you know the ID number of the article you need, enter the number in the text box at the top right of any page, and then click the magnifying glass icon or press **Enter**.

3   To search the knowledge base, click the **Knowledge** tab, and then use the options on the page to search by:

- Product name or family.

- Keywords or exact terms.

Finding patches

You can search for patches by patch ID or number, product, or family.

1   Sign in to My Oracle Support at https://support.oracle.com.

2   Click the **Patches & Updates** tab.

3   Enter your search criteria and click **Search**.

4   Click the patch ID number.

The system displays details about the patch. You can view the Read Me file before downloading the patch.

5   Click **Download**, and then follow the instructions on the screen to download, save, and install the patch files.

Finding Oracle documentation

The Oracle website contains links to Oracle user and reference documentation. You can view or download a single document or an entire product library.

Finding Oracle Health Sciences documentation

For Oracle Health Sciences applications, go to the Oracle Health Sciences Documentation page at http://www.oracle.com/technetwork/documentation/hsgbu-clinical-407519.html.

> **Note:** Always check the Oracle Health Sciences Documentation page to ensure you have the most up-to-date documentation.

Finding other Oracle documentation

1 Do one of the following:

   - Go to http://www.oracle.com/technology/documentation/index.html.

   - Go to http://www.oracle.com, point to the **Support** tab, and then click **Product Documentation**.

2 Scroll to the product you need, and click the link.

Finding prerequisite software for Oracle Health Sciences applications

Prerequisite software for Oracle Health Sciences applications is available from the following locations:

- Download the latest major or minor release from the Oracle Software Delivery Cloud (https://edelivery.oracle.com/).

   For information on the credentials that are required for authorized downloads, click **FAQs** on the main page of the Oracle Software Delivery Cloud portal.

- Download subsequent patch sets and patches from My Oracle Support (https://support.oracle.com).

   To find patch sets or patches, select the **Patches & Updates** tab.

If a previous version of prerequisite software is no longer available on the Oracle Software Delivery Cloud, log a software media request Service Request (SR). Previous versions of prerequisite software are archived and can usually be downloaded. After you open an SR, you can check its status:

- US customers: Call 1-800-223-1711.

- Outside the US: Check www.oracle.com/us/support/contact/index.html for your local Oracle Support phone number.

For more information on logging a media request SR, go to My Oracle Support for Document 1071023.1: Requesting Physical Shipment or Download URL for Software Media (https://support.oracle.com/epmos/faces/DocumentDisplay?id=1071023.1).

C H A P T E R 1
Overview of the InForm Adapter software

In this chapter

What is the InForm Adapter software?

The InForm Adapter software provides interfaces to web services that support the secure transfer of data between InForm studies and either Oracle products (such as the Clintrial Integration Solution (CIS) and Central Coding applications) or third-party products and custom applications. Each application that can accept queries or updates to its data and metadata from InForm studies requires a specific set of interfaces.

Like application programming interfaces (APIs), the InForm Adapter interfaces use published web services interfaces to allow programmatic access to applications. This allows Oracle products to be tightly integrated with third-party products and each other.

InForm Adapter components

The InForm Adapter application components include:

- **InForm Server Adapter (ISA)**—Provides a secure web service interface for all interactions between the InForm Adapter interfaces and the InForm server. This interface is not open for external integration.

- **InForm Adapter interfaces**—Contains the following interfaces:

Interface	Description
Admin	Provides access to information about the location of InForm servers and InForm studies.
	Two versions are available. You can install only one of them.
	• Adapter Administration (WCF).
	For Central Coding 3.0.2 or later, you must select this interface.
	• Adapter Administration.
Central Administration	Provides an integration point for the central administration of Oracle applications.
	Note: This interface is not open for external integration.
Coding	Provides support for the Central Coding application.
	Two versions are available. You can install only one of them.
	• Coding (WCF).
	For Central Coding 3.0.2 or later, you must select this interface.
	• Coding.
	Note: This interface is not open for external integration.

Interface	Description
Discrepancy	Transmits InForm queries (discrepancies) to and from other systems or modules. Two versions are available. You can install only one of them. • Discrepancy Enhanced interface (default selection). • Discrepancy Original interface.
ODM Export	Provides access to receive InForm clinical data and metadata in CDISC ODM standard format.
Safety	Provides support for safety integration. **Note:** This interface is not open for external integration.
Transaction	Sends and receives synchronization transactions between the InForm software and an external application. **Note:** This interface is not open for external integration.

- **InForm Adapter database**—Contains the following types of information:

  - Location of studies.

  - Study database connection strings, usernames, and passwords.

  - Security information.

  - Auditing information.

  - Job scheduler details.

How does the InForm Adapter software work?

The InForm Adapter software is a collection of interfaces for Oracle applications, other client processes, or third-party products, that require data exchange with, or updates from, InForm studies.

- Each integrated application or process sends requests to the appropriate InForm Adapter interface.

- The interface interacts with the InForm Server Adapter (ISA) interface on the InForm server.

- The InForm Adapter interface communicates with the InForm application server to perform the requested task through a COM interface.

- Certain interfaces interact directly with the InForm study database, as necessary, when retrieving information.
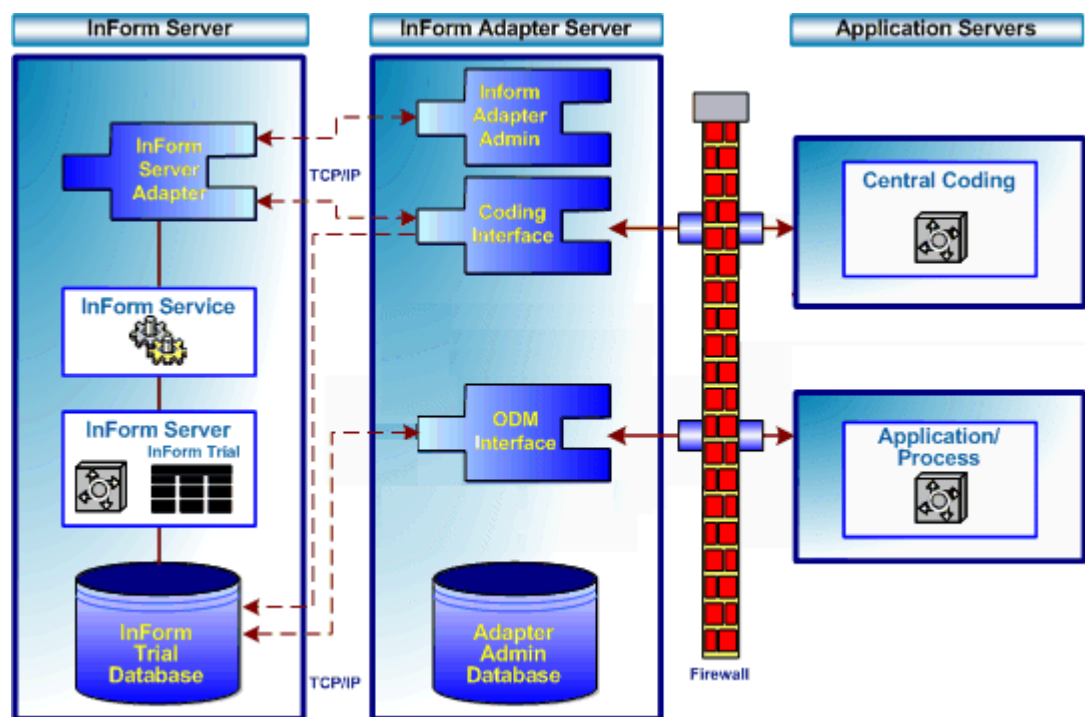
InForm Adapter deployment

Oracle recommends the following deployment scenario:

- The InForm Server Adapter (ISA) must be installed on the InForm application server.

- The InForm Adapter interfaces are typically located on the server that contains the InForm Adapter database (referred to in this guide as the InForm Adapter server).

  The InForm Adapter interfaces can also reside on the InForm application server. The InForm Adapter database can reside on the InForm database server.

About auditing capabilities

The InForm Adapter audit service includes auditing capabilities for the InForm Adapter interfaces. The audit trails provide secure, computer-generated, time-stamped activity logs.

When auditing is enabled for an InForm Adapter interface, the InForm Adapter software logs each request to, and response from, a client application. A unique ID is used for each record in the audit log. If a record in the log does not have an ID, the audit service generates it.

The auditing service is automatically installed with each InForm Adapter interface. By default, the audit service is disabled. To use auditing, you must enable it for each interface. For more information, see *Audit service settings* (on page 83).

About InForm Adapter security

Security depends on the InForm Adapter interfaces and the Oracle applications used.

Security	Used with this application or interface
username/password security	• InForm Adapter Discrepancy Enhanced interface. • InForm Adapter Discrepancy Original interface. • InForm Adapter ODM Export interface. • Central Coding (3.0.2 or later). • InForm Adapter Safety interface
X.509 Digital Certificate security	• Central Coding. • Clintrial Integration Solution (CIS). • InForm Adapter Discrepancy Original interface. • InForm Adapter ODM Export interface.

Username/password security

Username/password authentication provides security between the interface and the InForm server. In the request for each method or operation, the SOAP header contains elements for the InForm user name and password, and the SOAP body contains an attribute for the InForm study name.

The ODM Export interface, Safety interface, Discrepancy Original interface, and Discrepancy Enhanced interface use username/password authentication when used for studies in:

• InForm 4.6 SP2a release (and later).

• InForm 5.0 SP1 release (and later).

• InForm 5.5 SP0 release (and later, including InForm 6.0 and 6.1).

After you install the InForm Adapter software, you must perform additional configuration tasks to enable username/password security authentication. For more information, see *Configuring Security* (on page 47).

For more information about ODM Export interface methods and Discrepancy Enhanced interface operations, see the chapters for each interface in the *Interfaces Guide*.

Security using X.509 certificates

Oracle provides message-level security using:

- WS-Security.

- WS-Policy.

- Security Assertion Markup Language (SAML) security tokens.

Oracle also provides X.509 digital certificates to sign SAML tokens and to encrypt and sign messages.

Message-level security

To use message-level security, you must install and configure X.509 digital certificates for the InForm Adapter server and the associated application (for example, the Oracle Central Coding application). For more information about X.509 digital certificates configuration for Oracle applications, see *Configuring X.509 digital certificates* (on page 55) and the documentation for the associated applications.

For information about message-level security and integrating third-party applications and client processes with InForm Adapter interfaces that are hosted by Oracle, contact Oracle.

X.509 digital certificates

When InForm studies, InForm Adapter interfaces, and related Oracle applications are all hosted at a company site, you must obtain, install, and configure X.509 digital certificates on all machines that need to be secured. Oracle provides a certificate configuration tool to help you install and configure X.509 digital certificates. For more information, see *Configuring X.509 digital certificates* (on page 55).

Web Services Security (WS-Security)

The WS-Security model uses WS-Policy and SAML tokens that can be signed with X.509 digital certificates, and messages that can be encrypted and signed with X.509 digital certificates. The policy sets users and their rights.

By default, WS-Security is enabled. This guide includes recommendations on integrating InForm Adapter interfaces with Oracle applications. For more information, see *After completing the InForm Adapter installation* (see "*Performing InForm Adapter post-installation tasks*" on page 75).

To integrate custom applications and client processes with InForm Adapter interfaces that are hosted by Oracle, contact Oracle.

C H A P T E R 2

Planning your implementation

In this chapter

Supported configurations

The InForm Adapter 1.3.7 software can be used with:

- InForm 4.6.

- InForm 4.7.

- InForm 5.0.

- InForm 5.5.

- InForm 6.0.

- InForm 6.1.

If your current configuration uses a version of the InForm Adapter software earlier than InForm Adapter 1.3, see *Supported scenarios for upgrading from InForm Adapter 1.2 SP2 or 1.2 SP3* .

> **Note:** The InForm Adapter 1.3 SP1 software supports Oracle 10g databases with Unicode (AL32UTF8) character set.
>
> The InForm ITM 4.6 software supports Oracle 10g databases with Western (WE8MSWIN1252) character set.

If your current configuration uses the same database to support InForm Adapter 1.2 SP2 or InForm Adapter 1.2 SP3 and InForm 4.6, and you want to upgrade the InForm Adapter software to version 1.3.7, you must establish a separate database for the InForm Adapter software.

InForm Adapter interfaces to install

In a typical configuration in which the InForm Adapter server and the InForm server are located on separate machines, you must install:

- The InForm Server Adapter (ISA) on the InForm server. The ISA is comprised of two services:

  - The InForm Server Adapter Web Service.

  - The InForm Server Adapter Windows Service.

  For information about which applications or interfaces require one or both of these services, see *InForm Server Adapter services* (on page 23).

- The InForm Adapter interfaces on the InForm Adapter server. Install the interfaces that are required by either:

  - The Oracle application you are installing.

  - The application or API you are developing.

  For the list of interfaces you need to install, see *InForm Adapter public interfaces* (on page 24).

Installing the InForm Server Adapter with existing InForm study databases

When the InForm Server Adapter software is installed on an InForm server, it populates a database table with transaction XML for all studies on that server. This process can take several hours depending on the number of studies, their size, and the available resources on the machine where the InForm Server Adapter is installed.

While the transaction XML is being created, errors can occur as the InForm Server Adapter software is communicating with another application (for example, the Central Coding application or Clintrial Integration Solution (CIS) application). This process can also impact communication with other applications that use the InForm Adapter software.

To prevent errors from occurring while the transaction XML is being created, Oracle recommends you perform one of the following procedures:

- Allow the transaction XML to be created before running jobs from an application that communicates with the InForm server.

  The InForm Server Adapter must populate a new database table in the InForm study schema with transaction XML. To do this, the study must be running. To verify that the transaction XML is created, execute the following queries against every study database:

  - **Select count(*) from pf_transactionhistory**—Indicates the number of transactions in the study.

  - **Select count(*) from pfex_transactionxml**—Indicates the number of transactions for which XML has been created.

  When you first install the InForm Server Adapter, no XML will have been created and the table **pfex_transactionxml** will not exist, because it is created by the InForm Server Adapter.

  These two queries should return the same count when all transaction XML has been created. This can take several hours. To verify that progress is being made, check that the second query count continues to increase. Processing should stop when the count in the second query reaches the count of the first query.

- Add the InForm Server Adapter offline:

  1 Install the InForm software and the InForm Server Adapter on a machine that is not being used for production.

  2 When all of the transaction XML files have been created, export the study and load it into a production database.

> **Note:** These issues do not apply when you are adding a new study (a study that contains no data) to the InForm Server Adapter instance.

C H A P T E R 3
Installing the InForm Adapter software

In this chapter

Installation overview

Install the InForm Adapter software from the InForm Adapter ISO image available on the Oracle Software Delivery Cloud or My Oracle Support (MOS).

After you download the InForm Adapter ISO image, make it available to all the servers where you plan to install the InForm Adapter software.

Follow these steps to install the InForm Adapter software.

> **Note:** If you are upgrading a previous release of the InForm Adapter software, follow the instructions in *Upgrading a previous release* (on page 39) before you perform any of the steps that are listed in the table.

	Step	Where to get more information
1	Verify that all hardware and software requirements are met.	*Release Notes*.
2	Perform prerequisite tasks.	*Before installing the InForm Adapter software.* (on page 16)
3	**On the InForm application server:** Install the InForm Server Adapter (ISA).	*Installing the InForm Server Adapter (ISA).* (on page 26)
4	**On the InForm Adapter server:** Install the InForm Adapter interface(s) for your specific products.	*Installing InForm Adapter interfaces.* (on page 29)
5	Determine whether you need to configure the services that comprise the ISA.	*InForm Server Adapter services.* (on page 23)
6	Configure security for: • InForm Adapter ODM Interface. • InForm Adapter Discrepancy Enhanced interface. • InForm Adapter Discrepancy Original interface. • Central Coding 3.0.2 or later. • InForm Adapter Safety interface.	*Configuring Username/Password security.* (on page 48)
7	For the Discrepancy Enhanced interface, verify the installation.	*Verifying the Discrepancy Enhanced interface installation* (on page 67).

	Step	Where to get more information
8	Configure digital certificates for: • Central Coding. • Clintrial Integration Solution (CIS). • InForm Adapter Discrepancy Original interface, if necessary. • InForm Adapter ODM Interface, if necessary.	*Configuring X.509 Digital Certificates* (on page 55).
9	Manually add studies (optional).	*Manually adding studies* (on page 69).
10	Perform setup tasks as needed for your environment.	*Overview of post-installation tasks* (on page 76).

After installing the InForm Adapter software, you can install any Oracle application that communicates with the InForm Adapter software.

Before installing the InForm Adapter software

Perform the following tasks before you install the InForm Adapter software:

- Create an Oracle tablespace for the InForm Adapter server.

  For more information, see the Oracle database documentation.

- Enable XA transactions.

  For more information, see *Enabling XA transactions* (on page 16).

- Schedule an Oracle database job to flush the InForm database shared pool.

  For more information, see *Flushing the InForm database shared pool* (on page 17) and *End-of-file on communication channel database error* (on page 98).

- Make sure that all clocks are synchronized on the machines on which you are installing the InForm Adapter interfaces, the InForm server, and the database server.

- Ensure the InForm database locale and the InForm Adapter Server locale are set to the same value.

- If you have any studies that have been decommissioned in the InForm software, run the Register Trial Tool to decommission the studies in the InForm Adapter software.

  For more information, see *Register Trial Tool* (on page 17).

Enabling XA transactions

To use the InForm Adapter software, XA transactions must be enabled.

1 Select **Start > Control Panel > Administrative Tools > Component Services**.

2 Expand **Component Services > Computers**.

3 Right-click **My Computer**, and select **Properties**.

  The My Computer Properties dialog box appears.

4 Click the **MSDTC** tab.

5 In the **Transaction Configuration** section, click **Security Configuration**.

The Security Configuration dialog box appears.
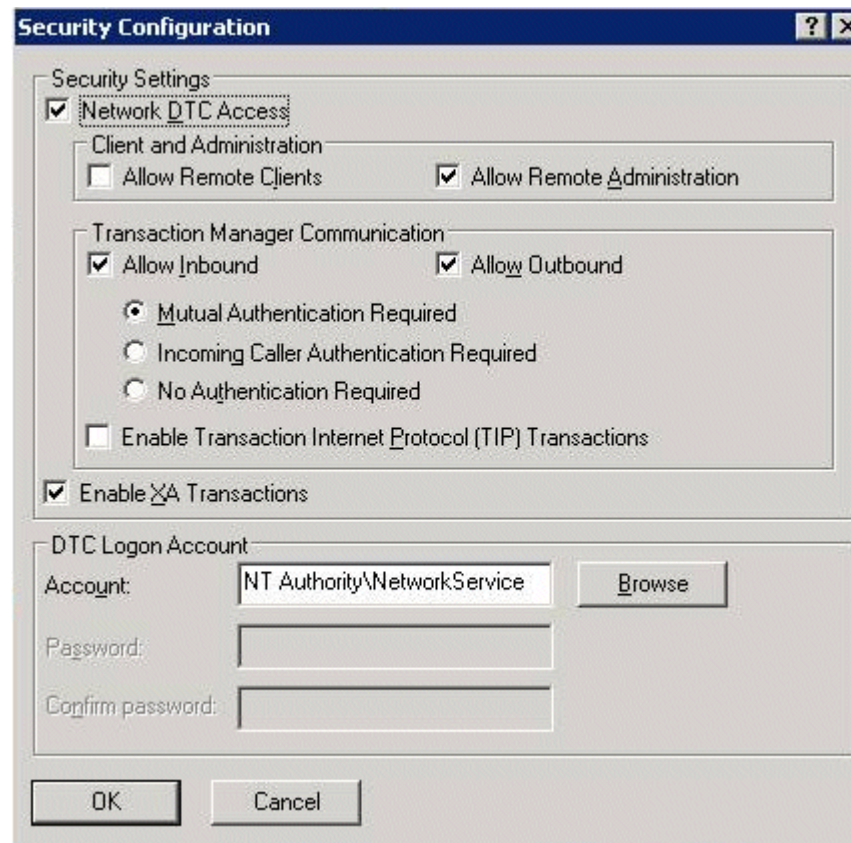
6　Select **Enable XA Transactions**.

7　Click **OK**.

Flushing the InForm database shared pool

If you are running the Central Coding application, you might encounter an ORA-03113 database error when retrieving a heavy volume of coding data requests from the InForm software. This is caused by an Oracle issue in the 10.0.2.3 patch set.

To avoid this error, schedule an Oracle job that issues the following command to flush the shared pool on the InForm database every four hours:

```
alter system flush shared_pool
```

For more information, see *End-of-file on communication channel database error* (on page 98).

Register Trial Tool

The Register Trial Tool is a command line tool that you use to register a study, register a server adapter, decommission a study in the InForm Adapter software, and view lists of existing studies, server adapters, and decommissioned studies.

Decommissioned studies in the InForm software and the InForm Adapter software

A study that has been decommissioned in the InForm software is removed from the InForm database, but connection information remains in the InForm Adapter database. If you install or upgrade the InForm Adapter software, the installation program attempts to upgrade the study database, but fails because it cannot locate information about the decommissioned study in the InForm database.

To prevent this situation, use the Register Trial Tool to decommission the study in the InForm Adapter database. You can use the Register Trial Tool before or after you install the InForm Adapter software.

Using the Register Trial Tool

You can extract or install the Register Trial Tool:

- **Before you install the InForm Adapter software.**

  The Register Trial Tool is located in the InForm Adapter product ISO. Open the ISO and extract the RegisterTrialTool.zip file to a local drive.

- **As part of the InForm Adapter installation.**

  When you select the interfaces to install on the InForm Adapter server, the dialog box also contains a checkbox for you to select the Register Trial Tool. For more information, see *Installing the InForm Adapter interfaces* (on page 29).

  When installation is complete, the tool can be found in:

  Program Files\Phase Forward\InForm Adapter\RegisterTrialTool\bin

> **Note:** On Microsoft Windows 2008 systems, you must be an administrator (part of the administrator group for the InForm Adapter application) to run the Register Trial Tool. You cannot run the Register Trial Tool with User Access Control turned on. You must either log in as an administrator or open a command window as an administrator.

To use the Register Trial Tool:

1 Open a Command Prompt window and change to the **RegisterTrialTool\bin** directory

2 Issue the command **RegisterTrialTool**.

  The command displays the usage of each option. With the Register Trial Tool you can do the following tasks.

Task	For more information, see
Register a study in the InForm Adapter database, or update information on a study that is already registered.	*Register a study.* (on page 20)
Register a server adapter and its corresponding URL in the InForm Adapter database.	*Register a server adapter.* (on page 20)
Decommission (remove) a study from the InForm Adapter database.	*Decommission a study* (on page 21).
View a list of studies, a list of decommissioned studies, and a list of server adapters that are registered.	*View a list of studies* (on page 22).

Register Trial Tool passwords

The RegisterTrialTool command takes an optional /passwordfile parameter that passes the path to an XML file that contains the password for the InForm Adapter database and, if required, the trial database. Each of the following is a valid example of a file path:

- /password:pwd.xml

- /password:D:\adapter_info\register\pwd.xml

- /password:"D:\adapter info\register\pwd.xml"

> **Note:** File paths that contain spaces must be enclosed in quotes.

If you do not provide the /password parameter, you are prompted for it when you run the RegisterTrialTool command.

Password file format

The password file you use with the RegisterTrialTool command is an XML file that contains the following information.

- If you are using a command that requires an InForm Adapter password and an InForm trial password, use the following file contents:

   <?xml version="1.0" encoding="utf-8"?>
   <SecurityValue InformAdapterPassword="*informadapter***" TrialPassword="***trialPid***" />**

   where

   - *informadapter*—The password for the InForm Adapter database.

   - *trialPID*—The password to the InForm trial.

- If the Register Trial Tool required an InForm Adapter password, use the following information in the password file:

    <?xml version="1.0" encoding="utf-8"?>
    <SecurityValue InformAdapterPassword="*informadapter***" />**

> **Note:** A RegisterTrialTool command does not accept empty attributes. An error occurs if the password file contains syntaxes such as <SecurityValue InformAdapterPassword="informadapter" TrialPassword="" />

Register a study

SetTrial

Registers a study in the InForm Adapter database.

> **Note:** If you are using InForm 6.1 or above, SetTrial also registers the InForm Adapter software in the Integration Manager.

If the study name and study alias exist, SetTrial updates the other information you specify.

Syntax

```
RegisterTrialTool SetTrial <informadapter-user> <adapterDBConnectionStr>
<trial-alias> <trial-name> <trialConnectionStr> <trial-userID>
[/serveradapter:<server-adapter-name>] [/virtualdirectory:virtual-directory-
name] [/passwordfile:<password-file>]
```

Considerations

- serveradapter:<server-adapter-name>

    This parameter is required for interfaces that use the InForm Server Adapter.

    For more information, see ***Interfaces to Install*** (on page 23).

- virtualdirectory:virtual-directory-name

    This parameter is required if the virtual directory name was changed during the InForm Adapter installation. If the default name is used, this parameter is optional.

Example

```
RegisterTrialTool.exe SetTrial informadapteruser dev1 testtrial testtrial
rdinform_dev1 testuser /serveradapter:rdinformq
/virtualdirectory:InformAdapterVD /passwordfile:setreg.xml
```

Register a server adapter

SetServer

Registers a server adapter and its corresponding URL in the InForm Adapter database. Adds the server adapter information to the PFIA_SERVERINFORMATION table. Optionally, tests the validity of the URL you provide.

If the server adapter name you specify already exists, the command updates the other information you specify.

Syntax

```
RegisterTrialTool SetServer <informadapter-user> <adapterDBConnectionStr>
[/serveradapter:<server-adapter-name> <server-adapter-url>
[/virtualdirectory:Virtual-directory-name] [testURL]
[/passwordfile:<password-file>]
```

Considerations

- serveradapter:<server-adapter-name>

  This parameter is required for interfaces that use the InForm Server Adapter.

  For more information, see *Interfaces to Install* (on page 23).

- virtualdirectory:virtual-directory-name

  This parameter is required if the virtual directory name was changed during the InForm Adapter installation. If the default name is used, this parameter is optional.

Example

```
RegisterTrialTool.exe SetServer informadapteruser dev1 rdinform
http://rdinform/informadapter/serveradapter/serveradapter.asmx
/virtualdirectory:InformAdapterVD /passwordfile:reg.xml
```

Decommission a study

decommission

Removes the study from the InForm Adapter database.

- For InForm Adapter software versions prior to 1.3 SP2, the command also creates an XML file containing the information about the study that was removed, and puts the file in the working directory.

- For InForm Adapter software version 1.3 SP2 and subsequent versions, the command also marks the study as decommissioned in the PFIA_TRIALINFORMATION table in the InForm Adapter database.

Syntax

```
RegisterTrialTool decommission <informadapter-user> <adapterDBConnectionStr>
<trial-alias> <trial-name> [/passwordfile:<password-file>]
```

Example

```
RegisterTrialTool.exe Decommission informadapteruser dev1 testtrial testtrial
/passwordfile:decomreg.xml
```

View a list of studies

list

Generates the following lists:

- Studies that are currently registered in the InForm Adapter database.

- InForm Server Adapters that are registered in the InForm Adapter database.

- Studies that have been decommissioned in the InForm Adapter database.

Syntax

```
RegisterTrialTool list <informadapter-user> <adapterDBConnectionStr>
[/passwordfile:<password-file>]
```

Example

```
RegisterTrialTool.exe List informadapteruser dev1 /passwordfile:studylist.xml
```

Interfaces to install

Run the InForm Server Adapter installation to install the InForm Server Adapter on the InForm server. For more information, see *InForm Server Adapter services* (on page 23).

Run the InForm Adapter installation to install the InForm Adapter interfaces on the InForm Adapter server. For more information, see *InForm Adapter public interfaces* (on page 24).

InForm Server Adapter services

Install the InForm Server Adapter (ISA) on the InForm server. The ISA allows the InForm Adapter software to communicate with the InForm software.

The ISA is required by most of the applications that use the InForm Adapter software. The ISA consists of two services:

- InForm Server Adapter Web Service.

- InForm Server Adapter Windows Service.

In the table, a check mark indicates the service or services you require, depending on the InForm Adapter interfaces and Oracle applications you want to use.

- If the application or interface you want to use requires only one of the services, install the ISA and then turn off the service you do not need.

- If some of your applications or interfaces require a particular service and others do not, you must leave the service running. For example, if you are using both the Central Coding application and the InForm Adapter ODM Export interface, you must have both the ISA Web Service and the ISA Windows Service running, with the ISA Windows Service set to automatic.

Application or Interface	InForm Server Adapter (ISA)	
	ISA Web Service	ISA Windows Service
Central Coding	✓	
Clintrial Integration Solution (CIS)	✓	✓
InForm Adapter Discrepancy Original interface	✓	
InForm Adapter Discrepancy Enhanced interface	✓	
InForm Adapter ODM Export interface		✓ This service must be running and set to Automatic. **Note:** This service is not needed if only administrative data and metadata is transferred.
InForm Adapter Safety interface	✓	

InForm Adapter public interfaces

You must install the InForm Adapter interfaces required by either:

- The Oracle application you are installing.

- The application or API you are developing.

The interfaces specified in the following table must be installed on the InForm Adapter server.

> Note: Some interfaces, such as the InForm Adapter Administration interface, include both a version that uses Windows Communication Foundation (WCF) web services and a version that uses Web Service Enhancements (WSE) web services. Interfaces that use WCF are appended by "WCF Service" in the Select Features page of the installation wizard. For more information, see *Installing InForm Adapter Interfaces* (on page 29).Unless otherwise noted in the following table, you should select the version applicable to your development environment.

To use this product or InForm Adapter public interface	Select these interfaces when you install the software on the InForm Adapter server
Central Coding	• InForm Adapter Administration interface. **Note:** For Central Coding 3.0.2 or later, requires the WCF version of the InForm Adapter Administration interface. • InForm Adapter Coding interface. **Note:** For Central Coding 3.0.2 or later, requires the WCF version of the InForm Adapter Coding interface. • InForm Adapter Discrepancy Enhanced interface.
Clintrial Integration Solution (CIS)	• InForm Adapter Administration interface. • InForm Adapter Central Administration. • InForm Adapter Transaction interface.
InForm Adapter Discrepancy Original interface	• InForm Adapter Administration interface. • InForm Adapter Discrepancy Original interface. **Note:** The Discrepancy Original interface uses Web Service Enhancements (WSE) web services. You must explicitly select this interface during installation. It is not the default. You cannot install both the Discrepancy Original interface and Discrepancy Enhanced interfaces.
InForm Adapter Discrepancy Enhanced interface	• InForm Adapter Administration interface. • InForm Adapter Discrepancy Enhanced interface. **Note:** The Discrepancy Enhanced interface is the default selection. It uses Windows Communication Foundation (WCF) web services, which is part of Microsoft .NET 3.5. The Discrepancy Enhanced interface uses username/password authentication security for studies in InForm 4.6 SP2a and later. You cannot install both the Discrepancy Original interface and Discrepancy Enhanced interfaces.
InForm Adapter ODM interface	• InForm Adapter Administration interface. • InForm Adapter ODM interface.
InForm Adapter Safety interface	• InForm Adapter Administration interface. • InForm Adapter Safety interface. **Note:** Not open for external integration.

Installing the InForm Server Adapter (ISA)

Perform this procedure on each InForm server that needs to communicate with an InForm Adapter interface.

1   Navigate to the InForm Server Adapter ISO image.

2   In the InFormServerAdapter folder, double-click **setup.exe**.

The Choose Setup Language page appears.

3   Select the language for the installation, then click **Next**.

The Welcome page appears.

4   Click **Next**.

The Required System Components page appears.

The installation wizard verifies that the server has all the necessary software components, including the operating system, IIS, and the Oracle client.

If required components are missing or are the wrong version, installation stops. The names of missing and invalid components appear on the Required System Components page. You must install them before continuing the installation.

The Choose Destination Location page appears.

5   Verify the location where you want to install the product. To change the location, click **Change** and select another location.

> **Note:** The instructions, paths, and Start Menu navigation in this guide assume that you are installing to the default location.

The Windows Service Name Suffix page appears.
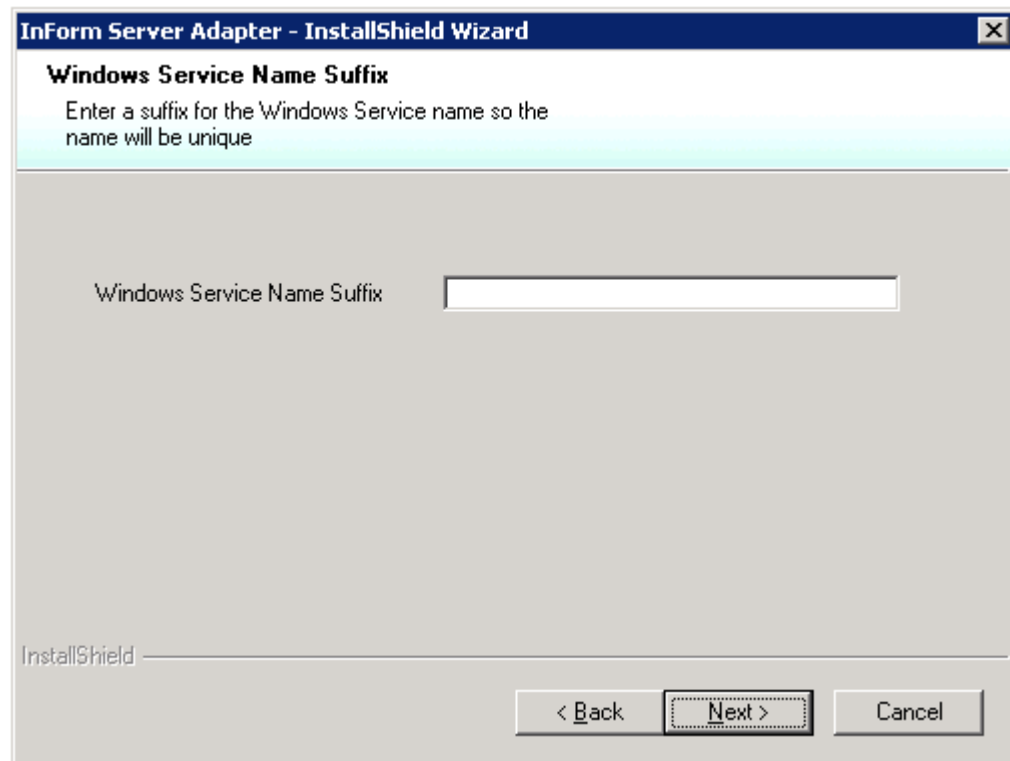
6   Enter a suffix for this instance of the InForm Server Adapter installation, and click **Next**.

The InForm Server Adapter Virtual Directory page appears.
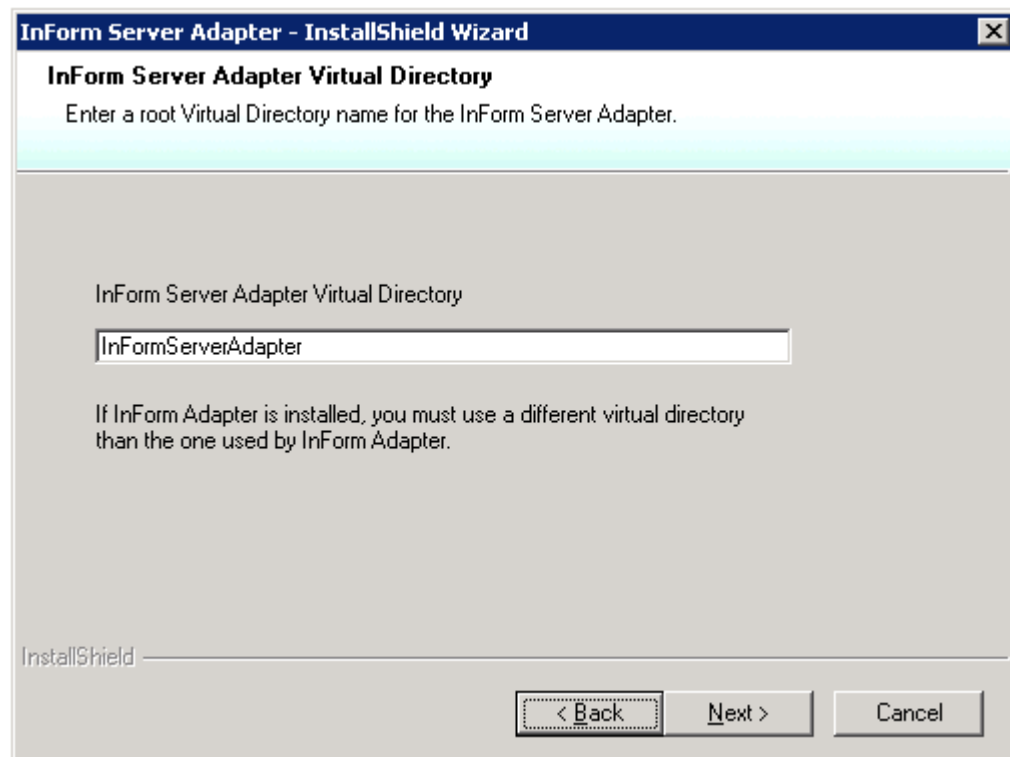
7   Enter the virtual directory for this InForm Server Adapter instance, and click **Next**.

> **Note:** Virtual directories are used to uniquely identify a specific instance of the InForm Server Adapter software.

The Ready to Install the Program page appears.

8   Click **Install**.

9   When the installation is complete, click **Finish**.

For further steps, see *Installation Overview* (on page 14).

Installing InForm Adapter interfaces

After the InForm Server Adapter (ISA) installation is completed on the InForm machine, you must install the interfaces used to support specific products or features. For more information, see *Interfaces to install* (on page 23). Typically, you install the additional interfaces on an InForm Adapter server, a machine dedicated to InForm Adapter interfaces.

To install the InForm Adapter interfaces:

1   Navigate to the InForm Adapter ISO image.

2   In the InformAdapter folder, double-click **setup.exe**.

The Choose Setup Language page appears.

3   Select the language for the installation, then click **Next**.

The Welcome page appears.

4   Click **Next**.

The Required System Components page appears.

The installation wizard verifies that the server has all the necessary software components, including the operating system, IIS, and the Oracle client.

If required components are missing or are the wrong version, installation stops. The names of missing and invalid components appear on the Required System Components page. You must install them before continuing the installation.

5   Click **Next**.

The Setup Type page appears.
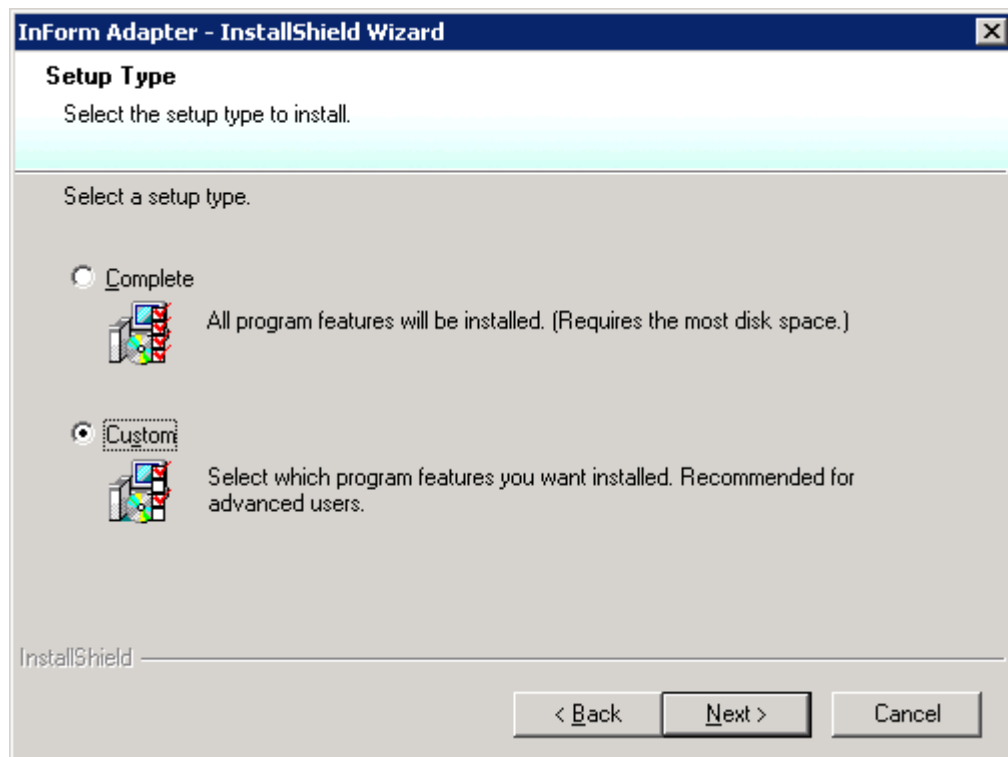
6   Select **Custom**, and click **Next**.

The Destination Folder page appears.

Verify the location where you want to install the product. To change the location, click **Change** and select another location.

> **Note:** The instructions, paths, and Start Menu navigation in this guide assume that you are installing to the default location.

7   Click **Next**.

The Select Features page appears. For more information, see *Interfaces to install* (on page 23).
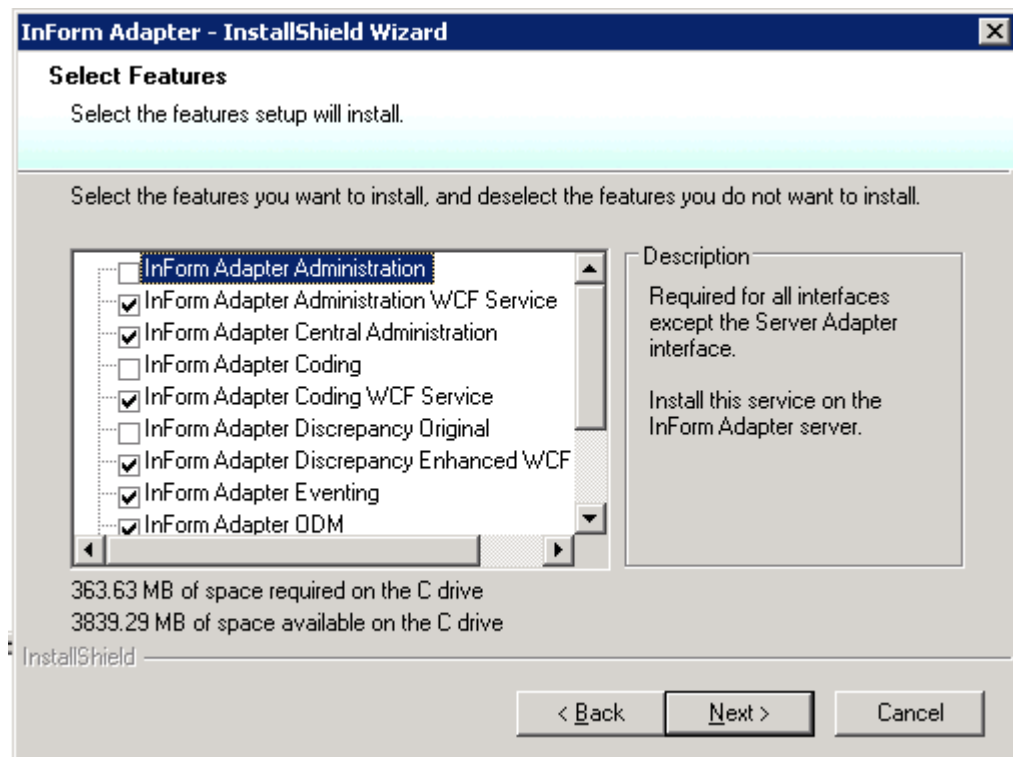
8   Select the interface(s) that you want to install. You can also select the RegisterTrialTool. Click **Next**.

The Windows Service Name Suffix page appears.
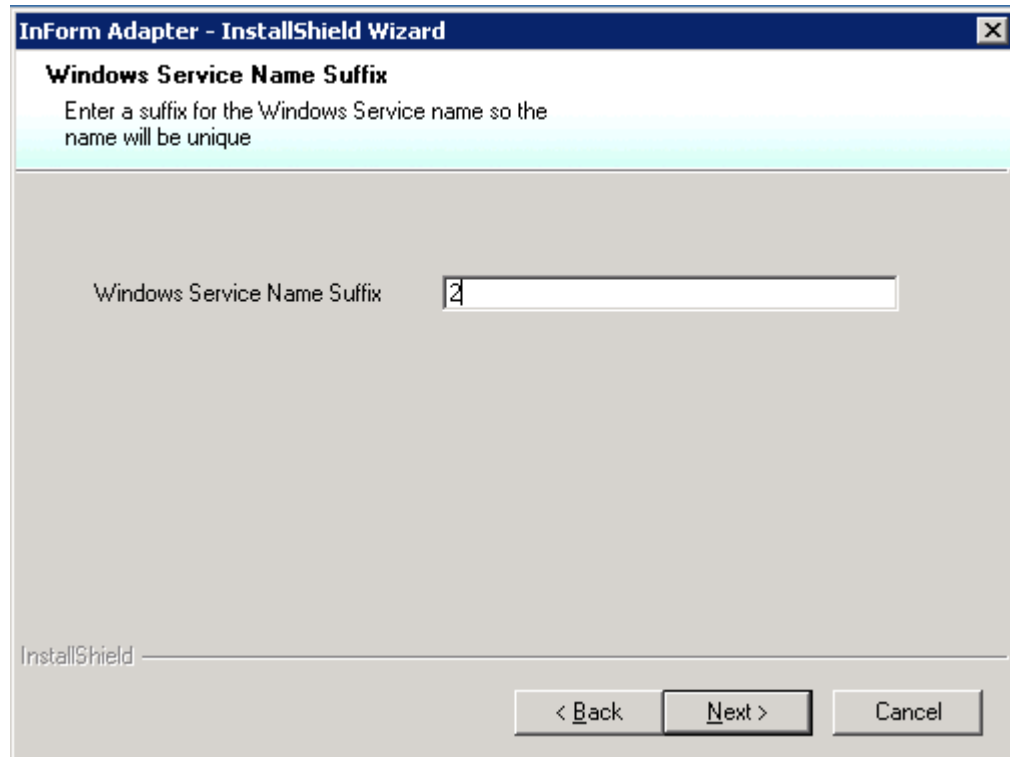
9   Enter a suffix for this instance of the InForm Adapter interfaces installation, and click **Next**.

The InForm Adapter Virtual Directory page appears.
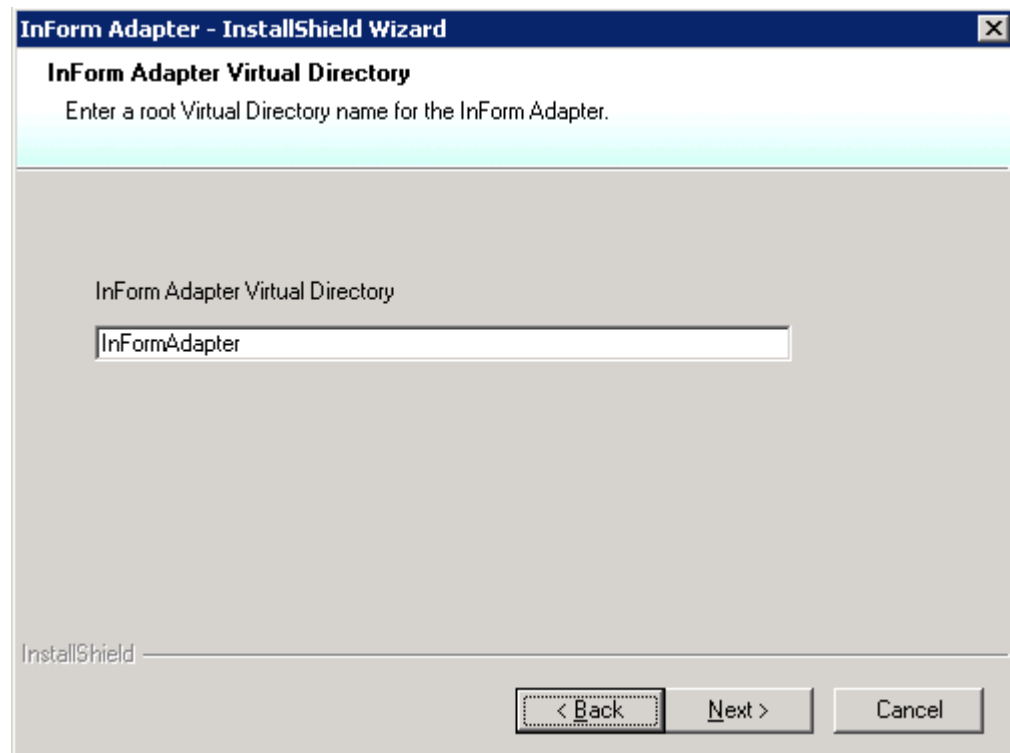
10 Enter the virtual directory for this InForm Adapter instance, and click **Next**.

> Note: Virtual directories are used to uniquely identify a specific instance of the InForm Adapter software.

The Company URL page appears.

11 Enter a unique identifier for your company data, typically your company URL (for example, www.mycompany.com).

> Note: If your company uses other Oracle products that require a company URL, the value you provide in this field must be identical to the URL you provided elsewhere.

12 Click **Next**.

The Select the Oracle Home for InForm Adapter page appears.
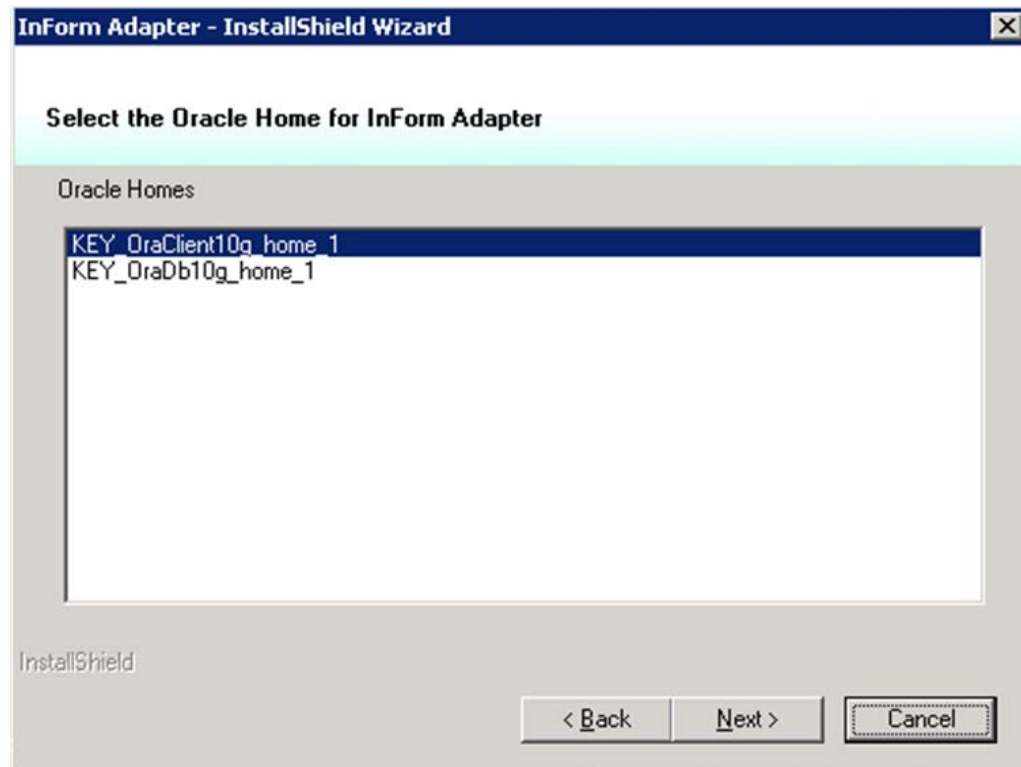
13 Select the registry key location for your installation of the Oracle database software (ORACLE_HOME).

14 Click **Next**.

The Database Configuration page appears.

15 Enter the following:

- A TNS Alias Name.

- An Oracle account with creation privileges.

- A password for the Oracle account you specified.

The Test Connection button becomes available.

16 Click **Test Connection**.

If the credentials that you specified are valid, a green checkmark appears.

17 Click **Next**.

The next Database Configuration page appears, on which you specify the InForm Adapter user.

18 Do one of the following:

- If this is the first time you are installing the InForm Adapter software, select **New User** and click **Next**.

  A dialog box appears for you to provide the new username and password.

Provide the information and click **Next**.

or

- To use an existing InForm Adapter user, select Existing User, provide the User Name and Password, and click **Next**.

The next Database Configuration page appears, on which you specify a tablespace.
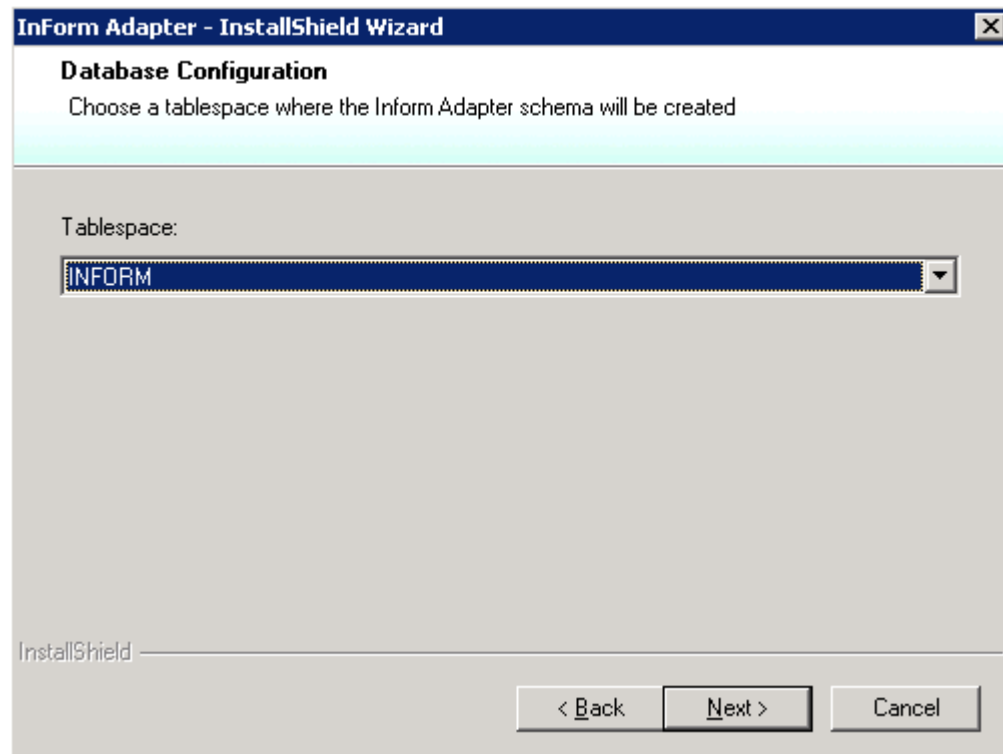
19 Choose a tablespace where the InForm Adapter schema will be created.

The Ready to Install the Program page appears.

20 Click **Install**.

21 When the installation is complete, click **Finish**.

For further steps, see *Installation Overview* (on page 14).

Uninstalling the InForm Adapter software

1   Select **Start > Settings > Control Panel**, and click **Add or Remove Programs**.

2   Select the current version of the InForm Adapter, and click **Remove**.

3   In Windows Explorer, delete the InForm Adapter installation folder and all of its contents, located at:

```
<installation_directory>\Program Files\Phase Forward\Inform Adapter
```

> **Note:** The InForm Adapter database is not removed when you uninstall the InForm Adapter software. You can use the same database when you install the new version of the InForm Adapter software.

C H A P T E R 4
Upgrading a previous release of the InForm Adapter software

In this chapter

Upgrade scenarios

The InForm Adapter 1.3.7 software can be used with:

- InForm 4.6.
- InForm 4.7.
- InForm 5.0.
- InForm 5.5.
- InForm 6.0.
- InForm 6.1.

Existing InForm Adapter version	Use these upgrade instructions
InForm Adapter 1.3 SP0 or later.	*Upgrading from InForm Adapter 1.3 SP0 or later.* (on page 41)
A version of the InForm Adapter software earlier than InForm Adapter 1.3 with InForm 4.5 or 4.6.	*Supported scenarios for upgrading from InForm Adapter 1.2 SP2 or 1.2 SP3* (on page 42).

> **Note:** If you are upgrading the InForm Adapter software in configurations in which InForm studies have been decommissioned on the InForm server, you must decommission the studies in the InForm Adapter software before you upgrade. For more information, see **Register Trial Tool** (on page 17).
>
> The InForm Adapter 1.3.7 software supports Oracle 10g databases with Unicode (AL32UTF8) character set.
>
> The InForm ITM 4.6 software supports Oracle 10g databases with Western (WE8MSWIN1252) character set.

If your current configuration uses the same database to support InForm Adapter 1.2 SP2 or InForm Adapter 1.2 SP3 and InForm 4.6, and you want to upgrade the InForm Adapter software to version 1.3.7, you must establish a separate database for the InForm Adapter software.

Upgrading from InForm Adapter 1.3 SP0 or later

To upgrade InForm Adapter 1.3 to InForm Adapter 1.3.7, run the upgrade wizard. The upgrade wizard:

- Backs up your configuration files.

  For interfaces that are upgraded, the upgrade wizard creates three copies of the config files:

  - **InFormAdapter.<*interfacename*>config.NEW**—The config file that is installed during the upgrade. For example InFormAdapter.coding.config.NEW.

  - **InFormAdapter.<*interfacename*>config.OLD**—The original config file, for example InFormAdapter.coding.config.OLD.

  - **InFormAdapter.<*interfacename*>.config**—The active config file that consists of the original content from the original file merged with the new config file.

  > **Note:** You should always review the contents of the config files after upgrading the InForm Adapter software to make sure your settings were updated correctly.

- Removes installed services and interfaces that are obsolete:

  - CRF Submit interface.

  - InForm Adapter Service.

  - InForm Server Adapter interface.

- Upgrades the InForm Adapter interfaces in-place, without affecting any settings in the current installation.

Running the upgrade wizard

1 Navigate to the InForm Adapter ISO image.

2 In the InformAdapter folder, double-click **setup.exe**.

   The Existing Installed Instances Detected page appears.

3 Select **Maintain or update the instance of this application selected below**, and click **Next**.

   The Welcome page appears.

4 Click **Next**.

   The Required System Components page appears.

   The installation wizard verifies that the server has all the necessary software components, including the operating system, IIS, and the Oracle client.

   If required components are missing or are the wrong version, installation stops. The names of missing and invalid components appear on the Required System Components page. You must install them before continuing the installation.

5 Click **Next**.

   The Setup Status page appears and tracks the status of the upgrade.

Supported scenarios for upgrading from InForm Adapter 1.2 SP2 or 1.2 SP3

Component	Current configuration	Upgrade to
Scenario 1		
InForm Adapter database	Oracle 9i WE8MSWIN1252	Oracle 10g AL32UTF8
InForm Adapter server	InForm Adapter 1.2 SP2 or 1.2 SP3	InForm Adapter 1.3 .7
InForm software	InForm 4.5	InForm 4.6
InForm database	Oracle 9i WE8MSWIN1252	Oracle 10g WE8MSWIN1252
Scenario 2		
InForm Adapter database	Oracle 9i WE8MSWIN1252	Oracle 10g AL32UTF8
InForm Adapter server	InForm Adapter 1.2 SP2 or 1.2 SP3	InForm Adapter 1.3 .7
InForm software	InForm 4.6	InForm 4.6
InForm database	Oracle 10g WE8MSWIN1252	Oracle 10g WE8MSWIN1252
Scenario 3		
InForm Adapter database	Oracle 10g WE8MSWIN1252	Oracle 10g AL32UTF8
InForm Adapter server	InForm Adapter 1.2 SP2 or 1.2 SP3	InForm Adapter 1.3 .7
InForm software	InForm 4.5	InForm 4.6
InForm database	Oracle 9i WE8MSWIN1252	Oracle 10g WE8MSWIN1252
Scenario 4		
InForm Adapter database	Oracle 10g WE8MSWIN1252	Oracle 10g AL32UTF8
InForm Adapter server	InForm Adapter 1.2 SP2 or 1.2 SP3	InForm Adapter 1.3 .7
InForm software	InForm 4.6	InForm 4.6
InForm database	Oracle 10g WE8MSWIN1252	Oracle 10g WE8MSWIN1252

Upgrading from InForm Adapter 1.2 SP2 or 1.2 SP3

The upgrade script automatically backs up your configuration files.

1   Before you export the InForm Adapter database user, run CSScan on the user to verify that there will be no data issues with migrating data to the new database character set (AL32UTF8).

   For more information, see *Upgrading the Oracle database for the InForm Adapter server* (on page 44).

2   If you are upgrading the Oracle database:

   a   Export the InForm Adapter database user from the InForm Adapter server.

   b   On the InForm Adapter database server, upgrade or establish a new Oracle 10g database with AL32UTF8 character set.

      The procedure you use depends on the versions of the Oracle database and the InForm software that are installed.

      For more information, see *Upgrading the Oracle database for the InForm Adapter server* (on page 44).

   c   If you are updating the Oracle database, import the InForm Adapter database user into the InForm Adapter database server.

3   In the setup directory, edit the **setup.iss** file.

   For more information, see *Editing the setup.iss file* (on page 44).

4   Run the **Upgrade_From_InFormAdapter_1_2.bat** file from a command prompt.

5   Start the InForm Adapter Export Service if it will be used.

Editing the setup.iss file

In the setup directory, edit the **setup.iss** file as follows.

Section	Field	Description
SdAskDestPath	szDir	Directory of the existing installation.
EnterSuffix	Suffix	Suffix value of the existing installation.
EnterVirtualDirectory	VirtualDirectoryName	Virtual Directory name of the existing installation.
CompanyURL	CompanyURL	Company URL of the existing installation.
IA_TNS_Name_Admin_Login	TNS_Names	TNS alias name of the Oracle account with creation privileges.
	SystemUserName	Oracle account with creation privileges.
	SystemPassword	Password of the Oracle account with creation privileges.
Sd_ExistingIA_User	UserName	User name of the existing InForm Adapter database user.
	UserPwd	Password of the existing InForm Adapter database user.

Upgrading the Oracle database for the InForm Adapter server

This section applies to upgrades from InForm Adapter 1.2 SP2 or InForm Adapter 1.2 SP3.

Upgrading Oracle 9i with Western character set database to Oracle 10G with Unicode character set

Perform the procedure that is appropriate for your configuration.

The InForm Adapter software is the only product that uses this instance of the Oracle database

Upgrade the InForm Adapter database server from Oracle 9i WE8MSWIN1252 (Western European) to Oracle 10g AL32UTF8 (Unicode).

See the Oracle metalink article (Note:260192.1) on how to upgrade database character set from WE8MSWIN1252 to AL32UTF8.

1   In Step 7 **How to do the actual change** choose Option 1-importing/exporting the entire database.

2   When you create the new database, make sure that it is created on an Oracle 10g instance that uses the correct character set.

3   Import the entire database into the database that uses the new character set.

The InForm Adapter software and other products use this instance of the Oracle database

Use this procedure if InForm studies use the same database instance as the InForm Adapter 1.2 SP3 or earlier software.

To use InForm Adapter 1.3 with InForm 4.6, you must move the InForm Adapter schema to a new database that uses Unicode character set. The InForm studies continue to use the existing database (Oracle 10g Western European character set).

Migrate the InForm Adapter database from Oracle 9i WE8MSWIN1252 (Western European) to Oracle 10g AL32UTF8 (Unicode).

See the Oracle metalink article (Note:260192.1) on how to upgrade database character set from WE8MSWIN1252 to AL32UTF8.

1   In Step 2 **Check if you have no invalid code points in the current character set** run the CSScan utility on only the InForm Adapter user.

2   In Step 7 **How to do the actual change** choose Option 1-importing/exporting the entire database, but export only the InForm Adapter user.

3   When you create the new database, make sure that it is created on an Oracle 10g instance that uses the correct character set.

4   Import the InForm Adapter user into the new database.

Upgrading Oracle 10G from Western European to Unicode AL32UTF8 character set

Perform the procedure that is appropriate for your configuration.

The InForm Adapter software and other products use this instance of the Oracle database

Use this procedure if InForm studies use the same database instance as the InForm Adapter 1.2 SP3 or earlier software.

To use InForm Adapter 1.3 with InForm 4.6, you must move the InForm Adapter schema to a new database that uses Unicode character set. The InForm studies continue to use the existing database (Oracle 10g Western European character set).

Migrate the InForm Adapter database from Oracle 10g WE8MSWIN1252 (Western European) to Oracle 10g AL32UTF8 (Unicode).

See the Oracle metalink article (Note:260192.1) on how to upgrade database character set from WE8MSWIN1252 to AL32UTF8.

1   In Step 2 **Check if you have no invalid code points in the current character set**, run the CSScan utility on only the InForm Adapter user.

2   In Step 7 **How to do the actual change** choose Option 1-importing/exporting the entire database, but export only the InForm Adapter user.

3   When you create the new database, make sure that it is created on an Oracle 10g instance that uses the correct character set.

4   Import the InForm Adapter user into the new database.

The InForm Adapter software is the only product that uses this instance of the Oracle database

Upgrade the InForm Adapter database from Oracle 10g WE8MSWIN1252 (Western European) character set to AL32UTF8 (Unicode).

See the Oracle metalink article (Note:260192.1) on how to upgrade database character set from WE8MSWIN1252 to AL32UTF8.

1   In Step 7 **How to do the actual change** choose Option 1-importing/exporting the entire database.

2   When you create the new database, make sure that it is created on an Oracle 10g instance that uses the correct character set.

3   Import the entire database into the database that uses the new character set.

The new database is created as an Oracle 10g database with the character set set to AL32UTF8.

C H A P T E R   5

Configuring Security

In this chapter

Configuring username/password security

The SOAP header contains elements for the user name and password for ODM Export interface methods, Safety interface, Discrepancy Original interface methods, and Discrepancy Enhanced interface operations requests. The SOAP body contains an attribute for the study name. The user name must represent an active account in the InForm software and the password must be valid.

For more information about the SOAP header and body, the ODM Export interface, the Discrepancy Original interface, and the Discrepancy Enhanced interface, see the *Interfaces Guide*.

ODM Export interface—configuring username/password security

In addition to including the correct SOAP header and body information in the ODM method call, you must also perform this procedure to configure username/password security for the ODM Export interface.

The web.config file for the ODM Export interface is located on the InForm Adapter server in the same directory as the InFormODM.asmx file:

- /InFormAdapter/ODM/InFormODM.asmx

- /InFormAdapter/ODM/web.config

To configure the ODM web.config file for username/password security:

1   Open the web.config file.

2   In the INFORM AUTHENTICATION section, set the AuthenticateRequests value to "true".

For example:

```
<!--INFORM AUTHENTICATION
    The following setting is used to authenticate users against InForm 4.6
    SP2a or greater.
    This setting is used in conjunction with the InFormUsernameTokenManager
    which should be
    enabled in the 'microsoft.web.services2.security' settings of this same
    file. -->
<appSettings>
    <add key="InFormUsernameTokenManager.AuthenticateRequests" value="true" />
</appSettings>
```

3   Set the securityTokenmanager to the InFormUsernameTokenManager.

For example:

```
<microsoft.web.services2>
    <security>
        <securityTokenManager qname="wsse:UsernameToken"
        type="PhaseForward.InFormAdapter.Framework.Security.InFormUsernameTokenM
        anager, PhaseForward.InFormAdapter.Framework.Security"
        xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
        wssecurity-secext-1.0.xsd" />
    </security>
</microsoft.web.services2>
```

Discrepancy Original interface—configuring username/password security

In addition to including the correct SOAP header and body information in the Discrepancy Original interface method call, you must also perform this procedure to configure username/password security for the Discrepancy Original interface.

The web.config file for the Discrepancy Original interface is located on the InForm Adapter server in the same directory as the InFormDiscrepancy.asmx file:

- /InFormAdapter/Discrepancy/InFormDiscrepancy.asmx

- /InFormAdapter/Discrepancy/web.config

To configure the Discrepancy Original interface web.config file for username/password security:

1   Open the web.config file.

2   In the INFORM AUTHENTICATION section, set the AuthenticateRequests value to "true".

For example:

```
<!--INFORM AUTHENTICATION
   The following setting is used to authenticate users against InForm 4.6
   SP2a or greater.
   This setting is used in conjunction with the InFormUsernameTokenManager
   which should be
   enabled in the 'microsoft.web.services2.security' settings of this same
   file. -->
<appSettings>
   <add key="InFormUsernameTokenManager.AuthenticateRequests" value="true" />
</appSettings>
```

3   Set the securityTokenmanager to the InFormUsernameTokenManager.

For example:

```
<microsoft.web.services2>
   <security>
      <securityTokenManager qname="wsse:UsernameToken"
      type="PhaseForward.InFormAdapter.Framework.Security.InFormUsernameTokenM
      anager, PhaseForward.InFormAdapter.Framework.Security"
      xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
      wssecurity-secext-1.0.xsd" />
   </security>
</microsoft.web.services2>
```

Discrepancy Enhanced interface—configuring username/password security

In addition to correct configuration of the SOAP header and body in the requests of Discrepancy Enhanced interface operations, you must select the type of deployment to use.

For information about the SOAP header and body, see the *Interfaces Guide*.

Deployment types

The InForm Adapter Discrepancy Enhanced interface supports network access directly to the server, network access through a load balancer, and local access. After you run the installation, you run a script at the command line, in which you state the type of deployment you want to use. For more information, see *Choosing the deployment type* (on page 50).

Deployment types			
Deployment name	HTTP / HTTPS	Authentication?	URL / SOAP study matching?
Default	HTTPS	Yes	No
Load balanced	HTTP *	Yes	Yes
LAN access	HTTP	No	No
* Represents the data sent by the load balancer to the API.			

Default deployment

Default deployment is configured automatically by the product installer and allows clients to securely access the server through the top-level virtual directory. An SSL certificate must be installed for the discrepancy virtual directory and the request must include a valid user name/password used to authenticate the requests.

Example client URL:

```
https://myserver/InFormAdapter/Discrepancy/DiscrepancyService.svc
```

Load balanced deployment

Load balanced deployment is configured through modifications to the web.config file and is intended for use when exposing the API through the use of a network load balancer. When deployed in this manner, the load balancer is responsible for SSL decryption (no certificate is installed for the adapter virtual directory) as well as altering the request URL to remove the study name from the request. Requests must include a valid user name/password. For more information, see ***Choosing the deployment type*** (on page 50).

Example client URL:

```
https://myserver/InFormAdapter/Discrepancy/DiscrepancyService.svc
```

LAN access deployment

LAN access deployment allows clients on the same network-secured LAN to access the API without security. As with default security, when deployed in this manner, the API is not exposed beneath the study URL and, therefore, no study name matching is performed.

Example client URL:

```
https://myserver/InFormAdapter/Discrepancy/DiscrepancyService.svc
```

Choosing the deployment type

The InForm Adapter Discrepancy Enhanced interface comes with:

- Three variations of the web.config file to support the different configurations that are used to deploy provisioning.

- The utility WebConfigFileSelector.cmd, which you use to set the appropriate config file for your configuration type.

To select the deployment type:

1   Open a Command Prompt window and change to the
    <InForm_Adapter_installation_directory>\Discrepancy\directory.

2   Issue the following command:

    `WebConfigFileSelector.cmd CONFIGURATION`
    where CONFIGURATION specifies the deployment type.

    For example:

    `WebConfigFileSelector.cmd F5`
    The utility replaces the InFormAdapter\Discrepancy\web.config file with one of the following
    files.

Deployment configuration options			
Deployment type	Deployment type configuration option	Config file	Details
Default	SECURE	Web_secure.config	• Secure configuration for client requests sent over the Internet. • Supports HTTPS transport using SOAP 1.2. • Requires a Username Token in the SOAP Security header for providing the user name and password credentials to authenticate a request.
Load balanced	F5	Web_secure_F5.config	• Secure configuration for client requests sent over the Internet using a network load balancer. • Supports HTTPS into the network load balancer and HTTP out of it using SOAP 1.2. • Requires a Username Token in the SOAP Security header for providing the user name and password credentials to authenticate a request.
LAN access	UNSECURE	Web_nosecurity.config	• Unsecure configuration for client requests sent over a LAN from behind a firewall. • Supports HTTP transport and SOAP 1.2. • Does not perform request authentication.

Safety interface—configuring username/password security

In addition to correct configuration of the SOAP header and body in the requests of Safety interface operations, you must select the type of deployment to use.

For information about the SOAP header and body, see the *Interfaces Guide*.

Deployment types - Safety

The InForm Adapter Safety interface supports network access directly to the server, network access through a load balancer, and local access. After you run the installation, you run a script at the command line, in which you state the type of deployment you want to use. For more information, see *Choosing the deployment type* (on page 53).

Deployment types			
Deployment name	HTTP / HTTPS	Authentication?	URL / SOAP study matching?
Default	HTTPS	Yes	No
Load balanced	HTTP *	Yes	Yes
LAN access	HTTP	No	No
* Represents the data sent by the load balancer to the API.			

Default deployment

Default deployment is configured automatically by the product installer and allows clients to securely access the server through the top-level virtual directory. An SSL certificate must be installed for the safety virtual directory and the request must include a valid user name/password used to authenticate the requests.

Example client URL:

```
https://myserver/InFormAdapter/Safety/SafetyService.svc
```

Load balanced deployment

Load balanced deployment is configured through modifications to the web.config file and is intended for use when exposing the API through the use of a network load balancer. When deployed in this manner, the load balancer is responsible for SSL decryption (no certificate is installed for the adapter virtual directory) as well as altering the request URL to remove the study name from the request. Requests must include a valid user name/password. For more information, see *Choosing the deployment type* (on page 53).

Example client URL:

```
https://myserver/InFormAdapter/Safety/SafetyService.svc
```

LAN access deployment

LAN access deployment allows clients on the same network-secured LAN to access the API without security. As with default security, when deployed in this manner, the API is not exposed beneath the study URL and, therefore, no study name matching is performed.

Example client URL:

```
https://myserver/InFormAdapter/Safety/SafetyService.svc
```

Choosing the deployment type

The InForm Adapter Safety interface comes with:

- Three variations of the web.config file to support the different configurations that are used to deploy provisioning.

- The utility WebConfigFileSelector.cmd, which you use to set the appropriate config file for your configuration type.

To select the deployment type:

1   Open a Command Prompt window and change to the <InForm_Adapter_installation_directory>\Safety\ directory.

2   Issue the following command:

```
WebConfigFileSelector.cmd CONFIGURATION
```
where CONFIGURATION specifies the deployment type.

For example:

```
WebConfigFileSelector.cmd F5
```
The utility replaces the InFormAdapter\Safety\web.config file with one of the following files.

Deployment configuration options			
Deployment type	Deployment type configuration option	Config file	Details
Default	SECURE	Web_secure.config	• Secure configuration for client requests sent over the Internet. • Supports HTTPS transport using SOAP 1.2. • Requires a Username Token in the SOAP Security header for providing the user name and password credentials to authenticate a request.
Load balanced	F5	Web_secure_F5.config	• Secure configuration for client requests sent over the Internet using a network load balancer. • Supports HTTPS into the network load balancer and HTTP out of it using SOAP 1.2. • Requires a Username Token in the SOAP Security header for providing the user name and password credentials to authenticate a request.
LAN access	UNSECURE	Web_nosecurity.config	• Unsecure configuration for client requests sent over a LAN from behind a firewall. • Supports HTTP transport and SOAP 1.2. • Does not perform request authentication.

Configuring X.509 digital certificates

Before you apply certificates

During the installation of the InForm Adapter software, you either accepted the default virtual directory name, **InformAdapter**, or provided a different virtual directory name.

If you provided a different virtual directory name, you must edit the SampleCertConfig.xml file to specify the name before you apply any security certificates.

To edit the SampleCertConfig.xml file:

1   Using an XML editor of your choice, open the SampleCertConfig.xml file, located in

```
Installation_directory\InstallScript\CertPicker\SampleCertConfig.xml
```

2   Search for all ServiceInstance XML elements with a baseUrl that contains the pattern **http://** *serverName***/InformAdapter**.

3   Replace the **InformAdapter** part of the URL with the name that you gave the virtual directory when you installed the InForm Adapter software.

4   Save and close the SampleCertConfig.xml file.

For example, if you specify **MyInformAdapter** as the virtual directory name during the installation of the InForm Adapter software on server DPF003046, then in the SampleCertConfig.xml file, you locate the first instance of http://DPF003046/InformAdapter

```
<ServiceInstance . . .
baseURI=http://DPF003046/InformAdapter/TransactionAdapter/" . . />
```

and replace it with

```
<ServiceInstance . . .
baseURI=http://DPF003046/MyInformAdapter/TransactionAdapter/" . . />
```

Replace all instances of the pattern that is found in the file, then save and close the file.

Overview of configuring X.509 digital certificates

Oracle provides a Certificate Configuration tool that you can use to install and configure X.509 digital certificates, and to secure communications for your product environment. For more information about the different types of security, see *Supported web service policies* (on page 56).

When you use X.509 digital certificates to secure communication between an application or API and the InForm Adapter software, you must configure the certificates after installing the InForm Adapter software.

- When an application and the InForm Adapter software are hosted at the same location behind a firewall, you can configure one X.509 digital certificate.

  For more information, see *Applying one certificate to all services on the InForm Adapter server* (on page 57).

- If you want to encrypt messages, use SSL (https) on the InForm Adapter server or the firewall protecting the InForm Adapter server, and configure one x.509 certificate.

- If you are using the InForm Adapter software with two different applications, such as the Central Coding application and the Clintrial Integration Solution (CIS) application, you can configure one X.509 certificate for the services used by one application, and a different X.509 certificate for the services used by the other application.

  For more information, see *Applying different certificates to services* (on page 61).

- Certificates must be installed in the Local Computer location in the Personal store on the servers.

The security policy for an application and the InForm Adapter software being used by that application must be the same. For example, if the InForm Adapter software is using the TokenOnlyPolicy web service policy, the application must also use the TokenOnlyPolicy web service policy. Security is applied by running the Certificate Configuration tool and loading the default configuration file for the Oracle product.

> **Note:** To configure X.509 digital certificates, you do not have to use the Certificate Configuration tool from Oracle. You can use other tools, such as the Microsoft Management Console.

For more information about applying full security for the CIS application, see *Configuring security for the CIS software* (on page 89).

For more information about applying security for the Central Coding application, see the Central Coding *Installation Guide*.

Supported web service policies

Oracle provides the following web service policies:

- **NoPolicy**—No tokens and no signature or encryption of messages.

- **TokenOnlyPolicy**—Signed tokens but no message encryption.

- **FullPolicy**—Signed tokens and encrypted messages.

> **Note:** Oracle strongly recommends **TokenOnlyPolicy** using HTTPS for all deployments.

The security policy for an application and the InForm Adapter software being used by that application must be the same. For example, if the InForm Adapter software is using the TokenOnlyPolicy web service policy, the application must also use the TokenOnlyPolicy web service policy.

To change the web service policy for the InForm Adapter software and an application, run the Certificate Configuration tool and load the CONFIG file that supports the security policy you want to use. Before you run the Certificate Configuration tool, verify that the policyTemplateFilePath in the SampleCertConfig.xml file points to the directory that contains the policy file for the specific Service interface(s) that your application uses.

For this policy	Point to this directory
No security	NoPolicy
Token security	TokenOnlyPolicy
Full security	FullPolicy
PF security (CIS 4.5 SP0 only)	PFPolicy

For example, if a CIS 4.5 SP0 application is using **PFPolicy** for the Central Admin interface service:

- The Central Admin interface service for the InForm Adapter software must also use **PFPolicy**.

- The policyTemplateFilePath for the Central Admin interface service would be .**PFPolicy\policyCache-CentralAdmin.config**.

However, if a CIS 4.5 SP1 application is using **TokenOnlyPolicy** for the Central Admin interface services:

- The Central Admin interface service for the InForm Adapter software must also use **TokenOnlyPolicy**.

- The policyTemplateFilePath for the Central Admin interface service would be .**TokenOnlyPolicy\policyCache-CentralAdmin.config.**

If you are using the Clintrial Integration Solution (CIS) application with Full Security

If you are using the Clintrial Integration Solution (CIS) application with Full Security, you must do the following:

1 Perform one of the procedures in this chapter as appropriate for your configuration.

Either:

- Applying one certificate to all services on the InForm Adapter server.

or

- Applying different certificates to services.

2 Perform one of the procedures in the appendix, *Configuring the Clintrial Integration Solution (CIS) Central Administration interface* (on page 87), as appropriate for your configuration.

Applying one certificate to all services on the InForm Adapter server

When all servers and services are on the same side of a firewall, you can use one certificate for all services and apply the certificate to all servers in your product environment.

1 Select **Start > Programs > Oracle > InForm Adapter > Certificate Configuration Tool**.

The Introduction page appears.

2 Click **Next**.

The Services page appears.
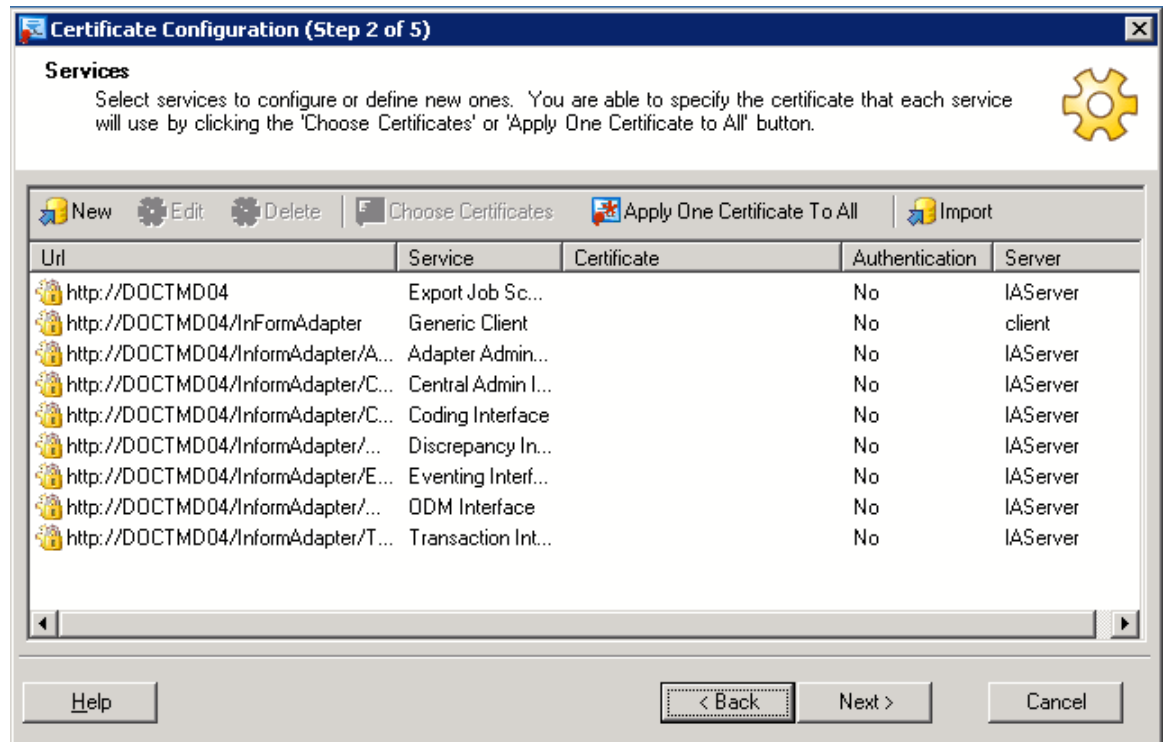
3   Click **Apply One Certificate to All**.

The Certificate Browser page appears.
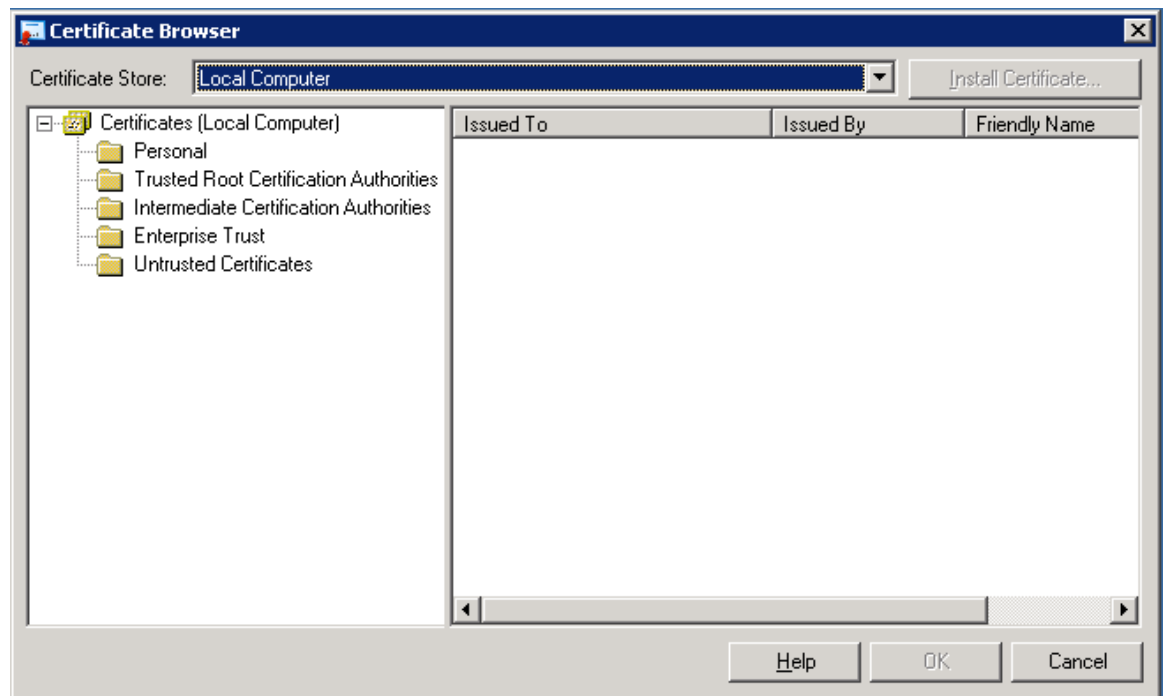
4   Navigate to your **Personal** certificate store, select the certificate to apply, and click **OK**.

The Services page appears, with the certificate you applied listed next to every service.
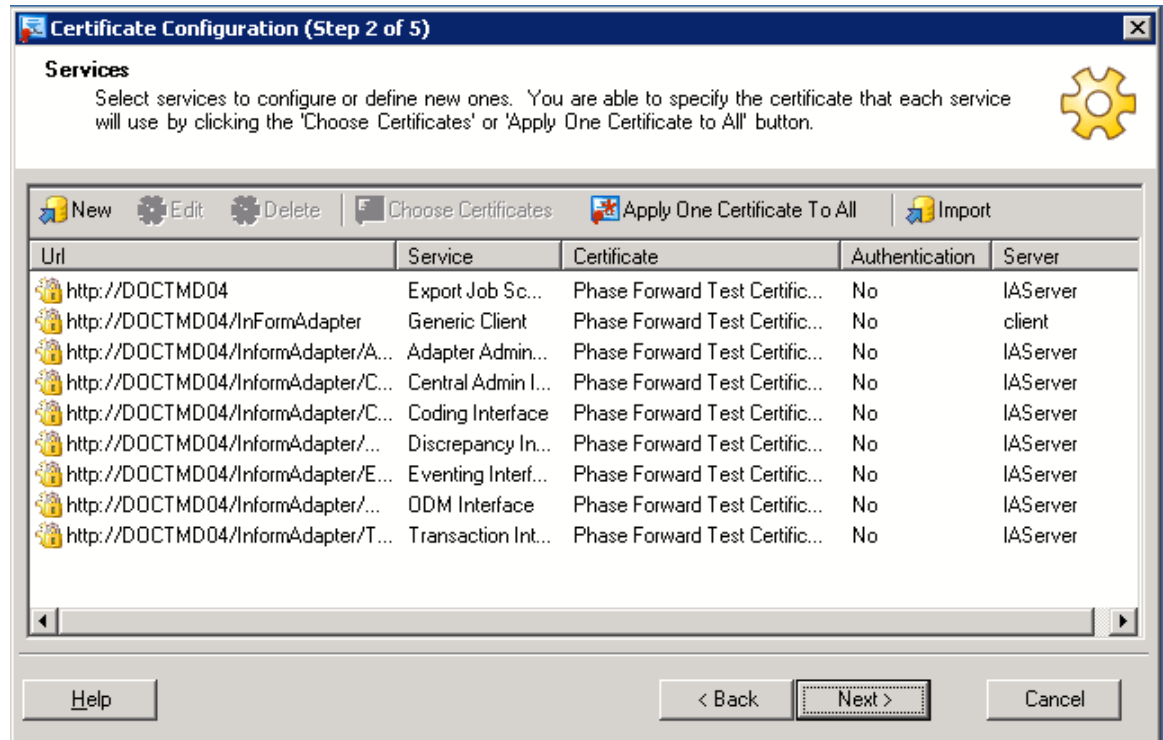
> **Caution:** If you are using a hardware switch to direct web service requests, the URL for each service must be the external URL that is used to access that InForm Adapter interface.
>
> If you install the InForm Adapter software to a virtual directory that does not use the default name, you must edit the services URL so that it includes the correct virtual directory name.
>
> To specify a different URL for a service, select **Edit** to open the Service Definition page. Then specify the correct URL for each service listed in the Services page.

5   Click **Next**.

The Communications page appears.
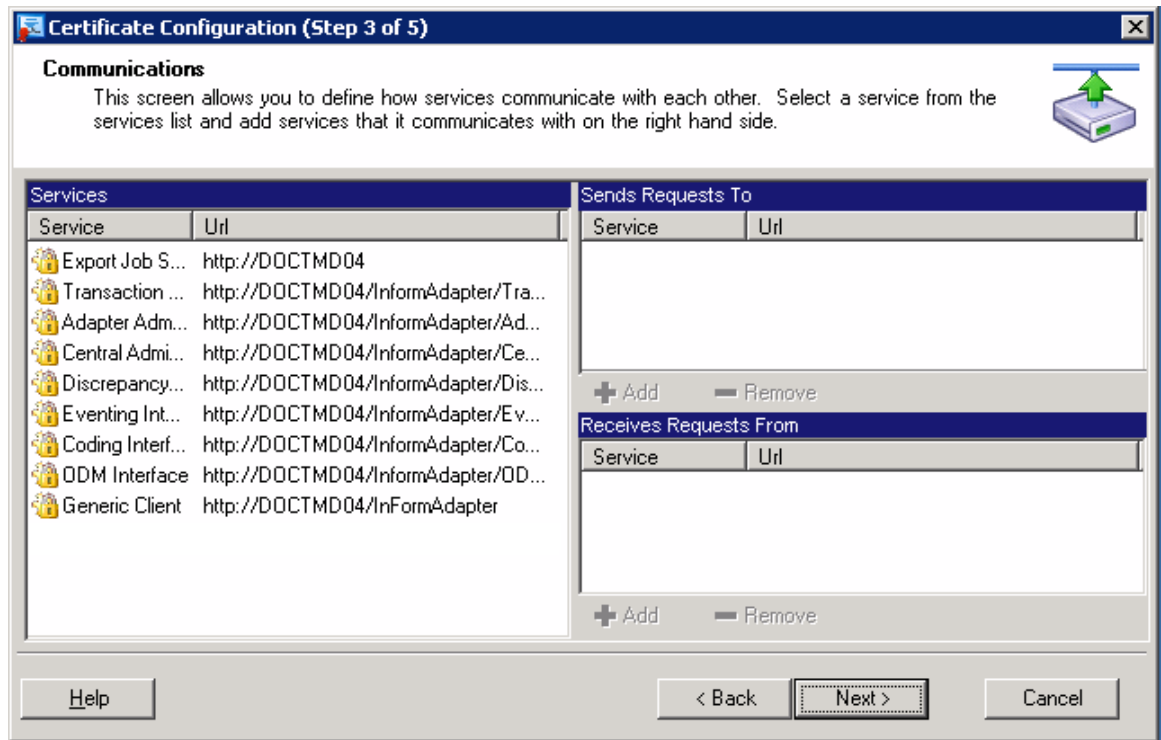
6   Accept the default communications, and click **Next**.

The Server page appears.
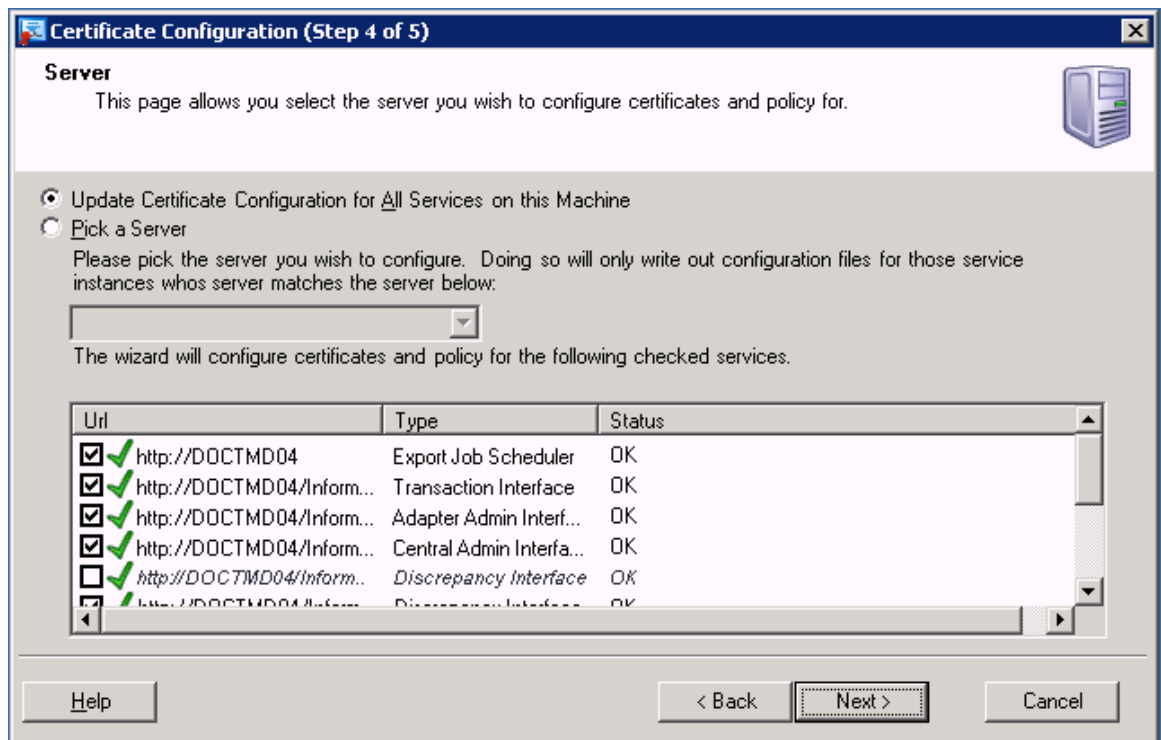
7   Select **Pick a Server**, and select **IAServer** from the drop-down list.
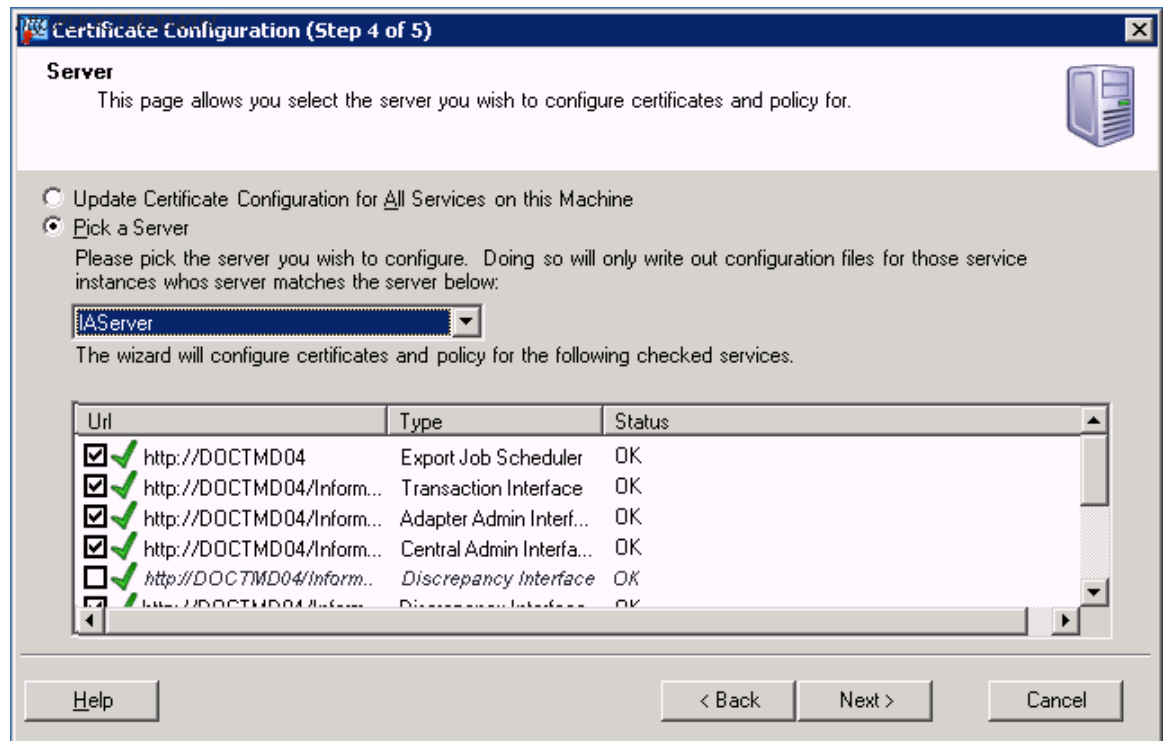
8   From the list of services, deselect the Generic Client service.

9   If you are using the Discrepancy Enhanced interface, deselect the Discrepancy Original interface on the Certificate Configuration (Step 4 of 5) page. The Certificate ConfigurationTool is used to configure WSE services; the Discrepancy Enhanced interface uses WCF.

10   Select or deselect the services based on the applications you are using with the InForm Adapter software. For example, for the Clintrial Integration Solution (CIS) application, select the Transaction Interface and the Central Admin Interface.

11   Click **Next**.

     The Summary page appears.

12   Click **Finish**.

Applying different certificates to services

If you are using the InForm Adapter software with two different applications, such as the Central Coding application and the Clintrial Integration Solution (CIS) application, you can configure one X.509 certificate for the services used by one application, and a different X.509 certificate for the services used by the other application.

Perform the procedure two times: the first time to apply a certificate to the services used by the first application, then again to apply a different certificate to the services used by the second application.

1   Select **Start > Programs > Oracle > InForm Adapter > Certificate Configuration Tool**.

     The Introduction page appears.

2   Click **Next**.

The Services page appears.
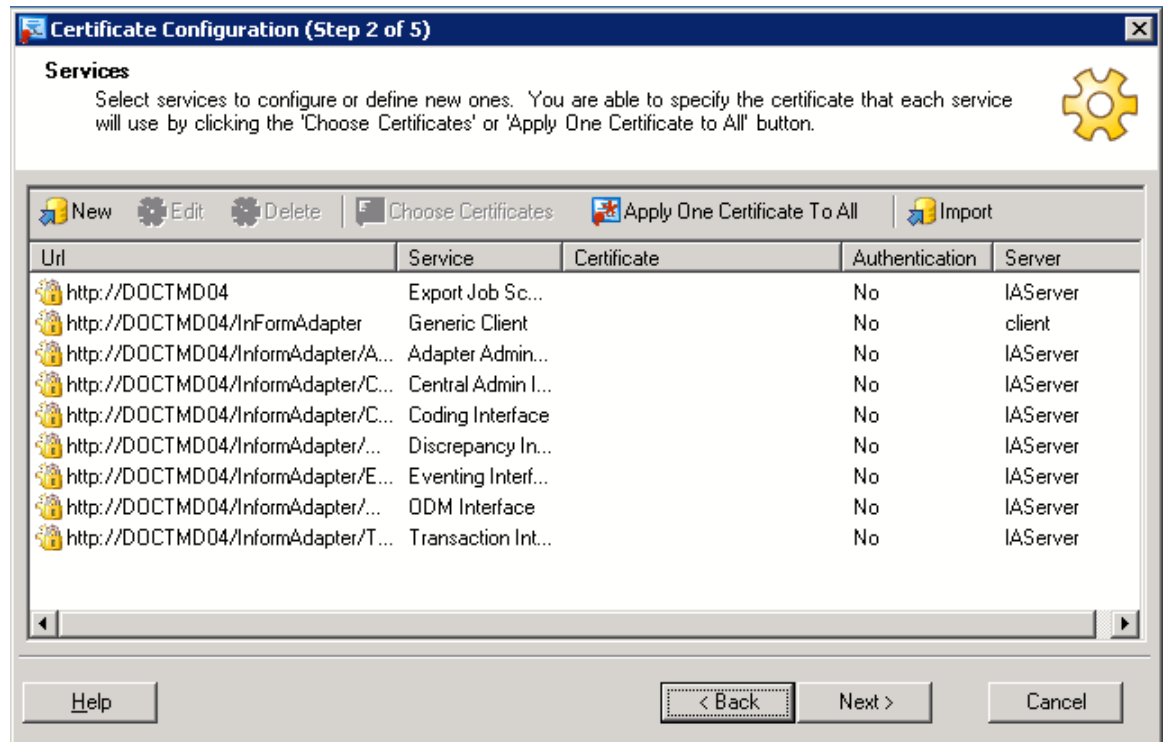
3   Select the service to which you want to apply the certificate.

> **Caution:** If you are using a hardware switch to direct web service requests, the URL for each service must be the external URL that is used to access that InForm Adapter interface.
>
> If you install the InForm Adapter software to a virtual directory that does not use the default name, you must edit the services URL so that it includes the correct virtual directory name.
>
> To specify a different URL for a service, select **Edit** to open the Service Definition page. Then specify the correct URL for each service listed in the Services page.

4   Select **Choose Certificate**.

The Certificate Selection dialog box appears.
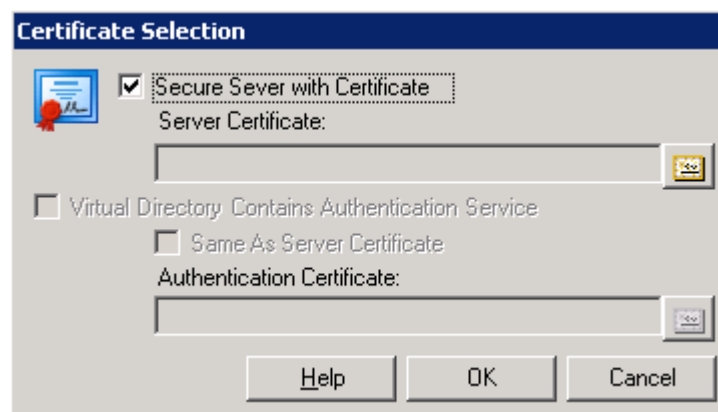
5   Select **Secure Server with Certificate**.

6   Click the browse button to the right of the **Server Certificate** field.

7   Navigate to the **Personal** certificate store and select the certificate to use.
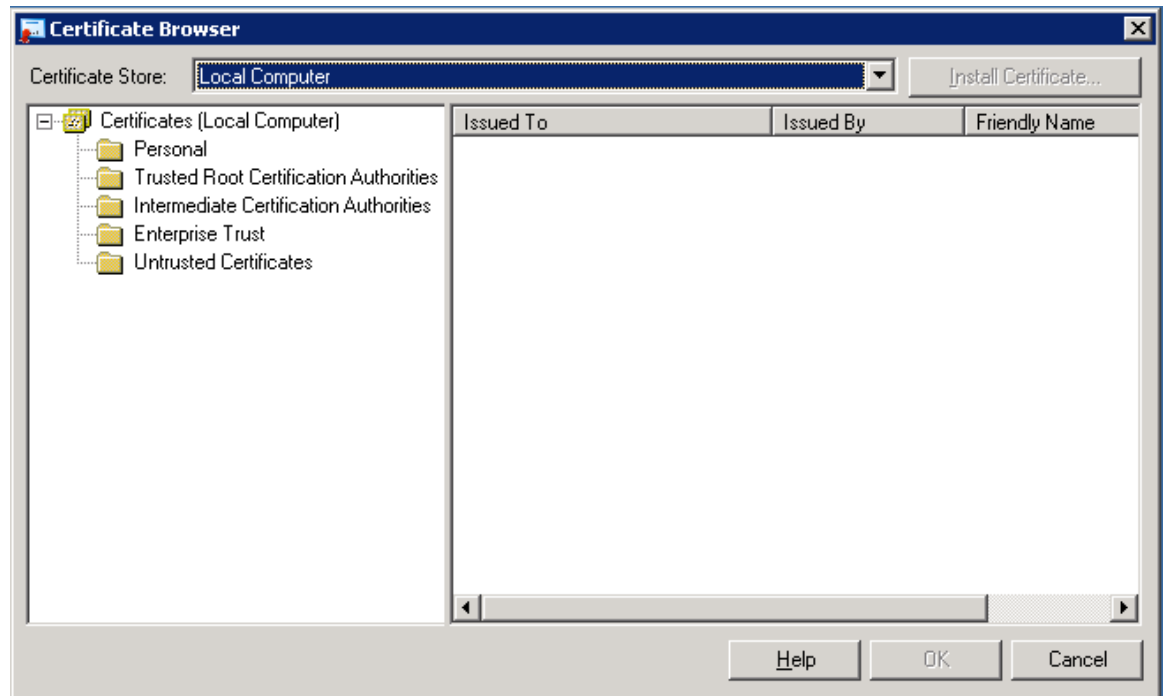
8   Click **OK** to select the certificate and return to the Certificate Selection page.

9   Click **OK** to apply the certificate.

10   For **each** service listed in the **Services** page, repeat steps 3 through 9.

11   When you finish applying certificates, click **Next**.

The Communications page appears.
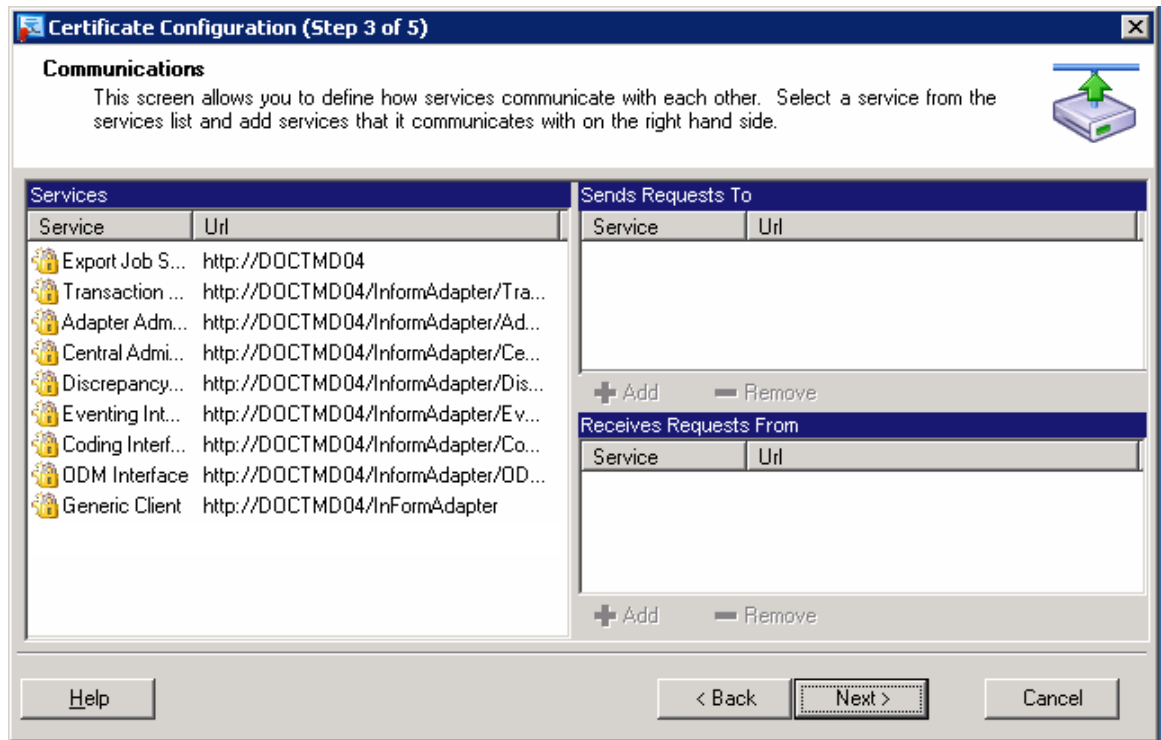
12 Accept the default communications, and click **Next**.

The Server page appears.
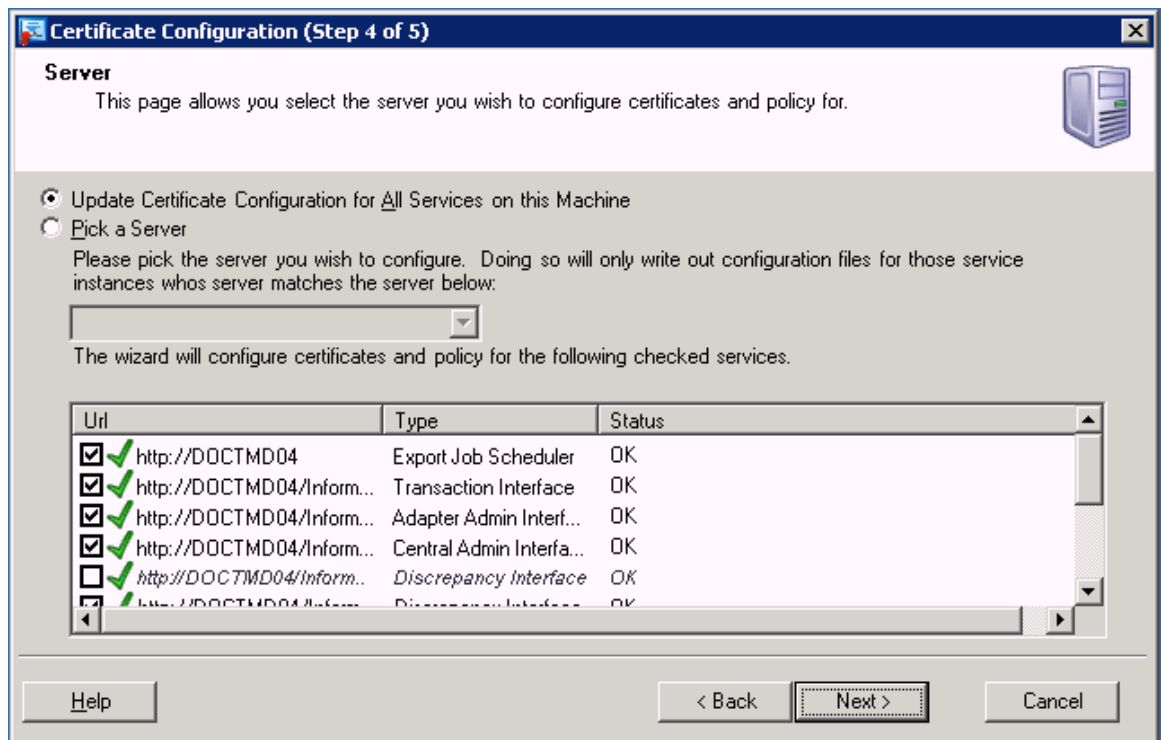
13 Select **Pick a Server**, and select **IAServer** from the drop-down list.
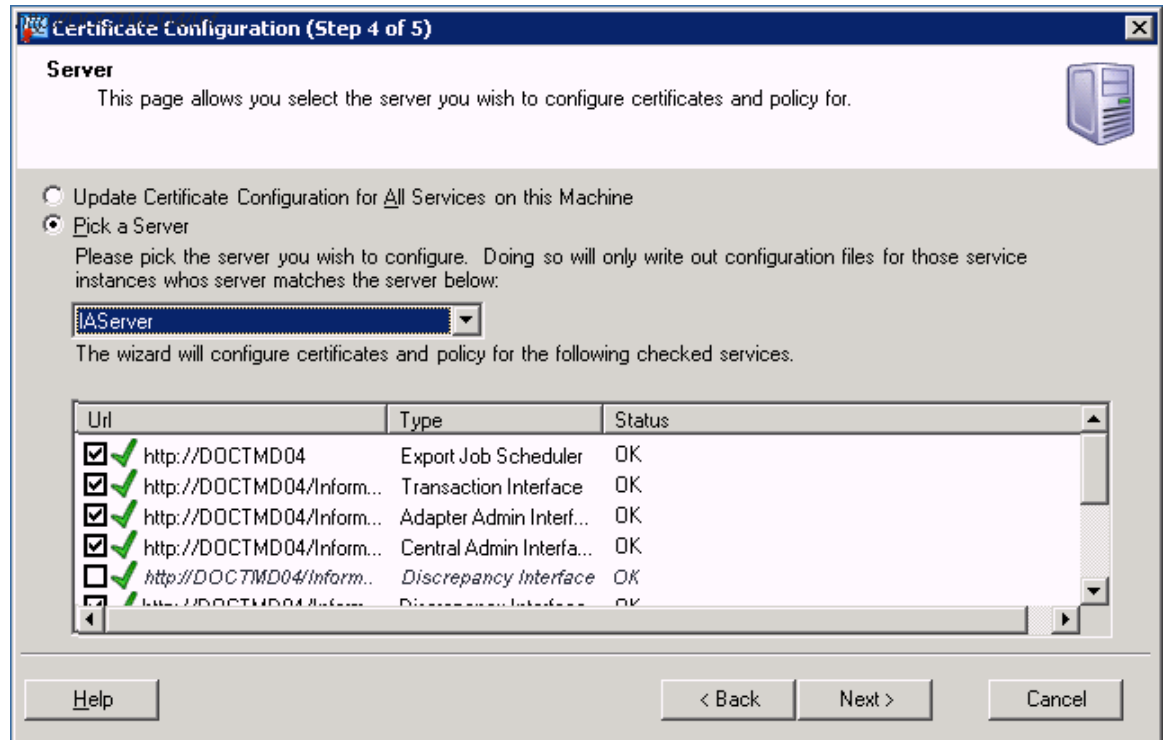
14 From the list of services, deselect the Generic Client service.

15 If you are using the Discrepancy Enhanced interface, deselect the Discrepancy Original interface on the Certificate Configuration (Step 4 of 5) page. The Certificate ConfigurationTool is used to configure WSE services; the Discrepancy Enhanced interface uses WCF.

16 Select or deselect the services based on the applications you are using with the InForm Adapter software. For example, for the Clintrial Integration Solution (CIS) application, select the Transaction Interface and the Central Admin Interface.

17 Click **Next**.

The Summary page appears.

18 Click **Finish**.

C H A P T E R 6

Verifying the Discrepancy Enhanced interface installation

In this chapter

Verifying the Discrepancy Enhanced interface installation and retrieving the WSDL

> **Note:** Before you verify the installation you must choose the deployment type. For more information, see *Deployment types* (on page 49).

To verify the installation:

- Check IIS to make sure that the discrepancy virtual directory has been successfully created.

- If you are using the Default deployment, ensure that you have configured the SSL certificate for the discrepancy virtual directory. For more information, see *Default deployment* (on page 50).

- Retrieve the WSDLs and XSDs for the Discrepancy Enhanced interface. This procedure can be used to determine connectivity, especially when the discrepancy service is hosted behind an F5 load balancer.

To enable and disable the service metadata:

To display the WSDL and XSD, you must enable the service metadata.

> **Note:** Only set this option to True (enable the service metadata) for debugging or testing purposes. To implement best security practices, set this option to False (disable the service metadata).

1   To enable the service metadata, set the value of serviceMetadata httpGetEnabled in the web.config file to true:

```
<serviceMetadata httpGetEnabled="true" httpsGetEnabled="true" />.
```
2   After you retrieve the WSDL and XSD, disable the service metadata:

For more information about using this option securely, see the *Secure Configuration Guide*.

To retrieve the WSDL:

Use any Internet browser, such as MS Internet Explorer, to browse to the discrepancy address.

For example, to retrieve the WSDL, browse to

```
https://webexpress.domain.com/InFormAdapter/Discrepancy/DiscrepancyService.sv
c?wsdl
```
The browser displays the WSDL.

To retrieve the XSD:

Use the same base address you used to retrieve the WSDL, with the following substitutions:

For the Discrepancy namespace, use the suffix **?xsd=xsd0**

For example:

```
https://webexpress.domain.com/InFormAdapter/Discrepancy/DiscrepancyService.sv
c?xsd=xsd0
```
This address is found in the retrieved WSDL in import nodes with the schemaLocation attribute.

The URLs in the returned WSDL will match the external URLs sent by the client.

C H A P T E R 7

Manually adding studies

In this chapter

Overview of manually adding studies

If you did not turn on UPD when you installed the InForm Adapter software, you must use the study configuration web methods to:

- Add information about the studies for this InForm Adapter instance.

- Specify the URL for the InForm Server Adapter that is associated with each study.

The study configuration web methods are part of the InForm Adapter Admin interface. For more information, see the *Interfaces Guide*.

> **Note:** The procedures in this chapter show you how to add a study and a server using the Web-based tool that is provided with the InForm Adapter application. A command line tool is also available. For more information, see *Using the Register Trial Tool* (on page 18).

WCF—Manually adding studies

If you have the WCF version of the InForm Adapter Administration interface, perform this procedure on the machine where the InForm Adapter software is installed.

1   In the browser, enter the URL for the study configuration web service in the following format:

```
http://<machinename>/InFormAdapter/AdapterAdmin/SetDirect.aspx
```
where

<machinename> is the name of the machine where the application interfaces are installed.

> **Note:** The URL that you select depends on your InForm Adapter installation. For example, on the machine coding003, you enter the following URL:
>
> http://coding003/InFormAdapter/AdapterAdmin/SetDirect.aspx

The InForm Adapter Administration page appears.

InForm Adapter Administration

Set Trial

Trial Name
Trial Alias
Oracle Connection String
Trial DB User
Trial DB Password
InForm Server Adapter name

Submit Trial

Set Server

ServerAdapter Name   *
ServerAdapter URL   *
ServerAdapter Test URL ☐
Submit Server

2   In the Set Trial section, enter the following web service request parameters.

Field	Description
Trial Name	Study name (for example, PFST45).
Trial Alias	<server name>_<trial name> (for example, coding003_PFST45).
Oracle Connection String	Oracle database server connection string.
Trial DB user	The Oracle user account.
Trial DB password	Password for the Oracle user account.
InForm Server Adapter name	Arbitrary name for the InForm Server Adapter. Use this as the Server Adapter Name in the Set Server section.

3   Click **Submit Trial**.

Verify that a message appears indicating that the web service request is successful.

> **Note:** If you are using InForm 6.1 and later, SetTrial also registers the InForm Adapter in the Integration Manager.

4   In the Set Server section, enter the following web service request parameters.

Field	Description
Server Adapter Name	The value that you entered for the InForm Server Adapter name field.
Server Adapter URL	URL for the machine where the InForm Server Adapter is installed (for example, http://<serverAdapterName>/InFormAdapter/serveradapter/serveradapter.asmx)
Server Adapter Test URL	Validates the URL location.

5   Click **Submit Server**.

Verify that a message appears indicating that the web service request is successful.

WSE—Manually adding studies

If you have the WSE version of the InForm Adapter Administration interface, perform this procedure on the machine where the InForm Adapter software is installed.

1   In the browser, enter the URL for the study configuration web service in the following format:

```
http://machinename/InFormAdapter/AdapterAdmin/TrialConfig.asmx
```
where

<machinename> is the name of the machine where the application interfaces are installed.

> **Note:** The URL that you select depends on your InForm Adapter installation. For example, on the machine coding003, you enter the following URL:
>
> **http://coding003/InFormAdapter/AdapterAdmin/TrialConfig.asmx**

The TrialConfig page appears. The TrialConfig page lists the available commands for the web service.

2   In the command list, click **SetTrialDirect**.

The SetTrialDirect page appears.

3   Enter the following web service request parameters.

Field	Description
trialName	Study name (for example, PFST45).
trialAlias	<server name>_<trial name> (for example, coding003_PFST45).
oracleConnectionString	Oracle database server connection string.
dbUserId	The Oracle user account.
dbPassword	Password for the Oracle user account.
serverAdapterName	Arbitrary name for the InForm Server Adapter. Use this as the serverAdapterName in the SetServerDirect command.

4   Click **Invoke**.

The Results page appears.

5   Verify that the value for <Result> in the XML file is **True**, as shown in the following example.

```
<string
xmlns="http://www.phaseforward.com/InFormAdapter/AdapterAdmin/1.0">
    <Result
    xmlns="http://www.phaseforward.com/InFormAdapter/AdapterAdmin/1.0">True<
    /Result>
</string>
```

> **Note:** If you are using InForm 6.1 and later, **SetTrial** also registers the InForm Adapter in the Integration Manager.

6   In the command list, click **SetServerDirect**.

The SetServerDirect page appears.

TrialConfig

Click here for a complete list of operations.

SetServerDirect

Sets a server using simple string types. Set the value of testUrl to "true" to test the serverAdapterUrl

Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
serverAdapterName:	
serverAdapterUrl:	
testUrl:	
	Invoke

7   Enter the following web service request parameters.

Field	Description
serverAdapterName	serverAdapterName that was entered in Step 3.
serverAdapterUrl	URL for the machine where the InForm Server Adapter is installed (for example, http://<serverAdapterName>/InFormAdapter/serveradapter/serveradapter.asmx)
testURL	**True**

8   Click **Invoke**.

The Results page appears.

9   Verify that the value for <Result> in the XML file is **True**, as shown in the following example.

```
<string
xmlns="http://www.phaseforward.com/InFormAdapter/AdapterAdmin/1.0">
    <Result
    xmlns="http://www.phaseforward.com/InFormAdapter/AdapterAdmin/1.0">True<
    /Result>
</string>
```

C H A P T E R 8
Performing InForm Adapter post-installation tasks

In this chapter

Overview of post-installation tasks

Perform the following tasks as needed for your environment:

- Setting export security for the ODM interface.

- *Configuring the InForm Server Adapter* (on page 80).

- *Configuring the InForm Adapter interfaces* (on page 82).

- Increasing the timeout period for ASP.NET.

The web.config file

The InForm Adapter software uses web.config files for configuring the web services for each interface, including the InForm Server Adapter (ISA) interface on the InForm application server.

The web.config file is part of the Microsoft configuration architecture. For more information, see the MSDN documentation.

The web.config file should be used to configure security for each InForm Adapter interface.

> **Note:** Whether you configure security through policy files and certificates, or username/password security, depends on the InForm Adapter interface or interfaces you use and the version of the InForm software used by the InForm studies to which you are connected. For more information, see *About InForm Adapter security* (on page 6).

Setting export security for the ODM interface

You can use the QueryData method to retrieve study data through the ODM interface. By default, any QueryData calls use the default InFormAdapterUser (which was established as part of the installation procedure). However, you may use a different user to retrieve this data, providing you establish that user as a valid user for the InForm Adapter export service.

To establish a user as valid, use the IAConfigurationConsole utility, PhaseForward.InFormAdapter.IAConfigurationConsole.exe, which is located in:

```
Program Files\Phase Forward\InForm Adapter\InstallScript\IAConfiguration\bin\
```

Using the ExportSecurity command

The IAConfigurationConsole utility uses the **ExportSecurity** command to set the Export Service security that is used by the ODM interface. The syntax for the **ExportSecurity** command is:

```
PhaseForward.InFormAdapter.IAConfigurationConsole.exe ExportSecurity option
[filename]
```

Parameter	Description
option	Values are:
	• **get**—Returns the current security settings for the Export service.
	• **set**—Replaces the current Export security settings with the contents of the specified file.
filename	• The file containing the updated user information that is to be used with the **set** parameter.

Typically, you redirect the results of the **get** option to a file for editing. In that file, you can add the account information that will use the QueryData method to access the ODM interface.

After the file has been edited, use the **set** option to update the Export Service configuration file with the updated account information.

Example

The following example shows how to:

• Export the current settings to a file.

• Edit the file.

• Submit the updated settings to the security service.

To export the current settings to a file for editing, use the following command:

```
PhaseForward.InFormAdapter.IAConfigurationConsole.exe ExportSecurity get >
temp.xml
```

The contents of the temp.xml file contain the default settings for the security service.

```
<?xml version="1.0" encoding="utf-16"?>
<RequestSecurity xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <NTSecurityItems>
      <NTSecurity Destination="Default" UserId="InFormAdapterUser"
         Password="InFormAdapterUser" Domain="domain"/>
   </NTSecurityItems>
</RequestSecurity>
```

In the edited version of the file, the NTSecurity element has been added for server **CRFS01**, allowing access to user **scott**, with the password **tiger**, in the **usa** domain:

```
<?xml version="1.0" encoding="utf-16"?>
   <RequestSecurity xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <NTSecurityItems>
      <NTSecurity Destination="Default" UserId="scott"
         Password="tiger" Domain="usa"/>
   </NTSecurityItems>
</RequestSecurity>
```

To replace the security settings with the updated file, use the following command:

PhaseForward.InFormAdapter.IAConfigurationConsole.exe ExportSecurity set temp.xml

The **Destination="Default"** attribute means that these credentials—user name, password, and domain—will be used for any request, no matter which machine the request is directed to. To override the default setting for a particular machine, you can add an NTSecurity entry for that machine.

```
<?xml version="1.0" encoding="utf-16"?>
<RequestSecurity xmlns:xsd="http://www.w3.org/2001/XMLSchema"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <NTSecurityItems>
      <NTSecurity Destination="Default" UserId="scott"
         Password="tiger" Domain="usa"/>
      <NTSecurity Destination="CRFS01" UserId="roy"
         Password="tidbit" Domain="usa"/>
   </NTSecurityItems>
</RequestSecurity>
```

In the edited version of the file, the NTSecurity element has been added for server **CRFS01**, allowing access to user **roy**, with the password **tidbit**, in the **usa** domain. All other machines will use the credentials for user **scott**.

Configuring the InForm Server Adapter

Start services required by the Clintrial Integration Solution (CIS) software

By default, the Server Adapter and Export services are set to manual. To use the Clintrial Integration Solution (CIS) software, the Server Adapter service must be running. Start the service manually after you install the InForm Adapter software.

For more information, see *InForm Server Adapter services* (on page 23).

Transaction detection settings for the Inform Server Adapter Service

You can set the amount of time (in seconds) that the InFormServerAdapterService will allow between transaction detection processing by editing the **InFormServerAdapterService.config** file.

To specify a transaction detection interval:

* Edit the UpdateInterval entry:

      <UpdateInterval>300</UpdateInterval>

  The default setting is 300, indicating that the InFormServerAdapterService will wait for five minutes between transaction detection processing.

Including or excluding studies from processing

You can configure the InForm Server Adapter (ISA) so that only specific studies on the InForm server are processed. This behavior might improve performance if the InForm server contains large studies or multiple studies.

You can specify:

* The maximum number of studies to be processed at one time, by specifying the number of threads that can be running at one time.

* A list of studies to include or exclude from processing, based on the study prefix, suffix, or full name.

To configure the InForm Server Adapter service:

1 On the InForm server, use the Windows Administrative Tools to stop the InForm Server Adapter service.

2 In a text editor, open the **InFormServerAdapterService.config** file.

3 Use TrialThreadPool to specify the number of threads to process the studies on the InForm server. For more information, see the TrialThreadPool comments in the config file.

4 To include or exclude studies from processing, uncomment the appropriate InclusionCondition or ExclusionCondition line and specify a value. For more information, see the InclusionList comments in the InFormServerAdapterService.config file.

Adding users to the InForm Adapter security groups

The following Windows security groups are created when additional InForm Adapter interfaces are installed:

- InFormAdapterAdmin.

- InFormAdapterCentralAdmin.

- InFormAdapterCode.

- InFormAdapterCoding.

- InFormAdapterConfig.

- InFormAdapterCRFS.

- InFormAdapterDiscrepancy.

- InFormAdapterODM.

- InFormAdapterSafety.

- InFormAdapterSrv.

- InFormAdapterTran.

The Windows administrator must modify these user groups to include any users who will need access to the InForm Server Adapter and the InForm Adapter interfaces.

Configuring the InForm Adapter interfaces

Each InForm Adapter web service has two configuration files:

- An application configuration file for the web service.

- web.config

The application configuration file

Each web service and InForm Adapter Windows service has an application configuration file. This file contains product-specific Oracle application configuration settings.

The application configuration files are in the \bin\config directories for the interfaces. They are named as follows:

Service type	File name / Example
Web service	InFormAdapter.<interfacename>.config
	Example: InFormAdapter.coding.config
	Location: <installation_directory>\coding\bin\config
Windows service	<servicename>Service.config
	InFormServerAdapterService.config

In the application configuration files, you can configure any of the following settings:

Configuration	Use these instructions
Adapter settings.	Adapter settings.
Error log settings.	*Error logging settings* (on page 83).
Audit service settings.	*Audit service settings* (on page 83).
ChunkSize parameter for the Coding interface.	*Setting the ChunkSize parameter in the InFormAdapter.Coding.config file* (on page 83).
Event detection settings.	*Event detection settings* (on page 84).
Transaction detection intervals for the InForm Server Adapter.	Transaction detection settings for the InForm Adapter Service.
Enable or disable ODM data reduction.	*Enabling or disabling ODM data reduction* (on page 84).

Adapter settings

InForm Adapter settings are used with certificate security to define some base attributes of the interface. If these settings are not found in the application configuration file the first time the application tries to access them, they are created with the following default settings:

```
<AdapterSettings>
   <ApplicationName>CentralServices</ApplicationName>
   <ApplicationId>[A new Guid is generated when these settings are created]
   </ApplicationId>
   <CustomerURI>www.phaseforward.com</CustomerURI>
</AdapterSettings>
```

These settings are important because the roles coming in on a SAML token are filtered by the customer URI. The InForm Adapter software recognizes only those SAML token security attributes that are members of the same customer URI.

> **Note:** The InForm Adapter settings are set during the installation and should not be changed.

Error logging settings

The InForm Adapter software uses the open source log4net component (http://logging.apache.org/log4net/) to perform error logging to a configurable location.

- By default, all InForm Adapter web services and Windows services are configured to log all errors that occur to the event viewer.

    However, they can be configured to log additional information to a log file or some other location.

- Some requests that return errors deliver the errors to the calling application or client process.

    In some situations (for example, when the debugging level of error logging is enabled), only the errors related to the request are relayed to the calling application. Debugging errors can be routed to another location.

For more information, see http://logging.apache.org/log4net/release/config-examples.html.

Audit service settings

For most interfaces, enabling and disabling the audit service is controlled in the InFormAdapterAudit parameter of the **InFormAdapter.***application***.config** file.

The following configuration settings must be set in this file:

- To enable auditing for the interface, set the **auditRequest** and **auditResponse** values to **true**:

    ```
    <InFormAdapterAudit auditRequest="true" auditResponse="true" />
    ```

- To disable auditing for the interface, set the **auditRequest** and **auditResponse** values to **false**:

    ```
    <InFormAdapterAudit auditRequest="false" auditResponse="false" />
    ```

By default, auditing is disabled.

> **Note:** For the Transaction and Adapter Administration interfaces, these parameters are in the **bin\config\WebService.config** file.

Setting the ChunkSize parameter in the InFormAdapter.Coding.config file

The ChunkSize parameter is the number of transactions that the InForm Adapter software looks at in a single coding get request call, and determines whether the PFEX_VERBATIMCACHE table needs to be updated based on new data, deleted data, or changed data in the InForm software. The ChunkSize parameter is set to 2000 by default.

In very large studies in which the PFEX_VERBATIMCACHE table is rebuilt (for example, when a new mapping is implemented) you might need to increase the value of the ChunkSize parameter. Increasing the value can improve performance of the PFEX_VERBATIMCACHE table rebuild if the verbatim density across the transactions in the study is not too high.

For example, in a very large study, transactions that contain verbatim information could be spread out over several thousand transactions. If the ChunkSize is set to 2000, each call made to the Adapter might update/insert only a few records. If the ChunkSize is set to 20000, each call will bring back many more verbatims. The disadvantage to this higher setting would occur in studies that have a high density of verbatims (such as if all 20000 transactions are from verbatim data). The call to the adapter could take a long time and potentially time out.

The value of the ChunkSize parameter is global to the InForm Adapter server and will affect all studies registered on that server.

To set the ChunkSize parameter:

- Edit the InFormAdapter.Coding.config file entry (this shows the default):

  ```
  <ChunkSize size="2000" />
  ```

  For example, in a very large study (greater than one million transactions) change the size to 20000:

  ```
  <ChunkSize size="20000" />
  ```

Event detection settings

You can set the amount of time (in seconds) that the job scheduler will allow between event detection processing by editing the **ExportService.config** file.

To specify the event detection interval:

- Edit the EventDetectionManager entry:

  ```
  <EventDetectionManager EnableDetectorThreads='True' ThreadSleep="300"/>
  ```

  The default setting is 300, indicating that the job scheduler will wait for five minutes between event detection processing.

Enabling or disabling ODM data reduction

ODM data reduction reduces redundancies in ODM output. Items are identified as unique based on their identifying key (OID, repeat key, etc). Contents of items that have the same key are reduced to a single item, in chronological order. The output remains ODM compliant, but is more compact.

ODM data reduction is enabled by default.

You can disable ODM data reduction for the output of the GetTransactions method or the DownloadPatientDataODM method by including the parameter skipODMReduction=TRUE in input request to the method.

You can disable reduction for all studies on the server by uncommenting the element **<SkipODMReduction />** in the InFormAdapter.ODM.config file. The request parameter value, if specified in the method call, takes precedence over the server-wide element value in the configuration file.

For example, if you uncomment **<SkipODMReduction />** in the configuration file, and include **skipODMReduction=False** in the call to the GetTransactions method for study pfst45odm, only the GetTransactions response for that particular request to trial pfst45odm will apply ODM data reduction to the response.

For more information, see the *Interfaces Guide*.

Increasing the timeout period for ASP.NET

If a web service request runs longer than the default timeout period for ASP.NET, the following message might appear:

```
Attempted to access an unloaded AppDomain
```

Such a timeout could occur during synchronization.

To resolve this issue, increase the value for **responseDeadlockInterval** in the **machine.config** file on the servers. The default value is three minutes. This is a global value that applies to all ASP.NET applications. For more information about setting the value, see the Microsoft documentation (http://www.asp.net/).

> **Note:** Oracle recommends that you do **not** change the **responseDeadlockInterval** value unless you receive the error as described.

Configuring the CIS application and interface

In this appendix

When to use the instructions in this appendix

Use the instructions in this appendix if all of the following apply to your configuration:

- You are using the Clintrial Integration Solution (CIS) application with full security (called *Authentication, Signing and Encryption* in the Clintrial Integration Solution (CIS) application).

- You have already installed the Clintrial Integration Solution (CIS) application and enabled security, following instructions in the Clintrial Integration Solution (CIS) *Installation Guide*.

- You have already installed the InForm Adapter software, and configured security as described in *Configuring x.509 digital certificates* (on page 55).

Configuring security for the CIS software

The initial security for the InForm Adapter software automatically supports authentication between clients and servers. For the CIS software, you can provide additional security by encrypting and signing messages. To apply full security between the InForm Adapter software and the CIS software, use the Certificate Configuration tool after you install the InForm Adapter software.

- This section explains how to apply full security to the InForm Adapter software.

- For information about applying full security to the CIS software, see the Clintrial Integration Solution (CIS) *Administration Guide*.

Web policy for Clintrial Integration Solution (CIS) and InForm Adapter software

Define the web service policy for the Clintrial Integration Solution (CIS) software and the InForm Adapter software as follows:

If the Clintrial Integration Solution (CIS) software uses	The InForm Adapter software must use
Authentication Only	**TokenOnlyPolicy** for the service interfaces used by Clintrial Integration Solution (CIS).
Authentication, Signing and Encryption	**FullPolicy** for the service interfaces used by Clintrial Integration Solution (CIS)

For more information, see:

- *Applying full security to InForm Adapter using one certificate.* (on page 89)

- *Applying full security using two certificates.* (on page 91)

> **Note:** When you apply full security using one certificate, the certificate you use must have both a private and public key. When you apply full security using two certificates, the certificate you install on the InForm Adapter server must have a private key.

Applying full security to InForm Adapter using one certificate

This section describes how to use one certificate to apply full security.

> **Note:** To access help, use the Help button on the Certificate Configuration tool pages and dialog boxes.

1 Set up CIS for full security. For more information, see the Clintrial Integration Solution (CIS) *Administration Guide*.

2 Navigate to the InstallScript\CertPicker directory to open and edit the SampleCertConfig.xml file.

The SampleCertConfig.xml file includes information about services and is used to apply default security when the InForm Adapter software is installed. You must change this file to apply full security for the InForm Adapter software.

3   Do one of the following, depending on your version of CIS.

To apply full security for CIS 4.5 SP1 and higher:

- Use the FullPolicy policy template for specific services.

   Before you run the Certificate Configuration tool, verify that the following services are using the following paths for their policy template files. If these paths and policy template files are not being, edit the service to point to the correct web service policy template.

   - **Transaction Interface** should use: **.\FullPolicy\policyCache-Transaction.config**

   - **Central Admin Interface** should use: **.\FullPolicy\policyCache-CentralAdmin.config**

To apply full security for CIS 4.5 SP0:

- Use the PFPolicy policy template for specific services.

   Before you run the Certificate Configuration tool, verify that the following services are using the following paths for their policy template files. If these paths and policy template files are not being, edit the service to point to the correct web service policy template.

   - **Transaction Interface** should use: **.\PFPolicy\policyCache-Transaction.config**

   - **Central Admin Interface** should use: .**\PFPolicy\policyCache-CentralAdmin.config**

> **Note:** The Server Adapter Interface file must always use NoPolicy.

4   Save the changes to the SampleCertConfig.xml file using either the original name or a unique name.

5   To start the Certificate Configuration tool, select **Start > Programs > Phase Forward > InForm Adapter > Certificate Configuration Tool.**

6   Load the XML configuration file that you changed and saved.

7   To apply the same certificate to all services, click **Apply One Certificate to All**.

8   Choose the same certificate you chose for CIS.

9   Click **OK** to return to the Services page.

> **Caution:** If you are using a hardware switch to direct web service requests, the URL for each service must be the external URL that is used to access that InForm Adapter interface.
>
> If you install the InForm Adapter software to a virtual directory that does not use the default name, you must edit the services URL so that it includes the correct virtual directory name.
>
> To specify a different URL for a service, select **Edit** to open the Service Definition page. Then specify the correct URL for each service listed in the Services page.

10 Click **Next** until you reach the **Summary** page.

11 To apply the certificate configuration, click **Finish**.

Applying full security using two certificates

This section describes how to use two certificates to apply full security.

> **Note:** To access help, use the Help button on the Certificate Configuration tool pages and dialog boxes.

1   Set up CIS for full security. For more information, see the Clintrial Integration Solution (CIS) *Administration Guide.*

2   Navigate to the InstallScript\CertPicker directory.

3   Open and edit the SampleCertConfig.xml file.

The SampleCertConfig.xml file includes information about services and is used to apply default security when the InForm Adapter is installed. You must change this file to apply full security for the InForm Adapter.

4   Perform one of the following procedures, depending on your version of CIS.

To apply full security for CIS 4.5 SP1 and later:

- Use the FullPolicy policy template for specific services.

    Before you run the Certificate Configuration tool, verify that the following services are using the following paths for their policy template files. If these paths and policy template files are not being used, edit the service to point to the correct web service policy template.

    - **Transaction Interface** should use: **.\FullPolicy\policyCache-Transaction.config**

    - **Central Admin Interface** should use: **.\FullPolicy\policyCache-CentralAdmin.config**

    - **Generic Token Service** should use: **.\FullPolicy\policyCache-TokenService.config**

To apply full security for CIS 4.5 SP0:

- Use the PFPolicy policy template for specific services.

    Before you run the Certificate Configuration tool, verify that the following services are using the following paths for their policy template files. If these paths and policy template files are not being used, edit the service to point to the correct web service policy template.

    - **Transaction Interface** should use: **.\PFPolicy\policyCache-Transaction.config**

    - **Central Admin Interface** should use: **.\PFPolicy\policyCache-CentralAdmin.config**

    - **Generic Token Service** should use: **.\PFPolicy\policyCache-TokenService.config**

> **Note:** The Server Adapter Interface file must always use NoPolicy.

5   Save the changes to the SampleCertConfig.xml file using either the original name or a unique name.

6   To start the Certificate Configuration tool, select **Start > Programs > Phase Forward > InForm Adapter > Certificate Configuration Tool**.

7   Load the XML configuration file that you changed and saved.

8   Click **Apply One Certificate to All** to apply the same certificate to all services.

9   Choose the same certificate that you chose for the InForm Adapter software when you ran the Certificate Configuration tool after you installed the InForm Adapter software.

For more information, see *Applying one certificate to all services on the InForm Adapter server* (on page 57).

10 Select the **Generic Token** service.

11 Use **Choose Certificates** to open the **Certificate Selection** dialog box.

12 Click **Browse** to open the **Certificate Browser** page.

13 Select the certificate you chose for the CIS application.

14 Click **OK** until you return to the **Services** page.

> **Caution:** If you are using a hardware switch to direct web service requests, the URL for each service must be the external URL that is used to access that InForm Adapter interface.
>
> If you install the InForm Adapter software to a virtual directory that does not use the default name, you must edit the services URL so that it includes the correct virtual directory name.
>
> To specify a different URL for a service, select **Edit** to open the Service Definition page. Then specify the correct URL for each service listed in the Services page.

15 Select the **Generic Client** service.

16 Click **Choose Certificates** to open the **Certificate Selection** dialog box.

17 Click **Browse** to open the **Certificate Browser** page.

18 Select the certificate you chose for the CIS application.

19 Click **OK** to return to the **Services** page.

20 Click **Next** until you reach the **Summary** page.

21 Click **Finish** to apply the certificate configuration.

> **Note:** If you are applying full security for the CIS 4.5 SP0 software, you must use **PFPolicy**.

Configuring the Clintrial Integration Solution (CIS) Central Administration interface

When configuring the Clintrial Integration Solution (CIS) Central Administration interface, consider the following.

- If your web server requires that the root virtual directory for a URL be all lowercase, edit the **RootInstallDirectory** entry in the **InFormAdapter.CentralAdmin.config** file so that the value of the **VirtualDirectoryName** attribute is all lowercase.

  For example:

  ```
  <CAAdapterSettings>
      <RootInstallDirectory DirectoryName="InForm Adapter"
      VirtualDirectoryName="informadapter" />
  </CAAdapterSettings>
  ```

- If your environment uses a firewall that takes requests received as SSL and relays them as normal HTTP requests behind the firewall, the InForm Adapter software needs to know that the URLs it generates must use the HTTPS protocol.

  To set this, add the **HttpPrefix** attribute to the **CAAdapterSettings** entry in the **InFormAdapter.CentralAdmin.config** file, as follows:

  ```
  <CAAdapterSettings HttpPrefix="https">
      <RootInstallDirectory DirectoryName="InForm Adapter"
      VirtualDirectoryName="informadapter" />
  </CAAdapterSettings>
  ```

URLs must be identical on both sides of the firewall

If your environment uses a firewall or load balancer that relays requests to the application server, you must ensure that URL specified in the HTTP GET that is sent by the client to the firewall is passed without modification to the application server. This means that the URL must correspond to the directory structure of the application server behind the firewall.

For example, if the firewall receives the following request and forwards it to the application server, the application server must have a virtual directory named appinst1 that contains the resource foo.asmx in the app directory:

```
GET /appinst1/app/foo.asmx
Host www.example.com
```

If the firewall were to rewrite the request for a different virtual directory name, when the InForm Adapter server builds a response messages containing URLs, it will build it using the /app/foo.asmx structure, which is not the response structure the client is expecting.

For example:

Client to Firewall:

```
GET /appinst1/app/foo.asmx
Host www.example.com
```

Firewall to Adapter Server:

```
GET /app/foo.asmx
Host www.example.com
```

Troubleshooting

In this appendix

Update to PFIA_SINGLETONS fails

Occurs

When you are installing the InForm Adapter software.

Error message

ERROR PhaseForward.InFormAdapter.IAConfigurationConsole.IAConfigurationConsole Update to data table informadapter.PFIA_SINGLETONS failed.

Possible causes

- XA transactions not enabled.

- Oracle patches not installed.

- PATH environment variable contains multiple Oracle Home entries.

Solution

- *Enable XA transactions* (on page 16).

- Make sure that the correct versions of Oracle are installed.

  For more information, see the Oracle 10g patch requirements in the InForm Adapter *Release Notes*.

- Make sure that the PATH environment variable lists the path for the client Oracle Home.

  If there is more than one Oracle Home path listed, the client Oracle Home path *must* occur first.

Maximum open cursors exceeded

Occurs

When the InForm Adapter Export Service is running.

Error message

ORA-01000: maximum open cursors exceeded.

Possible cause

Failure of the Export Service to release database resources during Eventing interface processing.

Solution

Increase the Oracle OPEN_CURSORS parameter to 1000, which is the recommended setting for web service applications.

End-of-file on communication channel database error

Occurs

When the Coding interface is running a heavy volume of the GetCodingData web method calls to the InForm database.

> **Note:** This error is limited to implementations that run the **InForm Adapter** software in conjunction with the **Central Coding** application.

Error message

ORA-03113: end-of-file on communication channel.

Possible cause

This is an Oracle issue that was discovered in the 10.2.0.3 patch set. This issue occurs when the database is performing a high volume of resource-intensive tasks.

For more information, refer to the Oracle MetaLink article 418531.

Solution

*   If you encounter this error, immediately run the following SQL*Plus command on the InForm database:

    alter system flush shared_pool

*   If you are running the Central Coding application, schedule an Oracle job to flush the shared pool on the InForm database every four hours.

Cannot view ASMX pages

Occurs

When you are navigating to a web service ASMX page.

Error message

HTTP 404 Page not found.

Possible cause

The following web service extensions are not allowed for IIS:

- ASP.NET 1.1 (for all InForm Adapter releases).

- ASP.NET 2.0.50727 (for InForm Adapter 1.3 and later releases).

Solution

1   Launch Internet Information Services (IIS) Manager.

2   Expand the local computer.

3   Expand Web service extensions.

4   Right-click **ASP.NET 1.1.4322**, and select **Allow**.

5   If you use InForm Adapter 1.3 or later, right-click **ASP.NET 2.0.50727**, and select **Allow**.

Date and time parsing error

Occurs

When you initiate a get job in Central Coding.

Error message

To prevent out-of-sync verbatim and query data, the ExchangeQueryUpdates job will not be run. Please resolve the following error first: Source:Central Coding. Job failed with the following error: An exception has been thrown calling the web method GetCodingData...

Possible cause

The date format of the locale specified in the trial database and the date format of the locale specified on the InForm Adapter application server are not set to the same value.

Solution

Set the locale in the database and the locale of the InForm Adapter application server to the same value.

Using the silent install

In this appendix

Using the silent install

The InForm Adapter 1.3.7 software includes a silent install option that you can use to install, upgrade, and uninstall the current version of the InForm Adapter software.

There is also a silent upgrade program which you can use to upgrade the InForm Adapter 1.2 SP2 software and InForm Adapter 1.2 SP3 software release streams. For more information, *see Upgrading from the InForm Adapter 1.2 SP2 software or the InForm Adapter 1.2 SP3 software* (on page 42).

By default, the silent install and upgrade programs install the following interfaces:

- InForm Adapter Administration (WCF version).

- InForm Adapter Central Administration.

- InForm Adapter Coding (WCF version).

- InForm Adapter Discrepancy Enhanced interface.

- InForm Adapter ODM.

- InForm Adapter Transaction interface.

- Register Trial Tool.

- InForm Adapter Safety interface.

> **Note:** If you have the InForm Adapter Discrepancy Enhanced interface installed, the upgrade program keeps your existing Discrepancy Enhanced interface and security setting.
>
> If you have the InForm Adapter Discrepancy Original interface installed and do not want to upgrade, you must run the upgrade wizard. For more information, see *Upgrading from InForm Adapter 1.3 SP0 or later* (on page 41).

Some of the silent install options require installation parameters that you specify by editing the setup.iss file, located in the installation folder. For more information, see *Silent install parameters* (on page 103).

Silent install parameters

The InForm Adapter 1.3.7 silent install uses the parameters settings you specify in the **setup.iss** file, located in the InForm Adapter folder of the install image.

In the setup directory, edit the **setup.iss** file as follows.

Section	Field	Description
SdAskDestPath	szDir	Directory of the existing installation.
EnterSuffix	Suffix	Suffix value of the existing installation.
EnterVirtualDirectory	VirtualDirectoryName	Virtual Directory name of the existing installation.
CompanyURL	CompanyURL	Company URL of the existing installation.
IA_TNS_Name_Admin_Login	TNS_Names	TNS alias name of the Oracle account with creation privileges.
	SystemUserName	Oracle account with creation privileges.
	SystemPassword	Password of the Oracle account with creation privileges.
If you are using an existing InForm Adapter database user		
• Sd_ExistingIA_User	UserName	User name of the existing InForm Adapter database user.
	UserPwd	Password of the existing InForm Adapter database user.
• IA_New_User	userName	Set the value to blank by entering single quotation marks with a space between (**' '**).
	UserPwd	Set the value to blank by entering single quotation marks with a space between (**' '**).
• NewUser_IA_Tablespace_SysPwd	ComboBox1	Set the value to blank by entering single quotation marks with a space between (**' '**).
If you are creating a new InForm Adapter database user		
• Sd_ExistingIA_User	UserName	Set the value to blank by entering single quotation marks with a space between (**' '**).
	UserPwd	Set the value to blank by entering single quotation marks with a space between (**' '**).

Section	Field	Description
• IA_New_User	userName	User name of the new InForm Adapter database user.
	userPwd	Password of the new InForm Adapter database user.
• NewUser_IA_Tablespace_SysPwd	ComboBox1	Tablespace name for the new InForm Adapter database user.

Running the silent install

To install, uninstall, or upgrade the InForm Adapter software, run the one of these commands:

- **Silent_Install_InformAdapter.bat**—Installs the InForm Adapter 1.3.7 software.

  The Silent_Install_InformAdapter.bat command uses the parameters entered in the **setup.iss** file.

- **Silent_Upgrade_InformAdapter.bat**—Upgrades the InForm Adapter 1.3 software stream to the InForm Adapter 1.3.7 software.

- **Upgrade from InformAdapter_1_2.bat**—Upgrades the InForm Adapter 1.2 SP2 software or the InForm Adapter 1.2 SP3 software streams to the InForm Adapter 1.3.7 software.

  The Upgrade from InformAdapter_1_2.bat command uses the parameters entered in the **setup.iss** file.

- **Silent_Uninstall_InformAdapter.bat**—Removes the InForm Adapter 1.3.7 software installation.