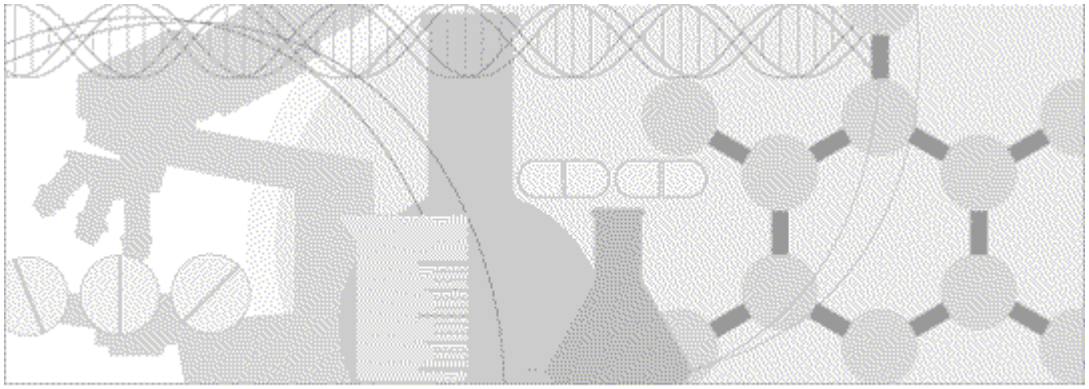
Installation and Configuration Guide

Oracle® Health Sciences InForm 4.6.5.1 for 64-bit



ORACLE

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About this guide

In this preface

Overview of this guide

The *Installation and Configuration Guide* describes how to install the software and configure the environment for the InForm application and Cognos software.

After installing the software and configuring the environment, use the *Setting Up a Trial with InForm Architect and MedML Guide* for information about how to set up a trial and the Reporting and Analysis module.

Audience

This guide is for database and system administrators who are responsible for installing and configuring the InForm software and the Cognos 10 Business Intelligence software.

Where to find the product documentation

The product documentation is available from the following locations:

- My Oracle Support *(https://support.oracle.com)* — Release Notes and Known Issues.
- Oracle Help Center *(https://docs.oracle.com/health-sciences/)* — The most current documentation set.

Documentation accessibility

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

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support or Support Cloud. For information, visit *http://www.oracle.com/us/support/contact/health-sciences-cloud-support/index.html* or visit *http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs* if you are hearing impaired.

CHAPTER 1

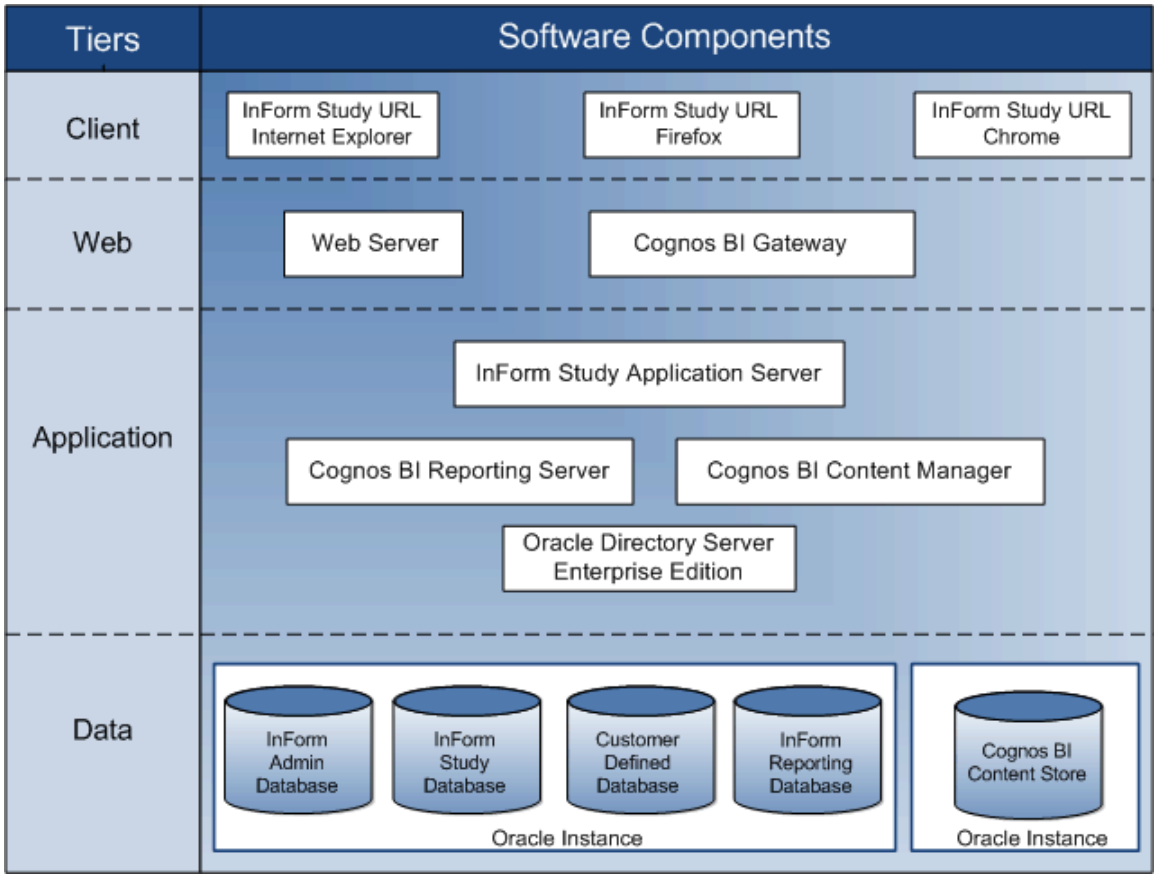
Preparing to install

In this chapter

InForm software components

Overview of the InForm system architecture

The InForm software is a four-tiered software design.



Tier	Software component hosted on the tier	Description
Client	Web browser	Displays the pages of a trial and receives user input.
Web	Web server and gateway software (MS-IIS)	Services requests to and from the web browser.
	Cognos 10 BI Gateway services	Provides secure access to the Cognos 10 Business Intelligence (Cognos 10 BI) Server.
Application	InForm Service	Handles trial-related requests for operating system services. There is one InForm Service per physical server machine.
	InForm trial application server	Logical server that acts as a transaction manager for InForm studies under the InForm Service. The InForm Server handles caching and Microsoft Transaction Server (MTS) packages. Each trial is associated with an InForm trial application server.

Tier	Software component hosted on the tier	Description
	Cognos 10 BI Report server	Handles reporting-related requests for operating system services. There is one Cognos 10 BI Service per physical server machine.
	Cognos 10 BI Content Manager	Logical server that acts as a transaction manager for the Reporting and Analysis module under the Cognos 10 BI Service. There is one Cognos 10 BI Server per physical server machine.
	Oracle Directory Server	Provides secure access to the Cognos system administration user.
Data	Oracle database instances for:	
	InForm trial database	Stores the trial components and the clinical data. Studies typically share an instance of Oracle with the InForm Admin database.
	InForm Admin database	Used by the InForm Service to manage all the studies on a physical machine. There is one InForm Admin database per InForm Service.
	InForm Reporting database	Stores views for Cognos Reporting through the Reporting and Analysis module. The InForm Reporting database can share an instance of Oracle with the InForm Admin and trial databases or can reside in a separate Oracle instance. In an installation in which Cognos Reporting is enabled, each InForm trial database has a corresponding InForm Reporting database.
	Cognos 10 BI Content Store	Stores user-created reporting objects such as folders, saved reports, and saved views. The Content Store usually occurs in a separate Oracle instance.

About the Cognos Private Gateway

If you install the Reporting and Analysis module, you must also install a Private Gateway. The Private Gateway provides secure access to certain Cognos 10 Business Intelligence software administrative tasks that are not available through the InForm user interface.

The Private Gateway must be located on a secure, dedicated server (the Cognos Private Gateway Server) that is accessible to a limited number of users with administrative privileges for the Cognos 10 Business Intelligence software. For more information, see Prepare the Cognos Gateway Server.

Application server options

You can distribute the software components across multiple application servers to best fit your environment. You can use one of the following deployment options:

- **Minimal server deployment**—Install the InForm software and the Reporting and Analysis module on the fewest possible number of servers.
- **Multiple server deployment**—Install the InForm software and the Reporting and Analysis module on multiple servers.
- **Distributed deployment**—Install the InForm software and the Reporting and Analysis module on separate servers.

Minimal server deployment

A minimal-server deployment requires four servers:

- InForm Application Server

  Note: In a development environment, the InForm software and the InForm Architect software would be installed on the InForm application server.

- A server that hosts the Cognos components and the Oracle Directory Server:
  - Report application
  - Content Manager
  - Gateway
  - Oracle Directory Server
- Private Gateway
- A server for all the database instances.

Multiple server deployment

In a multiple server deployment, the InForm Server, the Cognos 10 Business Intelligence Server, and the trial and reporting databases are on at least six separate server machines that conform to InForm hardware and software requirements.

For example, a multiple server deployment might include eight server machines configured as follows:

- One Cognos Gateway Server machine.
- One Cognos Private Gateway Server machine.
- One Cognos server machine containing the:
  - Cognos Report server.
  - Cognos Content Manager server.

- One InForm Application server machine.
- One Oracle Directory Server machine.
- Three dedicated Oracle database server machines:
  - InForm trial.
  - InForm Reporting.
  - Cognos 10 BI Content Store.

Note: The InForm application server(s) and the Cognos 10 BI application server(s) must be in the same domain.

Distributed server deployment

In a distributed server deployment, the InForm Application Server, the Cognos Report Server, the Cognos Content Manager Server, the Cognos Gateway Server, the Oracle Directory Server, and the trial and reporting databases are on separate server machines that conform to InForm hardware and software requirements.

For example, a distributed server deployment might include at least nine server machines configured as follows:

- One InForm Application server machine.
- One Cognos Gateway Server.
- One Cognos Private Gateway Server
- One Cognos Report Application Server.
- One Cognos Content Manager Server.
- One Oracle Directory Server machine.
- Three dedicated Oracle database server machines:
  - InForm database instance.
  - InForm reporting database instance.
  - Cognos 10 BI Content Store database instance.

Database configuration options

You can use different configurations for your database instances when you install the InForm software. You can:

- Install the InForm database and the InForm reporting database are installed on a single database instance.
- Install the InForm database and the InForm reporting database are installed on separate database instances.
- Configure the database instances to distribute tablespaces across multiple database servers. For more information, see *Multiple trial tablespaces* (on page 30).

Single database instance for InForm and Cognos reporting software

In a development environment, you can install the InForm software and the Reporting and Analysis module in the same database instance.

Observe the following architecture rules when setting up a single database instance for the InForm software and the Reporting and Analysis module:

- Only one reporting environment is allowed per trial schema.
- A single database can hold multiple reporting schemas.
- The trial and reporting schema cannot be installed in the same database as the Content Store database for Cognos 10 Business Intelligence. No other Oracle products, such as the CIS software or the Clintrial software, should already reside in or be added to the trial and reporting database.
- The InForm trial and reporting database is not required to run in archive log mode.

Separate database instances for InForm and Cognos reporting software

In a production environment, you should install the InForm and Cognos reporting software in separate database instances for performance reasons. You could use separate database instances for each of the following:

- Each InForm server, which contains one InForm Admin schema and multiple InForm trial schemas.
- InForm Reporting schema.
- Cognos 10 BI Content Store schema.
- Custom Authentication Provider schema

> **Note:** The Custom Authentication Provider schema can reside in a separate instance or the same instance as the Cognos 10 BI Content Store schema.

Observe the following architecture rules:

- You must install the Reporting and Analysis environment (InForm Reporting database) in a different database instance than the instance for the trial.
- The InForm application server(s) and the Cognos 10 BI application server(s) must be in the same domain.
- The Oracle user name for the reporting schema in the reporting database instance must be the same as the Oracle user name for the trial schema in the trial database instance. Because the users are in different database instances, the user names may have different passwords.
- Only one reporting environment is allowed per trial schema.
- A single reporting database can hold multiple reporting schemas. The trial schemas that are associated with these reporting schemas might exist in one or in multiple trial databases.
- The trial and reporting schemas cannot be installed in the same database as the Content Store database for Cognos 10 Business Intelligence. No other Oracle products, such as the CIS software or the Clintrial software, should already reside in or be added to the trial and reporting database.
- The trial schema must be created with archive log mode enabled.

  For more information, see *Verifying Archivelog mode in the trial database in a multiple database environment* (on page 130).

Distributed deployment options

You can distribute your trial and reporting databases across multiple disk partitions on the same server or multiple database servers. For more information, see *Multiple trial tablespaces* (on page 30).

Externally hosted trials

Externally hosted studies must conform to the following requirements, or authentication issues will result.

- The InForm application server(s) and the Cognos 10 BI application server(s) must be in the same domain.
- You must use the fully qualified domain name to access the site.

Determining resources for multiple trials

You can install one or more studies on an InForm application server or on a physical server. Because all trials are different and have their own combinations of sites, users, patients, and forms, specifics for setting up trials on servers cannot be given in documentation.

The Administrator (System Administrator and Database Administrator) should monitor the server usage and resources (metrics) to determine the demands that are placed on it, and use that information to decide how much a specific server can handle.

When deciding the load that you will place on a server, consider the:

- Number of InForm application servers on each physical server.
- Number of trials on each InForm application server.

  Note: It is recommended that you install only one trial per InForm application server in a production environment.

- Size of the intended InForm application server (each server needs 40 to 50 megabytes of memory).
- Number of trials you intend to run on the server computer.
- System availability requirements.
- Geographic proximity of sites to the server.

Guidelines for determining resources

Follow these basic guidelines for determining resources:

- Use separate server computers for production trials and trials that are used for testing and training.
- Consider using one server computer for multiple smaller trials (especially Phase 1 trials) that are in separate InForm application servers.
- Use a separate server computer for each large trial (especially Phase 3 trials). Although multiple servers may require additional resources and additional cost, they also provide increased dependability and stability.

  Separate server computers can reduce risk. If you have more than one trial on a server computer and make an error in setup or configuration, all the trials on that server are affected.

Sizing the server

When sizing an InForm application server, be aware of the resources that are already being used. Make sure that you monitor the server(s) during the trials.

When sizing your server, consider the average number of:

- Sites.
- Patients per site.
- CRFs.
- Data items.
- Users.

For each trial, consider the:

- GCP status of the trial (GCP or non-GCP).
- Phase that the trial is in (1, 2, 3).
- Duration of the trial.
- Enrollment rate.
- Geographic proximity of server(s) to sites.
- System availability requirements.
- Number of sites.
- Number of users.
- Number of patients.
- Number of unique forms.
- Maximum number of items per form.
- Average number of items per form.
- Maximum number of rules per form.
- Average number of rules per form.
- Total number of forms per patient.

Configuring client computers

Browser settings for Internet Explorer

Configure the following Internet Explorer settings to access the InForm application and the Reporting and Analysis module.

- Specify the preferred browser language.
- To view reports in Microsoft Excel format:
  - Set the InForm web site domain and the Reporting and Analysis web site domain as trusted sites.
  - Enable automatic prompting for file downloads.
  - Enable notifications when downloads complete.
- Configure pop-up blocking to allow pop-ups for the InForm web site domain and the Reporting and Analysis web site domain.
- Prevent automatic password completion.
- Specify that you want to save encrypted files to disk.
- Automatically check for newer versions of stored pages.
- Set the amount of disk space to use to 6 MB.
- Set the HTTP settings to use HTTP 1.1.
- Set the Security options to useTLS 1.1 and higher..
- Enable printing background colors and images for graphics.
- Modifying security settings:
  - Allow META REFRESH.
  - Enable active scripting.
- Set up tabbed browsing to launch links in a new tab.

For more information, see the Internet Explorer online Help.

Browser settings for Firefox

Configure the following Firefox settings to access the InForm application and the Reporting and Analysis module.

- Specify the preferred browser language.
- Configure pop-up blocking to allow pop-ups for the InForm web site domain and the Reporting and Analysis web site domain.
- Prevent Firefox from using stored passwords.
- Set the Security option to use TLS 1.1 and higher.
- Modify security settings to accept cookies.
- Set up tabbed browsing to launch links in a new tab.

For more information, see the Firefox online Help.

Browser settings for Google Chrome

Configure the following Google Chrome settings to access the InForm application.

Google Chrome is not supported for Ad Hoc reporting and Cognos administration.

- Specify the preferred browser language.
- Configure pop-up blocking to allow pop-ups for the InForm web site domain and the Reporting and Analysis web site domain.
- Prevent Chrome from using stored passwords.
- Set the Security option to use TLS 1.1 and higher.
- Modify security settings to accept cookies.
- Set up tabbed browsing to launch links in a new tab.

For more information, see the Chrome online Help.

Windows Explorer settings

Configure the following Windows Explorer settings to access the InForm application and the Reporting and Analysis module.

- Make sure the files with the XLS and XLSX extensions are not set to Browse in the same window.
- Associate files with the XLS and XLSX extensions with the Microsoft Excel spreadsheet software.

Performance Options setting in System Properties

If the InForm application server is also the database server for the trial database instance, you might receive errors that are related to cache initialization time when installing a trial if the system setting for **Processor scheduling** is not set to **Adjust for best performance of Programs**.

1 On the InForm application and database server, open the System Properties dialog box, and select **Advanced**.

2 In the Performance section, click **Settings**.

The Performance Options dialog box appears.

3 Click **Advanced**.

4 In the Processor scheduling section, click **Programs**.

5 Click **OK** in both dialog boxes.

Note: When the InForm application server and database server are different machines, the system setting for **Processor scheduling** in the System Properties > Performance Options dialog box should be the default value, **Background services.**

CHAPTER 2

Installing the Oracle database software

In this chapter

About installing the Oracle database software

To install the Oracle database software, refer to your Oracle database documentation.

To ensure a successful installation, make sure your environment is set up correctly. For hardware and software requirements, see the *Release Notes*.

CHAPTER 3

Configuring the Oracle database software

In this chapter

About configuring Oracle database software

You can install the InForm software on a production server or on development servers. Database configurations can vary depending on your environment.

Note: You must select the **WE8MSWIN1252** character set.

The following sections describe the different Oracle configurations. Because every installation has different needs, you must monitor and make changes as necessary to improve your installation performance and workflow.

To create an InForm database:

1 Read the *Setup parameters* (on page 17).

2 Create the necessary Oracle instances for the InForm software.

Note: You can create up to three instances (trial, reporting, and Cognos). Each instance is self-contained, with its own setup and requirements.

For more information, see ***Initialization parameters for database instances*** (on page 17).

3 Create the InForm tablespaces.

For more information, see *Multiple trial tablespaces* (on page 30).

4 Create the InForm administrator database account.

For more information, see *Creating InForm software database accounts* (on page 16).

5 Follow any additional steps recommended for production environments.

6 Configure the Oracle software.

7 Create and configure a reporting content store database for the InForm software.

Creating InForm database and accounts

A PFDBADMIN user must be created to install the InForm software and to set up trials on the servers. Oracle provides the InFormPrepORA.vbs script for this purpose. If you select the Prep Oracle checkbox in the InForm installation wizard, this script runs automatically during installation. This is the recommended way to create the PFDBADMIN user.

If you do not select the Prep Oracle checkbox in the InForm installation wizard, you must run the script manually.

Note: Creating the PFDBADMIN user needs to be performed only once per installation.

To run InFormPrepORA.vbs manually to create the PFDBADMIN user:

1 Open a Windows command prompt, and navigate to the folder where the script is located.

The script is located in the InForm\InstallSupport folder on the product CD-ROM or at the Oracle Download Site.

Note: If you are installing from a CD-ROM, copy the InFormPrepORA.vbs and InFormPrepORA.sql files to a folder on your hard drive.

2 To suppress popup messages, set scripting to **cscript**.

The default, **wscript**, shows **wscript.echo** as a popup, whereas **cscript** shows **wscript.echo** as a console message.

3 To suppress the popup messages, type:

```
cscript //H:cscript
```

4 To run the InFormPrepORA.vbs script, type:

```
InFormPrepORA.vbs <oracle_connection_string> <PFDBADMIN_UserID>
```

When prompted, enter:

- Password for the Oracle SYS user.
- Password for the pfdbadmin user.

The password for the Oracle SYS user

If you do not know the Oracle SYS user password, consult your DBA for assistance.

About the InForm Admin DB in a multi-tier environment

You can only have one InForm service per computer. When you install the InForm service on a new computer, you must create a unique InForm administrator database. There must be a one-to-one relationship between each InForm service and each InForm Admin database.

During the installation of the InForm software, you are prompted to create the InForm Admin database. Type a unique name for the InForm AdminDB user ID and password.

Note: Oracle recommends that you use the application server name appended to **admindb** for the InForm Admin UID for a multi-tier installation.

If you choose not to create the **admindb** at the time of installation, you must create the AdminDB schema manually.

For more information, *Installing or re-installing the InForm Admin database after the initial installation of InForm* (on page 73).

Setup parameters

You must verify the parameters and set up the appropriate instances.

Initialization parameters for database instances

Depending on your environment, you may need one, two, or three database instances (the trial, the Reporting and Analysis module, and Cognos 10 BI each need one).

When creating an InForm Oracle Instance, use the following initialization parameters in the Init.ora

file.

For more information, see the Oracle Database documentation.

Note: Additional parameter settings are required if your installation includes Cognos 10 BI and the Reporting and Analysis module and your trial and reporting databases are in separate database instances.

For more information, see ***Adding and modifying trial database parameters in a single database environment*** (on page 19) or ***Adding and modifying trial database parameters in a multiple database environment*** (on page 22).

Parameter	Value	Notes
db_block_size	8192	If the database will be used for reporting set this to 16384.
db_files	250	Controls the number of operating system files the database will manage. In large installations this parameter may need to be set higher. Changes to this parameter requires cycling the database forcing application down time.
deferred_segment_creation	FALSE	Required due to limitations of import/export.
processes	500	
open_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
session_cached_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
global_names	TRUE	
streams_pool_size	N/A	Set if streaming is in use to a separate reporting database. 200M is the minimum value required.

Parameter	Value	Notes
memory_target	Set to maximum of memory available to Oracle. Available memory on a dedicated server is all memory except the amount needed for the Operating System.	Setting this parameter instructs Oracle to use automatic memory management. This is the recommended best practice. For mega trials, manually allocating memory may provide better performance.
sga_target	Only use this parameter for mega trials. Set to a portion of memory_target to ensure a minimum allocation for sga. **Note:** Do not allocate more than 80% of memory_target to sga_target.	sga_target is only recommended to be used on mega trials as a minimum memory setting in combination with memory_target. In general it is recommended to use memory_target alone.
workarea_size_policy	auto	
_job_queue_interval	N/A	Set if streaming is in use for a separate reporting database.
log_archive_dest	Defaults to $ORACLE_HOME/dbs InForm recommends this be changed to $ORADATA/ARCHIVE	The placement of archive logs is determined by available disk space on the server. It is recommended the default value for this parameter not be used to facilitate database maintenance.
pga_aggregate_target	3 GB minimum	You may need to increase this value for large studies.
_optimizer_cost_based_transformation	LINEAR	For optimal performance, use the default value for this parameter in Oracle 11g.
_push_join_predicate	TRUE	For optimal performance, use the default value for this parameter in Oracle 11g.

Adding and modifying trial database parameters in a single database environment

The Reporting and Analysis module requires some trial database parameter adjustments.

Parameter	Value	Notes
db_block_size	16384	If the database will be used for reporting set this to 16384.

Parameter	Value	Notes
db_files	250	Controls the number of operating system files the database will manage. In large installations this parameter may need to be set higher. Changes to this parameter requires cycling the database forcing application down time.
deferred_segment_creation	FALSE	Required due to limitations of import/export.
processes	500	
open_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
session_cached_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
global_names	TRUE	
streams_pool_size	N/A	Set if streaming is in use to a separate reporting database. 200M is the minimum value required.
memory_target	Set to maximum of memory available to Oracle. Available memory on a dedicated server is all memory except the amount needed for the Operating System.	Setting this parameter instructs Oracle to use automatic memory management. This is the recommended best practice. For mega trials, manually allocating memory may provide better performance.
sga_target	Only use this parameter for mega trials. Set to a portion of memory_target to ensure a minimum allocation for sga. **Note:** Do not allocate more than 80% of memory_target to sga_target.	sga_target is only recommended for use on mega trials as a minimum memory setting in combination with memory_target. In general it is recommended to use memory_target alone.
workarea_size_policy	auto	
_job_queue_interval	N/A	Set if streaming is in use for a separate reporting database.

Parameter	Value	Notes
log_archive_dest	Defaults to $ORACLE_HOME/dbs InForm recommends this be changed to $ORADATA/ARCHIVE	The placement of archive logs is determined by available disk space on the server. It is recommended the default value for this parameter not be used to facilitate database maintenance.
pga_aggregate_target	3 GB minimum	You may need to increase this value for large studies.
_optimizer_cost_based_transformation	LINEAR	For optimal performance, use the default value for this parameter in Oracle 11g.
_push_join_predicate	TRUE	For optimal performance, use the default value for this parameter in Oracle 11g.

Adding tablespaces to the trial database in a single database environment

You can create up to five optional tablespaces in the trial database in a single database environment. If you do not create optional tablespaces, use an existing tablespace to store trial objects that are needed for reporting.

The default installation puts all reporting objects into the same tablespace. To do this, expand the size of the trial tablespace by four times the trial size (or create a new one at four times the trial size) and set the **trial_default_ts** variable in **configsamedb.sql** to this tablespace name.

The optional tablespaces below allow for the separation of trial objects that are needed for reporting from the rest of the InForm trial objects.

Tablespace name	Initial size/ Autoextend size needed	File extent size/ file maximum size	Required	Comments
Chosen by customer **Example:** *trial*_table_ts	Calculate initial size needed at: (2 * pf_comment table size) + (2 * pf_controldata table size) + (1 * pf_resourcedata table size) + (1 * pf_rules table size).	Chosen by customer. The size of these tables grow as the trial size grows.	Optional	Holds trial tables that are used for reporting. Corresponds to the variable trial_table_ts variable in the Configsamedb.sql file.

Tablespace name	Initial size/ Autoextend size needed	File extent size/ file maximum size	Required	Comments
Chosen by customer **Example:** *trial*_index_ts	Calculate initial size needed at: (2 * pf_comment primary key index size) + (2 * pf_controldata primary key index size) + (1 * pf_resourcedata primary key index size) + (1 * pf_rules primary key index size).	Chosen by customer. The size of these tables grow as the trial size grows.	Optional	Holds trial table indexes that are used for reporting. Corresponds to the variable trial_index_ts variable in the Configsamedb.sql file.
Chosen by customer **Example**: rep_mv_ts	Three times the size of the trial.	Chosen by customer. The size of the materialized views grows as the data in the trial grows.	Optional	Stores the materialized views. Also holds materialized view logs and indexes that are created on the materialized views. Corresponds to the variable rep_mv_ts in the Configsamedb.sql file.
Chosen by customer **Example:** rep_index_ts	One-half the size of the trial.	Chosen by customer. The size of the indexes grow as the trial indexes grow.	Optional	Stores indexes created on reporting tables. Corresponds to the variable rep_index_ts in the Configsamedb.sql file.
Chosen by customer **Example:** rep_mvlog_ts	25M.	Chosen by customer.	Optional	Stores materialized view logs that are created on reporting tables. Corresponds to the variable rep_mvlog_ts in the Configdiffdb.sql file.

Adding and modifying trial database parameters in a multiple database environment

The Reporting and Analysis module requires you to add or modify some trial database parameters. Below is a list of adjustments that must be made to these parameters. All settings are necessary for both production and development servers. Oracle recommendations are taken from the *Oracle Note: 418755.1 - Streams Recommendations*.

The database character set chosen *must be a single-byte character set*. Double-byte and Multi-byte character sets are not supported. The database character set for the reporting database *must* be the same as the trial database.

The trial database needs to be created with archive log mode enabled. If you create the database with scripts, specify ARCHIVELOG as a part of the CREATE DATABASE statement (see the Oracle

Database *SQL Reference* for more information about the CREATE DATABASE statement). If you create the database with the Oracle Database Configuration Assistant, on the Archive tab, select the Archive Log Mode checkbox during the Initialization Parameters step.

Note: For more information about the Oracle Database Configuration Assistance tool, see the Oracle Database *Administrator's Guide* for your platform. For more information on archive logging and other archive log parameters, see the information on *Managing Archived Redo Logs* in the Oracle Database *Administrator's Guide*.

Parameter	Value	Comments
compatible	11.2.0	
deferred_segment_creation	false	Oracle 11g only.
global_names	true	
job_queue_processes	See Comments.	1 job for each trial (the job to update PF_HEARTBEAT table every minute in each trial schema) and 1 job for propagation, plus streams' minimum requirement of 2 and Oracle MTS's requirement of 1)
log_archive_dest	Defaults to $ORACLE_HOME/dbs InForm recommends this be changed to $ORADATA/ARCHIVE	The placement of archive logs is determined by available disk space on the server. It is recommended the default value for this parameter not be used to facilitate database maintenance.
open_links	Four minimum.	Four minimum is recommended by Oracle for Streams. Add one for each reporting schema.
parallel_max_servers	10	Minimum: 3, dependent on the number of parallel apply and/or capture processes.
streams_pool_size	200M	Minimum value.
undo_retention	900 (minimum value)	See the Oracle *Streams Recommended Configuration* document on Metalink (reference below).
_job_queue_interval	1	Not required, but recommended by Oracle for Streams.
pga_aggregate_target	3 GB minimum	You may need to increase this value for large studies.
_optimizer_cost_based_transformation	LINEAR	For optimal performance, use the default value for this parameter in Oracle 11g.
_push_join_predicate	TRUE	For optimal performance, use the default value for this parameter in Oracle 11g.

Oracle recommends that you review the parameters below, which are not mandatory for the reporting installation.

Parameter	Review recommendation
processes	See the Oracle *Streams Recommended Configuration* document on Metalink (reference below).
sessions	For more information, see the Oracle *Streams Recommended Configuration* document on Metalink (reference below).

See the Oracle **Streams Recommendations** document - Note:418755.1.

Adding tablespaces to the trial database in a multiple database environment

The only tablespace below that is required for InForm Reporting and Analysis installation is the **STRMADMIN_TS** tablespace. The other three tablespaces are not required, but are highly recommended. If these tablespaces are not created, existing tablespaces must be used to store these objects.

The **SYSAUX** tablespace is used to store **LOGMNR** objects by default in the Oracle database. No tablespace needs to be created for Logminer objects.

The **SYSAUX** tablespace size and growth is influenced by a number of Oracle tools. The Streams capture process writes checkpoint information, among other things, to this tablespace. The checkpoint information can grow quickly depending on the settings which affect checkpoint retention and frequency. These can be adjusted as necessary.

The checkpoint retention time is an attribute of the capture process and can be changed with the **DBMS_CAPTURE_ADM.ALTER_CAPTURE** Oracle-supplied procedure. If the checkpoint retention time is changed, then the **capture_ckpnt_ret_time** variable setting in the **configaddsdiffdb.sql** file should also be changed. The default value for the "capture_ckpnt_ret_time" variable is 60 days, which is Oracle's default. The checkpoint frequency is a capture process parameter and is called **_CHECKPOINT_FREQUENCY**. This can be changed with the **DBMS_CAPTURE_ADM.SET_PARAMETER** procedure. See the *Oracle PLSQL Packages and Types Reference* and *Oracle Concepts and Administration* manuals for more information. Also see *Oracle Metalink Note: 418755.1* for Streams recommendations.

The **UNDO** tablespace size and growth are influenced by the **UNDO_RETENTION** database parameter setting (For more information, see the *Oracle 10.2 Streams Recommendations* document - **Note: 418755.1**.) and Streams needs in addition to normal InForm reporting operations. For information about the **UNDO_RETENTION** parameter and **UNDO** tablespace, see the Oracle Database *Administrator's Guide*.

Parameter	Value	Notes
db_block_size	16384	If the database will be used for reporting set this to 16384.

Parameter	Value	Notes
db_files	250	Controls the number of operating system files the database will manage. In large installations this parameter may need to be set higher. Changes to this parameter requires cycling the database forcing application down time.
deferred_segment_creation	FALSE	Required due to limitations of import/export.
processes	500	
open_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
session_cached_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
global_names	TRUE	
streams_pool_size	200M	Set if streaming is in use to a separate reporting database. 200M is the minimum value required.
memory_target	Set to maximum of memory available to Oracle. Available memory on a dedicated server is all memory except the amount needed for the Operating System.	Setting this parameter instructs Oracle to use automatic memory management. This is the recommended best practice. For mega trials, manually allocating memory may provide better performance.
sga_target	Only use this parameter for mega trials. Set to a portion of memory_target to ensure a minimum allocation for sga. **Note:** Do not allocate more than 80% of memory_target to sga_target.	sga_target is only recommended to be used on mega trials as a minimum memory setting in combination with memory_target. In general it is recommended to use memory_target alone.
workarea_size_policy	auto	
_job_queue_interval	1	Set if streaming is in use for a separate reporting database.

Parameter	Value	Notes
log_archive_dest	Defaults to $ORACLE_HOME/dbs InForm recommends this be changed to $ORADATA/ARCHIVE	The placement of archive logs is determined by available disk space on the server. It is recommended the default value for this parameter not be used to facilitate database maintenance.
pga_aggregate_target	3 GB minimum	You may need to increase this value for large studies.
_optimizer_cost_based_transformation	LINEAR	For optimal performance, use the default value for this parameter in Oracle 11g.
_push_join_predicate	TRUE	For optimal performance, use the default value for this parameter in Oracle 11g.

Disk space allocation guidelines

Setting up the database requires knowledge of resource and storage needs for each specific trial.

Disk space allocation depends on many factors, such as the:

- Number of sites.
- Number of patients.
- Number of forms.
- Timeline for trial milestones, such as enrollment, and visits, etc.

Note: Oracle strongly recommends using multiple disks for production servers. The more disks used, the better Oracle performance will be. Each trial should have its own set of tablespaces. This improves the maintenance and scalability of the trial. Database objects are strategically placed onto separate tablespaces to improve the performance of particular operations.

Calculation for db_files and maxdatafiles

The InForm tablespace alone is sufficient for development servers. For production servers, each InForm trial requires 12 tablespaces for tables and indexes, as determined by the following calculation:

```
N * 12 + INFORM + TEMPBIG + # of Non-InForm Tablespaces (System, RBS, etc.) =
number of tablespaces needed
```

where

- **N**—Number of trials.
- **INFORM**—Required InForm tablespace.
- **TEMPBIG**—Required temporary tablespace.

Note: You must set **maxdatafiles** during Oracle instance creation to a large enough value to accept the **db_files** parameter.

The **catalog.sql** and **catproc.sql** scripts must be run during instance creation, or you can use the Oracle Database Configuration Assistant. These scripts create all the necessary stored procedures and views for the InForm software. Remember to run these scripts for both the production and development environments.

These scripts can be found in:

```
%ORACLE_HOME%\RDBMS\ADMIN
```

Note: Oracle recommends running the UTLRP.SQL script after creating an Oracle instance.

Setting up Oracle XA transaction support

1 Select the **Prep Oracle** checkbox, during the installation,.

For more information, see *Running the InForm software installation* (on page 41).

Or

Run the **mtsora102.vbs** script during or after the Oracle installation, using the following syntax:

```
MTSORA102.vbs <OracleConnectionString> [OracleClientHomeKey]
```

For example, **MTSORA102.vbs dev1 KEY_OraClient11g_CLIENT1**.

When prompted, enter the password for the Oracle database SYS user.

You must run the mtsora102.vbs script only if you are manually setting up XA Transaction Support.

Note: In a multi-tier environment, select the Prep Oracle checkbox during the InForm installation on each InForm application server, and run mtsora102.vbs script on each InForm database server. Restart the server if the script changes any of the MSDTC\Security or MSDTC\XADLL registry keys.

The MTSORA112.vbs file does the following:

a Runs the XAVIEW.sql script as SYS to create the V$XATRANS$ view:

```
%ORACLE_HOME%\RDBMS\ADMIN\XAVIEW.SQL
```

b Grants SELECT access to the public on these views:

```
Grant Select on V$XATRANS$ to public.
Grant Select on sys.dba_pending_transactions to public.
```

c Modifies the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSDTC\MTxOCI registry keys:

```
"OracleXaLib"= "oraclient11.dll"
"OracleSqlLib" = "orasql11.dll"
```

```
"OracleOciLib" = "oci.dll"
```

d Modifies the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSDTC\Security for registry keys:

```
"NetworkDtcAccess"=dword:00000001
"NetworkDtcAccessAdmin"=dword:00000001
"NetworkDtcAccessTransactions"=dword:00000001
"XaTransactions"=dword:00000001
"NetworkDtcAccessOutbound"=dword:00000001
"NetworkDtcAccessInbound"=dword:00000001
```

e Modifies the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSDTC\XADLL registry key:

```
"mtxoci.dll"="C:\\WINDOWS\\system32\\mtxoci.dll"
```

2 Run the **oramtsadmin.sql** command from the ...\oramts\admin folder of the Oracle Client home (where Oracle Services for Microsoft Transaction Server was installed).

You must run it as the SYS user with the SYSDBA role. Run the script against all Oracle instances connected to the InForm Application Server.

Creating Cognos 10 BI database and accounts

1 Make sure that an Oracle database instance is set up.

2 Verify the connection string in the tnsnames.ora file.

3 Create a database to store the content for Cognos 10 Business Intelligence.

For more information, see your Cognos documentation.

Note: Pay special attention to the Unicode character set Cognos recommends as this cannot be changed after the database is created.

After creating the database:

1 Create a tablespace called CONTENT with 100M initial size, autoextend on and 50M increment extension.

2 Create a user called **CBI** and grant the user the following privileges:

- Roles
  - CONNECT
  - RESOURCE
- Privileges
  - CREATE ANY TABLE
  - CREATE TABLE
  - CREATE ANY VIEW
  - UNLIMITED TABLESPACE

3 Make sure that the instance can be seen by the Cognos server. (Aliases for database instances and their connection information are in tnsnames.ora.)

4 Make sure that the Content Store database is Unicode.

Note: Make sure that the **ojdbc6.jar** file has been copied from the **ORACLE_HOME\jdbc\lib** folder to the **<Cognos_location>\webapps\p2pd\WEB-INF\lib** folder:

Creating a database schema for the Cognos Authentication Provider (CAP)

If you plan to install Cognos Reporting, you must create a database schema for the Cognos Authentication Provider (CAP). The purpose of this database schema is to store trial-to-authentication URL information. This schema can reside in the content store database instance or a separate database instance.

1 Set up an Oracle database schema.

2 Create a table to store the URL information for CAP.

3 Ensure that the database schema will be available from the trial server and the Cognos 10 BI server.

4 Update the tnsnames.ora file located on the application server to contain an alias establishing a connection to the database server.

Configuring the database for the Cognos Authentication Provider

1 Create the user PFCapAdmin and grant the user these roles:

- Roles
  - CONNECT
  - RESOURCE
- Privileges
  - ALTER SESSION
  - CREATE DATABASE LINK
  - CREATE SEQUENCE
  - CREATE SESSION
  - CREATE SYNONYM
  - CREATE TABLE
  - CREATE VIEW
  - UNLIMITED TABLESPACE

2 Run the create_cap_table.sql script (located in the <*Installation_Directory*>\InForm\bin\DBOra folder) to create a table called TRIAL_URLS within this user/schema.

For more information, see ***Scripts*** (on page 174).

Note: The CAP schema can reside in the content store database instance or a separate database instance.

3 Validate the database connection from the Cognos 10 BI server by typing:

```
sqlplus <contentuser_userid>@<tnsnames_alias>
```

When prompted, enter the password for the content user.

If the test is successful, a SQL prompt appears, showing that you have logged on to the database server as the PFCapAdmin user. An unsuccessful test generates an ORA- error. Consult your database administrator for help in troubleshooting errors.

Multiple trial tablespaces

By default, all trial objects are created in the INFORM tablespace. In production, you should distribute each trial across multiple tablespaces for improved performance and for maintenance and monitoring. Before you install your trial on a production server, set up the trial-specific tablespaces.

The following table lists the Oracle table and index tablespaces to create, along with the required parameters. All tablespaces should be locally managed.

Table tablespace	Index tablespace	Size (MB)
%TRIAL_NAME%_REF	%TRIAL_NAME%_REF_IDX	120
%TRIAL_NAME%_HIGH_TXN1	%TRIAL_NAME%_HIGH_TXN1_IDX	300
%TRIAL_NAME%_HIGH_TXN2	%TRIAL_NAME%_HIGH_TXN2_IDX	500
%TRIAL_NAME%_HIGH_TXN3	%TRIAL_NAME%_HIGH_TXN3_DX	600
%TRIAL_NAME%_HIGH_TXN4	%TRIAL_NAME%_HIGH_TXN4_IDX	500
%TRIAL_NAME%_TXN	%TRIAL_NAME%_TXN_IDX	250

The remaining syntax for each of these tablespaces is:

```
AUTOEXTEND ON NEXT 50M
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

Note: The TRIAL_NAME portion of the tablespace name must conform to Oracle name standards. It cannot start with a numeric character and cannot contain special characters. Additionally, because the Oracle software has an internal limitation of 30 characters for a tablespace name, the trial name must be 16 characters or fewer.

Oracle provides sample configurations for distributing your tablespaces using one disk to five disks.

Distributed InForm trial tablespaces

In a production environment, Oracle recommends distributing tablespaces across multiple disks. This table presents a suggested model. In each configuration, it is recommended that you use the C: partition for the operating system and distribute the database and application components across the remaining partitions. Monitor your system to determine the optimal configuration.

Note: For production systems, Oracle does *not* recommend using a single server for both the InForm core software and the trial database.

- C: and D: are partitions on one disk.
- INFORM, SYSTEM, TEMPBIG are tablespaces.

Physical disks	0		1	2	3	4
Logical disks	C:	D:	E:	F:	G:	H:
1 disk	Windows 2008 or 2003	Oracle INFORM SYSTEM Trial Tables Trial Indexes TEMPBIG Redo logs UNDOTBS Archive logs				
2 disks	Windows 2008 or 2003	Oracle INFORM SYSTEM Trial Tables Redo logs	Trial Indexes TEMPBIG Redo logs UNDOTBS Archive logs			
3 disks	Windows 2008 or 2003	Oracle INFORM SYSTEM Redo logs	Trial Indexes TEMPBIG Redo logs UNDOTBS Archive logs	Trial Tables		
4 disks	Windows 2008 or 2003	Oracle INFORM SYSTEM Redo logs	TEMPBIG Redo logs UNDOTBS Archive logs	Trial Tables	Trial Indexes	
5 disks	Windows 2008 or 2003	Oracle SYSTEM Redo logs	INFORM Redo logs UNDOTBS	Trial Tables	Trial Indexes	TEMPBIG Archive logs

Creating the INFORM_LOB tablespace

The INFORM_LOB tablespace is optional for InForm installation. To create the INFORM_LOB tablespace, use the following syntax:

```
CREATE TABLESPACE INFORM_LOB
DATAFILE '<path_to_reporting_data_file>' SIZE <initial_size>
AUTOEXTEND ON NEXT <file_increment>
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

Tablespace name	Initial size/ autoextend size needed	File extent size/file maximum size	Comments

INFORM_LOB	200M	Make the initial size 200 megabytes, set AUTOEXTEND on and set MAXSIZE to UNLIMITED.	Use of this tablespace is optional, but, if used, the name INFORM_LOB is required for this tablespace. This tablespace can be used to hold large objects.

InForm servers and trials

For production servers, it is better to associate each trial with its own InForm server. This setup is helpful because if you ever have to stop an InForm server, you will be affecting only one trial.

CHAPTER 4

Installing and configuring the Oracle database client

In this chapter

Steps to install and configure the Oracle database client

1 Install the Oracle database client on the:

- InForm Application Server
- Cognos Content Manager Server
- Cognos Report Server

For more information, see your Oracle database documentation.

2 Update the registry settings on each server where you installed the Oracle database client.

For more information, see *Update the National Language Support registry settings on the Oracle database client* (on page 35).

3 Configure the database connection.

For more information, see *Configure a database connection* (on page 36).

4 Validate the database connection.

For more information, see *Validate the database connection* (on page 37).

Update the National Language Support registry settings on the Oracle database client

The NLS_LANG registry setting is required for the Oracle client home on the InForm Application Server, the Cognos Report Server, and the Cognos Content Manager Server.

The HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\<*Oracle_client_home_key*> **NLS_LANG** registry setting must be set to **AMERICAN_AMERICA.WE8MSWIN1252**.

Configure a database connection

To configure the Oracle Client on the application server to connect with the database server, update the **tnsnames.ora** file located on the application server to contain an alias establishing a connection to the database server.

Note: When installing the InForm software, you enter the alias specified in the **tnsnames.ora** file as the database connect string.

For more information, see *Validating the database connection* (see "*Validate the database connection*" on page 37).

Validate the database connection

To validate the database connection from the application server:

- Type the following statement at the Windows command prompt:
  sqlplus <*pfdbadmin_user***>@***tnsnames_alias***

  When prompted, enter the password for the pfdbadmin user.

CHAPTER 5

Installing the InForm core software

In this chapter

About the InForm core software installation

The InForm core software installation process installs:

- The InForm Service.
- The InForm trial and Admin databases.

Running the InForm software installation

Installing the InForm software

1 Download and extract the InForm software from the Oracle Download Center.

2 Navigate to the location of the installation files on the downloaded image, and double-click **setup.exe**.

The Preparing Setup window appears, followed by the welcome screen.

3 Click **Next**.

The Customer Information window appears.

4 Type your **User Name** and **Company Name** in the appropriate fields and click **Next**.

The Choose Destination Location window appears.

5 Accept the default location, or click **Change** and browse to the new location.

6 Click **Next**.

The Select Features window appears.

7 To see the list of products available for installation, expand the **InForm** node.

The core InForm software installation includes sample trials.

To install the InForm Architect software, select the **Architect** checkbox.

The **Documentation** checkbox is automatically selected.

Note: Typically, you should not install the InForm Architect software in a production environment. In a development environment, you can install the InForm Architect software on the same server as the InForm software.

8 Click **Next**.

The Select the Oracle Home for InForm window appears.

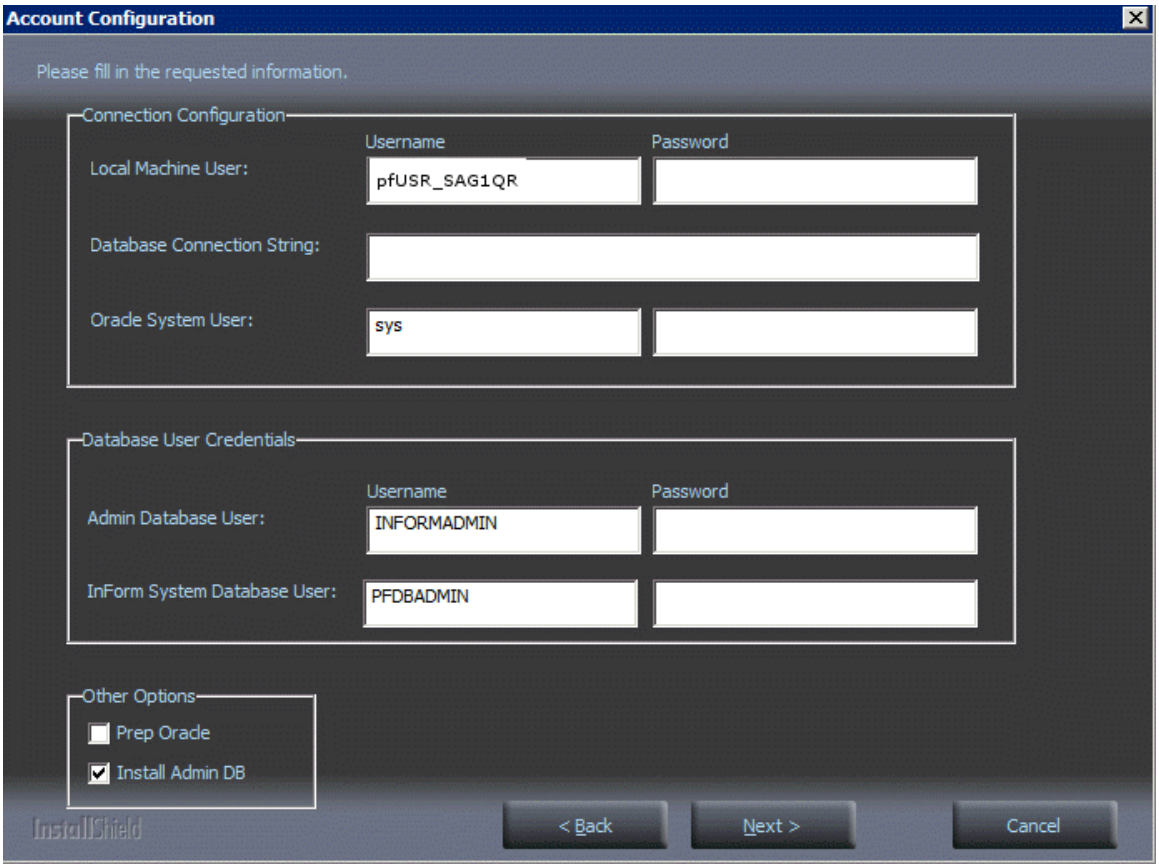
The Oracle Home that you configured during your Oracle client installation appear in the window with the prefix **KEY_** to indicate the Windows registry key.

9 Select the entry for the Client Oracle Home registry key.

10 Click **Next**.

The Database Configuration window appears.

Note: The defaults on this window were set when you configured the Oracle software. The values for your installation may be different.



11 Enter values for the following configuration fields:

Field	Description
Local Machine User	The name of the local machine user. The default is pfUSR_<*machinename*>.
Local Machine User Password	The password for the local machine user. **Note:** The password for the local machine user must comply with the password requirements defined in your domain password policy.
Database Connection String	String that the InForm server uses to connect to the Oracle instance for the trial.
Oracle SYS DBA User	The name of the Oracle SYS account. This value is only used if you select the **Prep Oracle** checkbox to create the pfdbadmin account.
Oracle SYS DBA Password	Password of the Oracle SYS account. This value is used only if you select the Prep Oracle checkbox to create the pfdbadmin account.
Admin Database Username	User name that is required to access the Admin database.
Admin Database Password	Password that is required to access the Admin database. The password is case-sensitive. Do not include a hyphen (-) character in the password.

Field	Description
InForm System Username	User name for the trial database. If this is a new InForm installation or if you change the user name from the default during the installation, select the **Prep Oracle** checkbox. This instructs the InForm software installation to create the InForm account using the user name and password you specify.
InForm System Password	Password for the trial database. The password is case-sensitive. Do not include a hyphen (-) character in the password. **Note:** Oracle recommends that you change the InForm system password after installing the InForm software. For more information, see the *Secure Configuration Guide*.
Install Admin DB	If selected, creates the: • informadmin user, using the Admin Database Username and Admin Database Password. • InForm Admin database for non-clinical data, such as users, sites, and configuration information. **Note:** You must select this checkbox for both installation and upgrades.
Prep Oracle	If selected: • Runs the **informprepora.vbs** script, which creates the trial database user, using the InForm System Username and InForm System Password. • Runs the **mtsora102.vbs** script, which sets up Oracle XA Transaction Support and sets the MTS Timeout to a minimum of 300 seconds. If not selected: • Verifies the trial database user and password. **Note:** You need to select the **Prep Oracle** checkbox only the first time you install the InForm software on an instance.

12 Click **Next**.

The Ready to Install the Program window appears.

13 Click **Install**.

The Setup Status window appears, and the progress of the installation is indicated on the screen.

The **Oracle InForm 4.6 Reboot** window appears. You must reboot the system if any of the following are true:

- ODAC was upgraded during the installation process.
- The PATH environment variable was modified.
- The installation tried to access a locked file.

14 Select **Yes** or **No** to indicate whether you want to reboot.

15 Click **Finish**.

After rebooting, the final configuration process begins.

When the system is finished, the **InstallShield Wizard Complete** window appears.

16 To exit the wizard, click **Finish**.

CHAPTER 6

Setting up and removing InForm trials

In this chapter

Installing InForm trials

1 Create an InForm application server, or decide which existing application server to associate with the trial.

2 Create the trial.

3 Install the base trial components that are provided with the InForm software.

4 Components specific to the trial.

About installing trials

Before you install any trial, you need to create the InForm application server. After the InForm service is started, you can create an application server for a trial manually or by using a script.

InForm service

The InForm service must be started to create the application servers and load trials. To start or stop the InForm service, you must be a local administrator for the computer on which you are installing the trial.

InForm application servers

Every InForm trial must be associated with an InForm application server. Each application server can house one or more trials. For production servers, Oracle recommends associating each trial with its own application server in a one-to-one relationship.

Before creating a trial, you must do the following:

1 Start the InForm service.

2 Create an InForm application server.

Note: During the installation of a trial, the InForm software creates a virtual Web directory with the same name as the trial name. When choosing a trial name, make sure that you do not already have a virtual Web directory with the same name.

InForm trial installation tools

Install InForm trials through the command prompt using the following commands:

- **pfadmin setup trial**—Sets up an InForm server and a trial in a production or development environment.
- **dbsetup**—Installs the Base trial components into the new trial that you set up with the pfadmin setup trial command.

The MedML Installer tool installs trial-specific components into the new trial that you set up with the pfadmin setup trial command.

Base components

The InForm sample trial and any trials you might create and install using the InForm Architect application, need the following Base component elements:

- System resources, including images and HTML files used throughout the InForm application.
- System configuration settings.
- Predefined rights and default rights groups.
- Default query group.
- Predefined administrative users with rights to perform user administration tasks.
- Default numeric sequences for screening, enrollment, and randomization numbers.
- System form definitions (for example, definitions of Comment, Data Value(s), Query, Audit Trail, and administrative windows).

The Base components are the foundation on which the rest of the trials are built.

Before you install any trial, you need to create the InForm application server. After the InForm service is started, you can create a server for a trial manually, or by using a script. Instructions for both methods are included.

Note: During the installation of a trial, the InForm software creates a virtual web directory with the same name as the trial. When you choose a trial name, make sure that you do not already have a virtual web directory with the same name.

Sample trials

The InForm software includes the components of sample trials that you can install to familiarize yourself with the software and the types of trial components that are available. During the InForm software installation you can select the sample trials to install.

The PFST sample trial, which comes with the InForm software, includes only trial metadata. You can install this version by using an installation script to obtain a complete set of trial components, including sample users that enable you to log on and add patients and patient data.

The PFST45 sample trial, which comes with the InForm software, includes components that illustrate the features of this release. PFST45 comes in the following forms:

- **Trial metadata** in XML format. You can install this version by using an installation script to obtain a complete set of trial components, including sample users that enable you to login and add patients and patient data. For more information, see *Installing PFST45 trial using metadata in XML format (no sample data)* (on page 48).
- **An Oracle dump** consisting of Base and PFST45-specific trial components and a collection of patients and sample clinical data. This version, which is also fully functional with sample users, enables you to learn about InForm features and to run reports without having to add patients and patient data. You can install this version by using a set of Oracle and InForm commands. For more information, see *Installing PFST45 Trial using Oracle dump file (has sample data)* (on page 49).

The installation procedure for PFST45 trial metadata and PFST trial metadata is the same.

Installing PFST45 trial using metadata in XML format (no sample data)

To install either the PFST45 or PFST46 trial metadata, use the instructions below, and insert the release number of the trial you want to use.

For example, to install PFST45:

- Select **Start** > **Programs** > **Oracle Health Sciences** > **InForm 4.6.5** > **Install Sample Trial 4.5 for Oracle**.

The sample trial setup program:

- Starts the InForm service, if it is not already started.
- Creates an InForm application server.
- Creates the PFST45 trial, ODBC data source, and virtual web directory.
- Loads Base components.
- Loads PFST45-specific components.

To access PFST45 user information after the installation is complete:

1 Start the server and trial from a command prompt. Type:

```
pfadmin start server <servername>
pfadmin start trial pfst45
```

2 Activate the system user using the following command:

```
pfadmin setserver systempw pfst45
```

When prompted, enter the new password for the system user.

3 Log on with the user name **system**.

4 Click **Admin**.

The Users tab appears and displays a list of users.

The PFST45 sample trial includes the following users:

PI	CRC	CRA	CDM
• rrush	• mmeyer	• mlynch	• swilson
• awarren	• pparker	• awalsh	
• jsilverman	• dobrien	• lhill	
• mcarlson	• creilly		
• mdisilvio	• aortega		

Installing PFST45 Trial using Oracle dump file (has sample data)

The PFST45 sample trial includes an Oracle dump file containing Base and PFST45-specific trial components, and a collection of patients and sample clinical data. The procedure described in this section:

- Creates an Oracle user (trial database).
- Imports the dump file to the trial database.
- Sets up the InForm software application server and trial.

To import data into your PFST45 trial:

1 Open a command window.

2 Go to the <*install_directory*>\InForm\bin\DBOra folder.

3 Run **DropDB.cmd** (located in the <*Installation_Directory*>\InForm\Bin\DBOra folder) to create the database user to own the trial schema, using following syntax:

```
DropDB.cmd <TNS_Service_Name>
```

where:

- **TNS_Service_Name**—TNS name for the database instance.

You are prompted for the following values:

- **trial_user**—Owner of the trial schema created by the import.
- **trial_user_pass**—Password for the owner of the trial schema created by the import.
- **pfdbauid**—InForm database admin user.
- **pfdbapid**—InForm database admin password.

The Oracle user is dropped and recreated.

4 To import the data into the sample trial, go to the <*install_directory*>\InForm\Sample_PFST45\DUMP folder and type:

```
imp system@oracle_connection_string file=pfst45.DMP fromuser=pfst45uid
touser=pfst45uid buffer=999999
```

When prompted, enter the password for the database system user.

5 Run **updatec.sql** for each trial, using the following command and syntax:

```
SQLPLUS <pfdbadmin_username>@<trial_instance> @updatec.sql <trialuserid>
```

When prompted, enter the password for the InForm database administrator.

6 To set up the application server and the trial, type the following commands:

```
pfadmin setup server servername
pfadmin setup trial trialname servername /db oracle_connection_string
```

When prompted, enter the:

- Trial user ID.
- Password for the trial user.

```
pfadmin setserver site trialname computername
pfadmin setserver medmlinstaller trialname computername
```

7 To start the application server and trial, type:

```
pfadmin start server servername
pfadmin start trial trialname
```

8 Log on to the InForm trial.

Installing a trial designed with InForm Architect

When you have finished designing and developing the XML components for a trial, you can install the trial in a trial database.

Installing and setting up a trial

1 To install and set up the trial, at the Windows command prompt, type one of the following commands:

- If a trial DSN does not exist:

  ```
  pfadmin setup trial trialname servername /DB oracle_connect_string
  ```

- If a trial DSN already exists:

  ```
  pfadmin setup trial trialname servername /DSN trialDSN
  ```

  When prompted, enter the:

  - Trial user ID.
  - Password for the trial user ID.

2 To check the configuration, type:

```
pfadmin view service
```

The InForm application server and the trial appear.

3 Go to the <*install_directory*>\\InForm\bin\dbora folder and use one of the following commands:

- If your trial development team has created an RSP file that contains references to each XML component definition file to install, execute the following command, referencing the RSP file and the folder in which it is located:

  ```
  dbsetup trialname trial_folder\trialsetup_rsp_file
  ```

- If all trial components are not fully developed, you can use the following command to install the base components now, and then install the remaining components later.

  ```
  dbsetup trialname base
  ```

Starting the InForm service and trial

1 To start the InForm service from the command prompt, type:

```
net start pfservice
```

2 To verify that the service is running, type:

```
pfadmin view service
```

3 Select **Control Panel** > **Administrative Tools** > **Services**.

4 Verify that the following services are started:

- IIS Admin service
- InForm service
- World Wide Web Publishing service

5 To start the InForm Server, type:

```
pfadmin start server <servername>
```

6 To start the InForm trial, type:

```
pfadmin start trial <trialname>
```

Configuring the InForm authentication web service

If your trial includes the Reporting and Analysis module, you must configure the InForm authentication web service (AuthService).

Set the port number for the AuthService web service, using the following syntax for the pfadmin command:

```
pfadmin config webservice <trialname> AuthService ADD HTTP:<portnumber>
```

The InForm application uses this port to communicate with the Reporting and Analysis module to authorize InForm and reporting users. For example, to configure trial pfst113 to use port 14041 for the AuthService web service, use the following command:

```
pfadmin config webservice pfst113 AuthService ADD HTTP:14041
```

You can also use this command to configure an HTTPS port or an HTTPS port and an HTTP port:

```
pfadmin config webservice <trialname> AuthService ADD HTTPS:<portnumber>
cert:<certificateThumbprint>

pfadmin config webservice <trialname> AuthService ADD HTTP:<portnumber1>
HTTPS:<portnumber2> cert:<certificateThumbprint>
```

Verifying site time zone settings

- Run the checksitetimezones.vbs (located in the <*installation_directory*>\inform\bin\DBora folder) on the InForm application server using the following syntax:

  checksitetimezones.vbs <*connection_string*> <*trialdb_user*> <*output_filename*>

  When prompted, enter the password for the trial database user.

  For example:

  ```
  checksitetimezones.vbs trial1 pfst45uid sitetimes.txt
  ```

  The script reports on site time zone status in the file that you specify and also in a CSV file called Allsites.csv.

  Note: If the script finds any bad time zones, it changes the output file name you specified to **bad_**<*output_filename*>, for example, bad_sitetimes.txt.

Restricting access to a trial

1 Select **Start** > **Programs** > **Administrative Tools** > **Internet Services Manager**.

The Internet Information Services window appears.

2 Under the computer name listed, select the **Default Website** folder.

3 In that folder, right-click the name of the InForm trial.

4 Select **Properties**.

The Properties dialog box appears.

5 Select the **Directory Security** tab.

6 Change the settings for **IP addresses** and **Domain name restrictions** as appropriate.

Stopping an InForm trial

- At a command prompt, type:

  ```
  pfadmin stop trial <trialname>
  ```

Qualifying the installation

Qualifying the installation verifies that the trial was installed successfully. Qualifying does not test every aspect of the trial, but it does run through key administrative functions to make sure that the trial behaves as expected.

Qualification prerequisites

Before you begin the qualification process, you should:

1 Install the PFST45 sample trial.

For more information, see *Installing PFST45 trial using metadata in XML format (no sample data)* (on page 48).

2 Make sure that the trial is started, and that the server and trial are up and running.

For more information, see *Starting the InForm service and trial* (on page 52).

3 Use the following command to activate and set the password for the system user.

```
pfadmin setserver systempw
```

When prompted, enter the password for the system user.

4 Change the passwords for, **dobrien** and **lhill**:

a Login to PFST45 as **system**.

b Click **Admin**.

c For each user:

1 Click the user **Account Name**.

2 On the **Users** page, deselect the **User Active** checkbox.

3 Click **Submit**, and in the message box, click **OK**.

4 Click **Change Password**.

5 On the **Password Settings for User** page, type **InForm** in the **New password** and **Confirm new password** fields.

6 Click **Submit**, and in the message box, click **OK**.

7 Click **Return**.

8 On the **Users** page, select the **User Active** checkbox.

9 Click **Submit**, and in the message box, click **OK**.

5 Log off.

Qualification process tests

The qualification process consists of a set of tests that exercise the basic functionality of the InForm software. The tests are divided into Admin and CRC/CRA tests.

Admin - Users test

Pass/Fail	Step	Description
	1	Click the **Admin** button.
	2	Select each of the following tabs: **Users**, **Rights**, **Groups**, **Sites**, **Configuration**, **Events**, **Rules**, **System,** and **Synchronization**.
	3	Click the **Users** tab, and verify that the following users are active: • lhill • dobrien • mcarlson
	4	In the **Users** tab, click **Add User**.
	5	Type X in the **User Name** field, and fill in additional user information. Click **Submit**, and in the message box, click **OK**.
	6	Click **Return**. Verify that user X is shown in the list.
	7	Click **Properties** for user X. Assign a rights group and two user site associations. Click **Submit**, and in the message box, click **OK**.
	8	Click **Return**. Click any links for user X except **Properties**.
	9	Click **Change Password**. Give user X a password with six characters or more. Click **Submit**, and in the message box, click **OK**.
	10	Click **Return**. Select **Activate User**. Click **Submit**, and in the message box, click **OK**. Log off.
	11	Log on as user X, using the password assigned in Step 9. Click **Patients**. Verify that the **Sites** drop-down list contains only All Sites and the sites chosen in Step 7.

Admin - Rights test

Pass/Fail	Step	Description

Pass/Fail	Step	Description
	1	Select the **Rights** tab. Click **Add Rights Group**.
	2	Fill in new rights group information. Click **Submit**, and in the message box, click **OK**.
	3	Click **Return**. Verify that the rights group that you just created is in the list.

Admin - Sites test

Pass/Fail	Step	Description
	1	Select the **Sites** tab. Click **Add Site**. Type the new site information. Click **Submit**, and in the message box, click **OK**.
	2	Click **Return**. Verify that the site that you just created is in the list.

Admin - Groups test

Pass/Fail	Step	Description
	1	Select the **Groups** tab. Click **Add Group**. Select **Signature** from the **Group Type** drop-down list, and type the group information. Click **Submit**, and in the message box, click **OK**.
	2	Click **Return**. Verify that the signature group that you just created is in the list.
	3	Select the **Groups** tab. Click **Add Group**. Choose **Query** from the **Group Type** drop-down list, and enter group information. Click **Submit**, and in the message box, click **OK**.
	4	Click **Return**. Verify that the query group just created is in the list.

Admin - Users and Groups test

Pass/Fail	Step	Description
	1	Select the **Groups** tab. Click **Change** for the signature group that was created in the previous section.
	2	Select user **X** in the list on the right. Click **Add**.
	3	Verify that user X is in the list on the left. Click **Submit**, and in the message box, click **OK**.
	4	Click **Return**. Verify that the Member count column shows 1 (not 0) for the signature group.
	5	Select the **Groups** tab. Click **Change** for the query group that was created in the previous section.
	6	Click user **X** in the right-hand list. Click **Add**.
	7	Verify that user **X** is in the left-hand list. Click **Submit**, and in the message box, click **OK**.
	8	Click **Return**. Verify that the Member Count column shows 1 (and not 0) for the query group.

CRC / CRA tests

To perform the tests in this section, you need to have two browser sessions open, one as a CRC (**dobrien**) and the other as a CRA (**lhill**).

To run the CRC/CRA tests:

1 Open two browser windows, using the following URL:

```
http://computer_name/pfst45
```

2 Log on to one as **dobrien** (a CRC) and the other as **lhill** (a CRA).

As dobrien (CRC)

Pass/Fail	Step	Description
	1	Click **Enroll**. Click **Add Candidate**. A question window appears.

Pass/Fail	Step	Description
	2	Enter patient information. Click **Submit**.
	3	Click the **Screening Number** for the patient that was just entered. Edit one of the fields. Click **Submit**, and in the message box, click **OK**.
	4	Click **Return**. Verify that the field you edited is changed.
	5	Click **Enroll**.
	6	Enter the patient number (site ID followed by a hyphen and a 3-digit number). Click **Submit**. The System Enrollment page displays the heading **Patient Meets All Criteria for Enrollment in Study**.
	7	Click **Enroll**. Verify that a Patient Schedule page appears for the patient with a default baseline date of the current date.
	8	Change the start date in the Visit calculator. Verify that the associated dates are updated correctly.
	9	Click **Go To First Visit**.
	10	Complete the DOV form. Click **Submit**, and in the message box, click **OK**. The tabs for the first visit's forms appear. Click each of the forms in the first visit.
	11	View the Time and Events Schedule to check all visits for the new patient (click the up arrow where the timeline is shown).
	12	Click one of the traffic lights for the baseline visit (for example **DEM**). Enter data in the form. Click **Submit**, and in the message box, click **OK**.
	13	Click **Return**. Click the traffic light for the VS form. Enter a value of 200.5 degrees Fahrenheit in the Temperature item. Click **Submit**, and in the message box, click **OK**. Verify that an auto-query is generated. (The background for the question becomes pink and an error message is shown in red.)
	14	Add a comment to an item (by clicking the dialog bubble to the right). Click **Submit**, and in the message box, click **OK**.

Pass/Fail	Step	Description
	15	Change the **Temperature** value to 98.6. Click the cell that contains the item value and fill out the Data Value(s) form. Click **Submit**, and in the message box, click **OK**.
	16	Verify that the auto-query is answered. The background for the question changes from pink to gray.
	17	Click any tab for the patient. Select **Mark SV Ready** from the **Select Action** list and click **Do**.
	18	Click the **DEM** tab for the patient. Select **Mark SV Ready** from the **Select Action list** and click **Do**. Verify that the report shows. Click **Print**.
	19	Verify that the report prints with the correct information.
	20	Click **Help**> **InForm and Trial Reporting**. Verify that InForm Help is installed and functioning.

Note: Keep both browsers open to make the following steps easier to perform.

As dobrien (CRC) and lhill (CRA)

Pass/Fail	Step	Description
	1	As **lhill**: Click **Patients**. Click the **Patient** link for **dobrien**, which was created in the CRC test. Click the traffic light for the **DEM** form. Create an open query on an item entered by **dobrien**: Click the query flag for the item, click **Create Query**, select **Create Query in Opened State** in the **Action** list, and select a reason. Click **Submit**, and in the message box, click **OK**. Verify that the query appears with red text in a pink box under the item.

Pass/Fail	Step	Description
	2	As **dobrien**: Click **Patients**. Click the **Patient** link for **dobrien**, which was created in the CRC test. Click the traffic light for the **DEM** form. Answer the query: Click the yellow flag or the red query text and select a reason. Click **Submit**, and in the message box, click **OK**. Verify that the query disappears from the form.
	3	As **lhill**: Refresh the **DEM** form by clicking the **DEM** link in the **CRF History**. Re-issue the answered query: Click the yellow flag, select **Reissue Query in Open State** in the **Action** list, and select a reason. Click **Submit**, and in the message box, click **OK**. Verify that the query reappears.
	4	As **dobrien**: Refresh the **DEM** form by clicking the **DEM** link in the **CRF History**. Re-answer the query. Click **Submit**, and in the message box, click **OK**. Verify that the query disappears from the form.
	5	As **lhill**: Refresh the **DEM** form by clicking the **DEM** link in the **CRF History**. Close the query: Click the yellow flag, select **Close Query** in the **Action** list, and select a reason. Click **Submit**, and in the message box, click **OK**. Verify that the query disappears from the form.

Removing a trial

When you remove a trial, you remove the trial definition and data from the InForm database.

If the Reporting and Analysis module is installed, you must first:

1 Deinstall the reporting schema.

2 Delete information about the trial from the Cognos 10 BI environment.

Removing the reporting database

Reporting can be removed in the following ways:

- Remove a single Reporting and Analysis trial/reporting schema combination when the reporting schema is installed in a different database.

  This leaves Streams and other existing trial/reporting schemas installed.

  For more information, see *Removing a single trial/reporting schema—separate databases for trial and reporting.* (on page 64)

- Remove the Reporting and Analysis module when the reporting objects have been installed in the same database as the trial.

  All reporting objects exist in the trial schema.

  Use this to completely remove Reporting and Analysis from one database.

  For more information, see *Removing reporting—single database for trial and reporting* (on page 65).

  Note: Streams components are not installed when using the single database configuration.

- Completely remove the Reporting and Analysis module when the reporting schema is installed in a different database.

  Use this to completely remove all InForm software trial/reporting schemas and Streams.

  For more information, *Completely removing InForm software reporting—separate databases for trial and reporting* (on page 66)

Removing a single trial and reporting schema—separate databases for trial and reporting

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

1 Run the **deinstall_reporting_diffdb.sql** script.

Note: This script uses the configdiffdb.sql file, so make sure the correct one is in place.

The uninstall script does not remove tablespaces.

a To check for any errors, search for the word **Error**.

If any are found, correct the problem and run the script again.

b Rerun the script until it does not find anything to remove and does not have any errors.

In the log, all steps appear with the message **No object... was found**.

2 To make sure everything has been removed, run the **configandcheckdiffdb.sql** script.

If this completes successfully, the uninstall succeeded.

Note: This script checks for the existence of a tablespace. If the script fails because it cannot find a tablespace, adjust the tablespace variables in **configdiffdb.sql** to an existing tablespace in the database and run the script again.

3 Run the following command in both the trial database and the reporting database.

Note: Do not run this command until you are sure you have completely removed the trial/reporting schemas.

a From a Windows command prompt, log on to SQL*Plus with **/nolog**.

b Connect to the reporting database as **STRMADMIN**.

c At the SQL*Plus prompt, type:

```
Delete from streams_setup_info
where trial_username = '<trial_schema_owner>'
and rep_username = '<rep_schema_owner>'
and trial_db_global_name = '<global name of the trial database>'
and rep_db_global_name = '<global name of the reporting database>'
```

Note: Enclose all of the above values in single quotes.

where:

- *<trial_schema_owner>* is the InForm trial owner in the trial database.
- *<rep_schema_owner>* is the reporting schema owner in the reporting database that corresponds to the InForm trial owner. This username is the same as the InForm trial owner.
- To find the *<global name of the trial database>* in the trial database, type:

```
'Select global_name from global_name;'
```

- To find *<global name of the reporting database>* in the reporting database, type:

```
'Select global_name from global_name;'
```

Removing reporting—single database for trial and reporting

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

Oracle provides a script called **deinstall_reporting_samedb** to uninstall a single reporting schema. This script removes all components associated with the Reporting and Analysis module for a single

trial schema/reporting schema combination.

Note: The uninstall script does not remove tablespaces.

This script relies on the configsamedb file to perform the uninstall. Use the same configsamedb.sql file for the installation and the uninstallation. If this file is not available, set parameters in the configsamedb.sql file to uninstall the reporting schema.

1 From a Windows command prompt, set your default to the folder where the reporting software is located.

2 Log in to SQL*Plus with **/nolog**.

3 At the SQL*Plus prompt, type:

```
@deinstall_reporting_samedb
```

Note: This script uninstalls the reporting environment for a single trial/reporting schema. It does not uninstall multiple reporting schemas and it does not remove underlying reporting infrastructure. You can run this script as many times as necessary.

If the script aborts with the message **Reporting deinstallation aborted**, nothing has been removed. This usually indicates a problem with the **configsamedb.sql** file settings.

4 To make sure everything has been removed, run the **configandchecksamedb.sql** script.

If this script completes successfully, the uninstall has succeeded.

Note: This script checks for the existence of a tablespace. If the script fails because it cannot find a tablespace, adjust the tablespace variables in **configdiffdb.sql** to an existing tablespace in the database and run the script again.

Completely removing InForm software reporting—separate databases for trial and reporting

Use this procedure to completely remove the Reporting and Analysis module and Streams in any database where they were installed.

Note: Be sure to execute this procedure on only the databases from which you are completely removing the Reporting and Analysis module.

Before proceeding, Oracle recommends that you shut down any trials and Streams processes, and make sure that there are no other users on the system.

1 Uninstall any existing Reporting and Analysis installations in the database first.

For more information, see *Removing a single trial/reporting schema—separate databases for trial and reporting* (on page 64).

Repeat that procedure as many times as necessary to remove all affected reporting schemas before proceeding.

2 Run the Oracle Streams remove procedure.

Connect to each database where Streams is to be completely removed as **STRMADMIN** and run the **DBMS_STREAMS_ADM.REMOVE_STREAMS_CONFIGURATION** procedure.

For more information, on this procedure, see the *Oracle PL/SQL Packages and Types Reference.*

The removal procedure leaves invalid SYS objects in the database.

3 To recompile them, under the **ORACLE_HOME\rdbms\admin** folder, run the **utlrp.sql** script.

4 Connect to the database as **STRMADMIN** and run the following command:

```
Execute dbms_aqadm.drop_aq_agent('STRMADMIN');
```

5 Remove the reporting infrastructure components from the reporting database:

a Open **Enterprise Manager**.

b Log on to the affected databases as **RPTINSTALL**.

c Run the appropriate set of steps (reporting database without other reporting schemas, or trial database without other reporting components required for other trials).

Note: Run these steps only for a reporting database that does *not* have other reporting schemas installed.

6 In the reporting database:

a Drop the public database link to the trial database.

b Drop the **STRMADMIN** user with the **CASCADE** option.

c Drop the **PFREPORTING** role.

Note: Run these steps only for a trial database that does *not* have reporting components required for other trials. Skip this step if other trial schemas will need the reporting components after uninstalling.

7 In the trial database:

a Drop the public database link to the reporting database.

b Drop the **STRMADMIN** user with the **CASCADE** option.

c Drop the **PFREPORTING** role.

d Drop the **RPSTRMADMIN** user with the **CASCADE** option.

You might need to completely remove the Reporting and Analysis module from only one trial/reporting database. Consider the following scenario, where the goal is to completely remove the Reporting and Analysis module from RPTDB2, while leaving it installed on RPTDB1.

Two trial/reporting schemas are installed:

- One trial schema resides in TRIALDB1, and its reporting schema resides in RPTDB1.
- One trial schema resides in TRIALDB1, and its reporting schema resides in RPTDB2.

In this scenario, run the first four steps to remove the second trial, leaving the first trial/reporting schema as is. Run the remaining steps on RPTDB2 *only*. Streams must remain installed on TRIALDB1 to support the first trial/reporting schema combination.

Deleting trial information from the Cognos 10 BI environment

- Run the **DecomTrial** command (located in the <*Installation_Directory*>\InForm\bin folder on the InForm application server) to securely remove InForm trial components (trial folders, clinical package, operational package, DSN entries, and InForm trial user accounts) from the Reporting and Analysis module using the following syntax:

```
DecomTrial [SysAdminNamespace SysAdminUsername TrialNamespace TrialUsername
CognosDispatcherURI TrialName ] | ["path_to_parameter_file"]
```

Depending on the syntax used with the DecomTrial command, you are prompted for the following parameters:

- **System Administrator namespace**—Oracle Directory Server admin namespace.
- **System Administrator username**—User name for the Cognos system administrator.
- **Trial namespace name**—Custom Authentication Provider (CAP) namespace.
- **Trial user username**—InForm trial user who is a member of the following Reporting groups:
  - Publishers.
  - Either Sponsor Users or Site Users.
- **Cognos dispatcher URL**—Internal URI that the InForm server uses to communicate with the Cognos 10 BI server.
- **Trial name**—Trial name.
- **System Administrator password**—Password for the Cognos system adminstrator.
- **Trial user password**—Password for the InForm trial user.

For example:

DecomTrial OHSI crnsysadmin informcap mmartin
http://server.example.com:9300/p2pd/servlet/dispatch pfstcardio blank

With the exception of the System Administration password and Trial user password parameters, you can pass parameters by using the *"path_to_parameter_file"* command option.

When specified, this option includes the path to a text file that contains the values required to run the command. The format of the parameter file is parameter=value. There is a new line for each parameter, and there are no spaces on a line.

Removing a trial definition and data

1 Stop the trial, using the following command:

```
pfadmin stop trial <trialname>
```

2 Remove the trial, using the following command:

```
pfadmin remove trial <trialname>
```

To remove the DSNs from ODBC data source administration at the same time, use the following command:

```
pfadmin remove trial <trialname> /DSN
```

3 Remove the user from the database. As the PFDBAdmin user, issue the following command:

> **Caution:** When you execute this step, **all trial data will be lost**. In production, make sure you back up the trial database before removing the user.

```
drop user <trial_uid> cascade;
```

CHAPTER 7

Performing post-installation steps

In this chapter

Changing the PFDBAdmin password

Note: When you install the InForm software on a production server, Oracle strongly suggests that you change the default InForm passwords. You can change this password on this window during the installation, or manually either before or after installing.

To run the InFormPrepORA.vbs script manually and register the new password:

1 Open a command prompt window.

2 Execute the following command from the InForm\Bin\DBOra folder of the InForm software installation:

```
cscript InFormPrepORA.vbs oracle_connection_string PFDBAdmin_userid
```

When prompted, enter:

- Password for the Oracle SYS user.
- New password for the pfdbadmin user.

3 Enter the following command to put the new password in the Registry:

```
pfadmin config service /sysdba PFDBAdmin_userid
```

Installing or re-installing the InForm Admin database after the initial installation of InForm

If you did not set up the InForm Admin database during the initial installation of the InForm software, or if the installation failed, you must run the following commands at a command prompt:

- admindb—Creates the InForm Admin database
- pfmqadmin—Creates and configures the PFMQ tables.

Use these commands if you want to do either of the following:

- Relocate the InForm Admin database from its original location to a new one using the ADMINDB.CMD

  or

- Locate the PFMQ tables in a separate database schema than InForm Admin.

admindb command

The admindb command installs the InForm Admin database. The command is located at

```
<installation_directory>\inform\bin\dbORA\admindb.cmd
```

Syntax

```
admindb [flag] [connection string] [informadmin UID] [pfadmin UID]
```

When you run the admindb command, you are prompted to enter the password for the pfdbadmin user and the informadmin user.

Flags

Flag	Description
–PFMQCFG	Use this flag if you chose not to create the AdminDB at the time of installation, or if the installation of the InForm Admin database failed, If specified: • Configures the Admin database as the PFMQ messagestore/infostore • Creates the AdminDB schema manually. • Puts the PFMQ database in the same database schema as the InForm Admin database.
–NOPFMQ	If specified: Creates the AdminDB, but does not create PFMQ tables or configure PFMQ Use the -NOPFMQ flag if the PFMQ data is to be stored in a separate schema from the InForm Admin database (for example, for an installation of the CIS software).

None	If no flag is specified: • The AdminDB and the PFMQ tables are created in the same database schema. • The AdminDB is not set as the PFMQ messagestore/infostore. **Note:** This behavior is the same as the behavior of the admindb command in the InForm 4.0 and 4.1 software releases.

pfmqadmin command

pfmqadmin creates tables for PFMQ and specifies their locations.

1 Before you create the PFMQ tables, you must do one of the following:

- Create an Oracle user, using Oracle Enterprise Manager Console, or
- Drop and recreate the Oracle user, run the pfmqadmin command with the following arguments:

```
pfmqadmin setup dbuser system [connectstring] [pfmquser]
```

When prompted, enter the password for the database SYS user and the pfmquser.

2 Create PFMQ tables and specify locations:

```
pfmqadmin setup dbusertable [AdminDBUID] [connectstring]
pfmqadmin config queueinfostore [AdminDBUID] [connectstring]
pfmqadmin config defaultmessagestore [AdminDBUID] [connectstring]
```

When prompted, enter the password for the pfmq database admin.

Arguments

- AdminDBUID—Database user name
- connectstring—Database connection string

Enabling a secure data transmission with HTTPS

To encrypt the transmission of data between the application server and the browser computer, you must enable HTTPS. This is required for production server installations only.

- If you are using the InForm Unplugged software to synchronize data between servers, HTTPS is required for synchronization.
- If you are not using the InForm Unplugged software to synchronize data between servers, HTTPS is optional.

For more information, see *Enabling the HTTPS system configuration option* (on page 78).

Disable SSL on the InForm application server and Cognos Gateway servers

If you use HTTPS security in your environment, Oracle recommends that you disable SSL on the InForm application server and the Cognos Gateway servers, and enable TLS1.1 and above for improved security. For more information, see the Microsoft website (http://social.technet.microsoft.com).

Creating, setting up and installing a key certificate

These procedures are for Windows server 2008, with Internet Information Services (IIS)

Creating and setting up a key certificate for HTTPS in IIS

1 Open **Internet Information Services (IIS) Manager**.

2 Open the **<***machine_name***>** node.

3 Go to the **IIS Group > Feature View** and select **Server Certificate**.

4 From the **Actions** view, click **Open Features**.

5 From the resulting **Actions** view, select **Create Certificate Request**.

6 Request Certificate Wizard opens.

7 Complete the **Request Certificate** page. Specify the name of the trial server in the **Common name** field, including the FQDN (for example: <*machine_name*>.example.com).

8 Click **Next**.

9 Leave all default values in **Cryptographic Service Provider Properties** and click **Next**.

10 Click the **Browse**.

11 Specify the certificate request name and folder details.

12 Click **Save**.

13 Click **Open**. The file name appears in the text box.

14 Click **Finish**.

Installing a key certificate on the server machine in IIS

1 Open your browser and go to the security certificate server URL:

http://<*Windows_2008_security_certificate_server*>/<*certificate _request_page*>.

2 Click **Request a certificate**.

3 Click **Advanced certificate request**.

4 Click **Submit a certificate request by using a base-64-encoded**.

5 Copy all the text in certreq.txt file in the first text field of the saved request.

6 Click **Submit**.

7 Select **Base 64 encoded**.

8 Click **Download certificate**.

9 Save to c:\certnew.cer.

10 Click **Download certificate chain**.

11 Save to c:\certnew.p7b.

12 Go to Internet Information Services Manager to complete the certificate request.

13 Select the <*machine_name*> node.

14 From the **Feature View**, select **Server Certificate** under IIS group.

15 From the **Actions** view, select **Open Feature**.

16 From the **Actions** view, select **Complete Certificate Request**.

17 Browse to c:\certnew.cer and give the **Friendly name** as machine name, and click **Next**.

18 Set the SSL port to the port number for the trial server. The default is 443.

19 Click **OK**.

20 Go to C:\ directory. Right click on c:\certnew.p7b.

21 Select **Install Certificate,** and click **Next**.

22 Click **Next** again, and click **Finish**.

23 Click **Yes** in the **Security Warning** dialog box.

24 Click **OK** on the confirmation dialog box.

25 Set the **Binding for Default Websites**.

26 Go to IIS Manager.

27 Select the <machine_name> node.

28 Open the **Web Sites** node.

29 Click **Edit Site > Bindings**, and click **Add**.

30 Select the certificate type as **Https** and **SSL**.

31 Click **View**. Verify that there is no red exclamation mark for the Certificate.

Import the new key certificate to the local computer and the current user

1 Go to **Start > Run**, and type **mmc**.

2 From the Console screen, go to **file > Add/Remove Snap-in**.

3 Click **Available snap-ins > Certificates > Add**.

4 Select **My user account**, and select **Finish**.

5 Click **Available snap-ins > Certificates > Add**.

6 Select **Computer account**, select **Next > Finish**, and click **OK**.

7 Go to **Certificates > Current User**.

8 Expand **Trusted Root Certificate Authorities**.

9 Right-click **Certificates** and select **Import**.

10 Browse to the certificate you created, select it, and complete the wizard, using all defaults.

11 Repeat Step 8 through 10 for **Certificates > Local Computer**.

Note: Make sure **<Windows_2008_security_certificate_server>** is listed in the trusted roots of the certificate store for both the **current user** and the **local computer**. If it is not there, export it from the **current user,** save it to the disk, and import it to the **local computer**.

Verify that the certificate is installed

To verify that the key certificate is installed correctly:

1 Open a browser window.

2 Type:

`https://<computer_name.domain>_name.com`

The Security Alert window appears.

3 Verify that the date and name for the certificate are valid.

Updating the ExternalLoginURL and ExternalLoginFailureURL registry key entries on the InForm application server

If you are implementing HTTPS, perform these steps.

On each server that hosts an InForm trial, update the ExternalLoginURL and ExternalLoginFailureURL entries for the AuthenticationFilter registry key.

1 In the **Windows Registry Editor**, navigate to the following Windows Registry key:

`HKEY_LOCAL_MACHINE\SOFTWARE\PHASEFORWARD\AuthenticationFilter`

2 Update the entries for **ExternalLoginURL**:

a Right-click the entry and select **Modify**.

The Edit String dialog box appears.

b Specify the URL to configure for HTTPS.

https://<*servername*>.<*domainname*>:<*portnumber*>/PFExternalLogin/ExternalLoginFrameset.html

For example:

https://www.sample.com:443/PFExternalLogin/ExternalLoginFrameset.html

c Enter the new value in the **Value Data** field and click **OK**.

3 Update the entries for **ExternalLoginFailureURL**:

a Right-click the entry and select **Modify**.

The Edit String dialog box appears.

b Specify the URL to configure for HTTPS.

https://<*servername*>.<*domainname*>:<*portnumbe*r>/PFExternalLogin/ExternalLoginEscape.html

For example:

https://www.sample.com:443/PFExternalLogin/ExternalLoginEscape.html

c Enter the new value in the **Value Data** field and click **OK**.

4 Exit the **Windows Registry Editor**.

5 Restart IIS.

Enabling the HTTPS system configuration option

You can enable the HTTPS system configuration two ways:

- Use the InForm Admin user interface.
- Use the MedML Installer tool to install the appropriate MedML sysconfig tag.

Using the Admin user interface to enable HTTPS

To enable HTTPS by using the InForm application Admin user interface:

1 Log on to the InForm application.

2 In the Navigation pane, click **Admin**.

3 Select the **Configuration** tab.

4 Set the **Enable SSL** option to **on**.

5 Click **Submit**.

6 Restart the trial.

7 If you are setting up the Reporting and Analysis module, change the **Reporting Service Full URL** to start with **https://**.

Note: If you are going to use Cognos 10 Business Intelligence, there is additional configuration that must be performed on the Cognos Gateway server. For more information, see ***Configuring Cognos 10 BI to use HTTPS*** (on page 102).

Using MedML to enable HTTPS

To enable HTTPS by setting the sysconfig MedML tag:

1 Create an XML file with the following entry:

```
<MEDMLDATA>
<SYSCONFIG CONFIGNAME="SSLFlag" TYPE="0" VALUE="1" />
<MEDMLDATA/>
```

2 Install the configuration option with the MedML Installer tool.

3 Restart the trial.

4 If you are setting up the Reporting and Analysis module, change the **Reporting Service Full URL** to start with **https://**.

Updating the AuthenticationFilter DomainSuffix registry key

If you are installing Cognos Reporting, you must update the DomainSuffix entry for the Oracle AuthenticationFilter registry key if any of the following is true on the InForm trial machine and the Cognos 10 BI Gateway Services machine.

- You use proxy servers for the Cognos 10 BI Gateway Services machine and the InForm trial server.
- The fully qualified domain name (FQDN) for either server does not end with a common domain suffix. The FQDN is registered in the Oracle AuthenticationFilter DomainSuffix entry during installation of the InForm server and the Cognos 10 BI Gateway Services software. If the FQDN for both installations ends in a common domain suffix such as **.net**, **.com**, **.org**, **.edu,** or **.gov** (with or without country name like **.uk** or **.au**), you do not need to update the DomainSuffix entry unless you use proxy servers.
- If the FQDN has just two levels. (For example: <*servername*>.com.)

Perform the DomainSuffix configuration on both the Cognos 10 BI Gateway Services machine and the InForm trial server. Both machines *must* have identical AuthenticationFilter entries for DomainSuffix.

1 In the **Windows Registry Editor**, navigate to the following Windows Registry key:

```
MyComputer\HKEY_LOCAL_MACHINE\SOFTWARE\Phase Forward\AuthenticationFilter
```

2 Update the entry for **DomainSuffix**.

   a Right-click the entry, and select **Modify**.

   The Edit String dialog box appears.

   b Enter the new value in the **Value Data** field. Edit the entry:

   - If you use proxy servers, or if the fully qualified domain name for either server does not end with a common domain suffix, remove every part of the domain suffix that is not identical on both computers. For example, if the FQDN includes <*servername*>.<*companyname*>.co.uk, after the edit, the entry would be <*companyname*>.co.uk.

   c Click **OK**.

3 Exit the **Windows Registry Editor**.

4 Restart IIS.

On the InForm server, restart the InForm Service.

Configuring a Customer Defined Database

A CDD is an extract of clinical data from a trial database. You can use a CDD to pass data into customer statistical analysis tools or other external programs. You can use either the Reporting and Analysis module or a CDD, or both, to extract data from a trial.

Note: CDD is trial-specific and applies to a single trial only.

A CDD is limited to clinical data, and is typically designed to organize this data in a way that is suited for delivery into customer statistical analysis tools or other external programs.

The Reporting and Analysis module uses a database similar to the CDD, with a few key differences. The Reporting and Analysis database structure is fixed based on the trial design, and cannot be adjusted as it can be with the CDD. Additionally, the Reporting and Analysis database contains status and derived operational metrics in addition to the clinical data.

Steps to create a CDD

1 *Define CDD mappings* (on page 81).

2 *Install CDD mappings* (on page 82).

3 *Configure the CDD* (on page 82).

For more information, see *Setting Up a Trial with InForm Architect and MedML*.

Define CDD mappings

CDD mapping definitions specify how to transfer data from a trial database to a CDD. They indicate:

- Where each mapped data point comes from in the source trial.
- Where each mapped data point goes in the CDD.
- How the data is organized in each CDD table.
- Optional supplemental text about the design of the components of the CDD definition.
- Optional label text that is transferred to the CDD along with data values.

Use the InForm Architect application to generate the CDD mappings. For more information, see the *Setting Up a Trial with InForm Architect and MedML Guide*.

Install CDD mappings

After the CDD mappings are generated, use the MedML Installer tool to install the mappings to create the CDD tables.

For more information, see the *Setting Up a Trial with InForm Architect and MedML Guide*.

An application developer provides an XML file that contains the CDD definition for the trial. After the trial is set up, you can install the CDD definition using the MedML Installer utility.

Note: During a CDD data export, no transactional data should be added, deleted, or modified, as this may cause an inconsistency between the transactional database and the CDD.

Configure the CDD

Note: It is strongly recommended that the default tablespace for the CDD user should be something other than the InForm software tablespace.

To set up and configure CDD mappings for a trial database:

1 Ensure that the target trial is running.

2 Create a CDD schema with the DSN name, DSN user, and DSN password using the following syntax:

```
pfadmin setup cdd <CDDRefName> <TrialName> /DB <oracle_connection_string>
<CDD_DSN> <UID>
```

When prompted, enter the password for the CDD DSN user.

For example:

```
pfadmin setup cdd PFSTCDD pfst46 /DB testmachine_dev1 pfstcdd pfstcdduid
```

3 Activate the CDD sot that it is functionality transactional:

```
pfadmin config cdd <trialName> <CDD_DSN> active
```

For example:

```
pfadmin config cdd pfst46 pfstcdd active
```

4 Enable the CDD functionality for the trial:

```
pfadmin config cdd TrialName enable
```

For example:

```
pfadmin config cdd pfst46 enable
```

For more information, see *PFAdmin syntax* (on page 183).

Setting up custom home pages

The clinical trial designer may have created custom home pages that are visible for each user. Each user can have his or her own home page. Home pages (html) must be accessible to the web server. A folder named Custom is automatically created when you install a trial that was designed in the InForm Architect. The virtual directory for each trial is located in the <*Installation_Directory*>\InForm\Trials directory.

Note: Files contained in these custom directories are unsecured.

After installing a trial, you can copy the custom home pages into the custom folder for the trial, and to the virtual custom directory using the Windows Explorer or the following **xcopy** command:

```
xcopy <drive:\path to trial custom pages\*.* ><drive:\path to trial custom
folder\ >/e
```

Where

- **xcopy**—is the Windows command.
- <*drive:\path to trial custom pages**.*> is the drive and path to the custom home pages created by the clinical trial developer.
- <*drive:\path to trial custom folder*\> is the drive and path to the \Custom folder for the InForm trial.
- /*e* is an option that indicates to copy directories and subdirectories, including empty ones.

Setting up randomization

Randomization in an InForm trial enables the trial to randomly assign drug kits or devices to patients.

On the development side, the application engineer:

- Incorporates the randomization feature into a trial by using rules attached to items on a form.
- Implements the feature as a button on a randomization form using the appropriate UUIDs included on the form, section, and item of the randomization form or the form responsible for issuing randomized IDs.
- Creates a randomization database.

> **Note:** A sample Microsoft Access database is included in the sample trial. To use an Oracle randomization database, create an Oracle schema with a table structure that is identical to the sample Microsoft Access database.

On the production side, you must configure the trial to use the randomization database.

1 Use this **pfadmin** command:

```
pfadmin config trial <trialname> /rnd <pathfilename.dbextension>
```

where

- <*trialname*> is the name of the trial for which you are setting up the Randomization feature.
- **/rnd** is an option that does two things: creates a DSN for the randomization database; configures the trial to use the DSN.

  > **Note:** You can also use /RndDSN to configure a trial to use an existing DSN.

- <*pathfilename.dbextension*> is the filename of the datafile containing the Randomization database.

2 Restart the InForm service to complete randomization configuration.

Enabling email

1 *Enable email notifications* (on page 85).

2 *Install and register CDONTS* (on page 85).

Note: If your email notification is based on the example found in PFST45 or PFST46, you must apply the CDONTS.DLL to all InForm application servers. The epMail execution plans use a call to CDONTS.DLL to send email. CDONTS.DLL is no longer supported by Microsoft. Calls that use CDONTS.DLL will not send mail without this step.

For more information, see the *Setting Up a Trial with InForm Architect and MedML Guide*.

Enable email notifications

To enable email notification:

- Install Microsoft SMTP. Since this is a pre-installation requirement for the InForm software, SMTP should already be available.
- Set the routing option for mail delivery.
- Set the smart host or remote domain of the SMTP site to point to the email gateway for message transmissions.

Install and register CDONTS

1 Verify that the Microsoft SMTP server is running.

2 Download and unzip **cdonts.dll** to **C:\Windows\System32 folder**.

3 Register the **CDONTS.DLL** component on the server by running the following command from the command prompt:

```
regsvr32 c:\Windows\system32\cdonts.dll
```

CHAPTER 8

Installing the Cognos 10 Business Intelligence core software

In this chapter

About the Cognos 10 BI software installation

The Cognos 10 BI software installation process installs:

- Cognos 10 BI Application Tier Components.
- Cognos 10 BI Gateway services.
- Cognos 10 BI Content Manager.

You can install the components on separate servers or on the same server, or you can distribute each component across multiple servers. For more information, see the *Cognos Installation and Configuration Guide*, which is included in the InForm product download.

Install the Oracle Directory Server

Note: The Oracle Directory Server Enterprise Edition can be installed on a Windows 2008 server or a Linux server.

1 Download and install the Oracle Directory Server.

2 Configure and deploy the Oracle Directory Server to a supported web server.

For more information, see the Oracle website, the Oracle Directory Server Enterprise Edition documentation, or your Oracle database documentation.

Create the PFWD organizational unit (OU) and crnsysadmin user on the Oracle Directory Server

If you are using Reporting, you must create an PFWD namespace and crnsysadmin user on the Cognos Content Manager Server and the Cognos Report Server. For more information, see *Creating the PFWD LDAP namespace on the Cognos 10 BI server* (on page 101)

1 On the server where the Oracle Directory Server is installed, use the Cognos Configuration utility to ensure that the Cognos 10 Business Intelligence Service is stopped.

2 Launch the URL for the Oracle Directory Server and log in to the Oracle Directory Service Control Center.

3 Select the Directory Server tab. In the Directory Servers list, click the server name.

The Server Operations tab opens.

4 Select the Entry Management tab.

5 Select the DN from the Browse Data list, and click **New Entry**.

The New Entry wizard page displays the Specify Entry Location page.

6 Make sure that the Entry Parent DN is correct, and click **wizard button next**.

The Choose Object Class page appears.

7 Select **Organizational Unit - (organizationalUnit)** from the Entry Type drop-down list, and click **wizard button next**.

The Configure Attributes page appears.

8 In the Organizational Unit (ou) field, type **PFWD** (all uppercase), and click **wizard button next**.

The Summary page appears.

9 Review the information. If it is correct, click **wizard button finish**.

The PFWD node is added to the Browse Data list.

10 On the Entry Management tab, right-click ou=PFWD in the Browse Data list, and click **New Entry**.

The New Entry wizard displays the Specify Entry Location page.

11 Make sure that the Entry Parent DN is correct, and click **wizard button next**.

The Choose Object Class page appears.

12 Select **User - (inetOrgPerson)** from the Entry Type drop-down list, and click **wizard button next**.

The Configure Attributes page appears.

13 Create a new user for the PFWD namespace as follows:

- **Full Name (cn)**—crnsysadmin
- **Last Name (sn)**—crnsysadmin
- **User ID (uid)**—crnsysadmin
- **Password (userPassword)**—<*crnsysadmin password*>
- **Confirm Password**—<*crnsysadmin password*>

14 Click **wizard button next**.

The Summary page appears.

15 Review the information. If it is correct, click **wizard button finish**.

The uid=crnsysadmin node is displayed in the Browse Data list on the Entry Management tab.

Installing the Cognos 10 BI software

1 Download the **bi_svr_64b_10.2.2_win_ml.tar.gz** file from the Oracle Download Center, extract the archive file, and navigate to the issetup.exe file in the \Win64h folder.

2 Double-click **issetup.exe**.

The Welcome page of the installation wizard appears.

3 Select the language to use for the installation, and click **Next**.

The License Agreement page appears.

4 Read the license agreement, select **I agree**, and click **Next**.

The Installation Location page appears.

5 In the **Installation Directory** field:

- Browse to or type the drive and destination folder for Cognos 10 Business Intelligence (for example E:\cognos\c10_64)
- Select either Production or Non-Production as the Server Type, and click **Next**.

If the **Folder does not exist** message appears, click **Yes** to create the folder.

The Component Selection page appears.

6 Make sure that IBM Cognos Business Intelligense Server is selected, and that all components except Cognos Content Database are selected, and click **Next**.

The Shortcut Folder page appears.

7 Accept the default Program folder, and click **Next**.

The Installation Summary page appears.

8 Review the installation summary, and click **Next**.

The installation program installs the components that you selected. This takes several minutes. When the component installation is complete, the Finish page appears.

9 On the Finish page:

- To view the transfer log or the summary-error log, click the appropriate **View** button.
- Verify that **Start Cognos Configuration** is *not* selected.

10 Click **Finish**.

Installing Cognos hot sites

In addition to the Cognos 10 BI software, you must install the following hot sites:

1 Download each hot site file from the Oracle Download Center and install the interim fix updates in the following order:

   a up_bisrvr_winx64h_10.2.6100.1032_ml.tar.gz

   b up_bisrvr_winx64h_10.2.6100.1037_ml.tar.gz

2 Extract each archive file into a different folder from the folder where you originally downloaded the Cognos 10 BI version software, and navigate to the issetup.exe file in the \Win64h folder.

3 Double-click **issetup.exe**.

   The Welcome page of the upgrade wizard appears.

4 Select the language to use for the installation, and click **Next**. English is the default language.

   The License Agreement page appears.

5 Read the license agreement, select **I agree**, and click **Next**.

   The Installation Location page appears.

6 In the Installation Directory field, browse to or type the same drive and destination folder that you specified for the initial installation of the Cognos 10 Business Intelligence software (for example C:\cognos\c10_64), and click **Next**.

   The Installation Summary page appears.

7 Review the installation summary, and click **Next**.

   When the installation is complete, the Finish page appears.

8 To review the transfer log or summary error log, click the appropriate **View** button.

9 Click **Finish**.

Setting up the Oracle JDBC driver

Before running the wizards that customize the Cognos 10 BI software for the InForm environment, you must set up the Oracle JDBC driver on any computer that has a Cognos 10 Business Intelligence Content Manager installed.

1 Download the ojdbc6.jar file from the Oracle support website.

2 Copy the **ojdbc6.jar** file to the <Cognos_Installation_Directory>\webapps\p2pd\WEB-INF\lib folder.

Configuring the Internet Information Services (IIS) for Windows on the Cognos Gateway server

If the Cognos 10 BI software is installed on its own dedicated server, you must configure IIS to work in this deployment scenario.

To configure IIS on the Cognos 10 BI Gateway server:

1 Navigate to **Control Panel** > **Administrative Tools** > **Internet Information Services (IIS) Manager** and expand the node for the local computer.

2 Select **ISAPI and CGI Restrictions**.

3 Make sure that the following options are set to **Allowed**:

- All Unknown CGI Extensions
- All Unknown ISAPI Extensions
- ASP.NET v1.1.4322
- ASP.NET v2.0.50727
- WebDAV.
- Active Server Pages.

CHAPTER 9

Configuring Cognos 10 Business Intelligence for the InForm environment

In this chapter

Running the customization wizards

To customize the Cognos 10 BI software for the InForm environment, you run installation and configuration wizards:

- Cognos 10 BI Customizations for InForm wizard.
- Cognos 10 BI Gateway Customizations for InForm wizard.
- InForm Reporting Addition wizard.
- InForm ReportingDB wizard.

Running the Cognos 10 BI Customization for InForm wizard

1 Copy the CRNConfig folder from the InForm installation image to a location that you can access from the server where the Cognos 10 BI Content Manager is installed and each Cognos 10 BI Report server.

2 On the server where the Cognos 10 BI Content Manager is installed and each Cognos 10 BI report server, run the **CRNConfig\setup.exe** program file.

The Welcome page appears.

3 Click **Next**.

The Cognos 10 BI Installation Location page appears.

4 Specify the folder in which the Cognos 10 BI software is installed, and click **Next**.

The Setup Type page appears.

5 Select the memory model (Small, Medium, or Large) that is most appropriate for your business, and click **Next**.

Note: You can change this later if you select the wrong size.

The Content Store page appears.

6 Enter the following values.

Field	Description
Database server	Fully qualified domain name of the database server where the Cognos 10 BI Content Store schema is installed.
Port	Port number for communicating with the database server.
SID	SID for communicating with the database server.
User Name	User name of the Oracle user in the Cognos 10 BI content store database. You created this user when you configured the Cognos 10 BI content store database.
Password, Confirm Password	Password of the CBI user in the Cognos 10 BI content store database.

7 Click **Next**.

The Custom Authentication Provider Configuration Information page appears.

8 Enter the following values.

Field	Description
Database server	Fully qualified domain name of the user that contains the TRIAL_URLS table.
Port	Port number for communicating with the database server.
SID	SID for communicating with the database server.
User Name	The name of the PFCAPAdmin user..
Password, Confirm Password	Password of the CBI user in the Cognos 10 BI content store database.

9 Click **Next**.

The LDAP Configuration Information page appears.

10 Enter the following values.

Field	Description
LDAP Server	Fully qualified domain name of the server where Oracle Directory Server is installed.
LDAP Port	Port number used to communicate with the LDAP server.
Administrator DN	Distinguished Name of the administrator of the server. Use the format and values shown beneath the field. **Note:** The Administrator DN value corresponds to an LDAP user who has READ and SEARCH access to the Base Distinguished Name (BDN). The BDN specifies the top level or root of the directory structure, which is the starting place for searches.
Password, Confirm Password	Password of the administrator.
Parent Node DN (Base Distinguished Name)	Distinguished name of the Parent Node. Use the format shown beneath the field. Do not enter a space between after the comma between the parts of the domain. **Note:** The Parent Node DN is also known as the Base Distinguished Name (BDN). The BDN specifies the top level or root of the directory structure, which is the starting place for searches.
Cognos Admin OU	Location of the Cognos Admin organizational unit.

11 Click **Next**.

The CRN Web Server (gateway or IIS server) page appears.

12 Type the fully qualified domain name of the Cognos 10 BI Gateway server.

13 Click **Next**.

If the server has not yet been installed, the installation script asks if it should continue using the server name provided. If so, click **OK**.

The Ready to Install the Program page appears.

14 Click **Install**.

The Setup Status page appears.

The program copies the necessary files and creates the CRNSetup.xml file in an InForm subfolder under the Cognos installation (...\InForm\Config). The name and location of the file appear in a message window. You need the CRNSetup.xml file to run the Cognos 10 BI Gateway Customization for InForm wizard.

15 The Wizard Complete page appears.

16 Click **Finish**.

Changing or creating a new MotioCAP_informcap.properties file

The Cognos 10 BI Customization for InForm wizard also creates the **MotioCAP_informcap.properties** file. The information in the file is used to configure the custom authentication provider's connection to Oracle Directory Server (LDAP).

Note: In most cases you do not need to change the MotioCAP_informcap.properties file. If you make modifications restart the Cognos Content Manager.

Circumstances that require changes to file	Required action
LDAP configuration changes after installation.	LDAP properties used for authenticating the admin OU: Enter the URL of the server where LDAP is installed. Change the number of the LDAP port if necessary. **Example: ldap.url=ldap://app02.example.com:389** Enter the **Parent Node Distinguished Name**. **Example: ldap.base.dn=dc=example,dc=com** Enter the **Administrator Distinguished Name**. This user name is used by the Custom Security Provider (CSP) to log on to LDAP. **Example: ldap.bindUser.dn=uid=admin,ou=Administrators, ou=TopologyManagement,o=NetscapeRoot** Change **encrypted** to **unencrypted** and set the password in plain text. The password is encrypted when Cognos Reporting starts up. **Example: ldap.bindUser.password=unencrypted:password**
The database user and/or database user password changes after installation. **Note:** This database user is the owner of the trial_urls table.	**Note:** These will be encrypted when Cognos Reporting starts up. db.user=encrypted:<db_username> db.password=encrypted:<db_user_password>

Running the Cognos 10 BI Gateway Customization for InForm wizard

The Cognos Gateway Customization for InForm wizard configures the Cognos 10 BI Gateway services component to work with the InForm application.

Note: You run this wizard to configure a public gateway to be used with the Reporting and Analysis module, or to configure a private gateway with restricted access to the Cognos 10 Business Intelligence software.

1 Copy the CRNGatewayConfig folder from the InForm installation image to a location that you can access from the Cognos Gateway Server.

2 On the Cognos Gateway Server, run the CRNGatewayConfig\setup.exe program file.

The Cognos 10 BI Welcome Screen appears.

3 Click **Next**.

The Cognos 10 BI Installation Location page appears.

4 Specify the path to the location of the Cognos 10 BI software, and click **Next**.

The Setup Type page appears.

5 Do one of the following, and click **Next**.

- Select Public Gateway to set up a gateway to manage communication between the InForm application and the Reporting and Analysis module.
- Select Private Gateway (Admin Only) to perform administrative functions on the Cognos 10 Business Intelligence software.

  For more information, *Complete the Cognos Private Gateway configuration* (on page 99).

  Note: Access to a Private Gateway server should be restricted to a limited group of users who need to administer the Cognos 10 Business Intelligence software.

The Ready to Install the Program page appears.

6 Click **Install**.

The Setup Status page appears.

The program installs, and the World Wide Web Publishing Service restarts.

The Wizard Complete page appears.

7 Click **Finish**.

Complete the Cognos Private Gateway configuration

1 Edit the **index.html** and **default.htm** files located in the <Cognos_Installation_Directory>\webcontent folder on the Private Gateway server.

- Replace all occurrences of **congnos.cgi** with **cognosisapi.dll** and save the files.

2 Restart IIS.

Running the InForm Reporting Addition wizard

The **InForm Reporting and Analysis Addition** wizard copies reporting-specific files that are not distributed to the InForm software installation.

Perform this procedure on the InForm Application server.

1 Copy the CRNUpdate folder from the InForm installation image to the InForm application server.

2 Run the **InFormCRNUpdate\setup.exe** program file.

The InForm Reporting and Analysis Addition window appears.

3 Click **Next** on each window of the wizard until the Ready for Install window appears.

4 Click **Install**.

The installation starts.

5 Click **Finish** when the installation is complete.

Note: After installation of InForm Reporting and Analysis Addition on the InForm application server, restart the InForm service. If this is not done, an authentication error will occur when accessing the Reporting and Analysis module from within a trial.

Running the InForm ReportingDB wizard

The InForm ReportingDB wizard copies several scripts to a location you specify. You later use these scripts to create and configure the reporting database schema for the trial you are setting up.

When you run the ReportingDB wizard, the destination location you specify must already exist.

1 Run the **\ReportingDB\setup.exe** program file.

The InForm Reporting Database Scripts window appears.

2 Click **Next**.

The Choose Destination window appears.

3 Accept the default location, or click **Change** and select a different location to put the scripts.

4 Click **Next**.

The Ready for Install window appears.

5 Click **Install**.

The installation starts.

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

7 Repeat the procedure for each trial you are setting up.

Creating the PFWD LDAP namespace on the Cognos 10 BI server

Run this procedure each time you run the InForm CRN wizard.

1 On the server where Cognos 10 BI is installed, select **Start > All Programs > Cognos 10 BI > Cognos Configuration**.

The Cognos Configuration window appears.

2 In the Security tree, right-click **Authentication**, and select **New resource > Namespace**.

The New Resource - Namespace dialog box appears.

3 Enter the following values:

- **Name**—PFWD (all uppercase)
- **Type**—LDAP

4 Click **OK**.

5 Complete the parameters as follows:

- **Namespace ID**—PFWD
- **Host and Port**—<*fullyqualifiedmachinename*>: <*LDAPServerPort*>

  (example port number: 389)
- **Base distinguished name**—Domain name for your environment. **Example:** If the network domain is example.com, ou=PFWD,dc=example,dc=com

  Note: Do not enter spaces after the commas between the parts of the domain.
- **User lookup**—(uid=${userID})

6 Select **File > Save**.

The Cognos Configuration utility validates the settings and saves the configuration.

7 When the checks are complete (all items are marked with a green check mark), click **Close**.

8 Click **Close**, and close the Cognos Configuration utility window.

Configuring Cognos 10 BI to use HTTPS in the Cognos Configuration utility

1 Connect to Cognos Gateway server.

2 Navigate to the Windows Start menu.

3 Select **All Programs > IBM Cognos 10_64 > Cognos Configuration**.

4 After the Cognos Configuration utility is completely loaded, select **Portal Services** and set **Web Content Url** to **HTTPS** using the following format:

```
https://<servername>.<domainname>:<portnumber>/COGNOS10
```

> **Note:** Be sure to change the port number to the port for HTTPS.

For example:

```
https://www.example.com:443/cognos10
```

5 Select **Environment** and set **Gateway URI** entry.

```
https://<servername>.<domainname>:<portnumber>/cognos10/cgi-
bin/cognosisapi.dll
```

> **Note:** Be sure to change the port number to the port for HTTPS.

For example:

```
https://www.example.com:443/cognos10/cgi-bin/cognosisapi.dll
```

6 Select **File > Save**.

The Cognos Configuration utility validates the settings and saves the configuration.

7 When the checks are complete (all items are marked with a green check mark), click **Close**.

8 Select **Actions > Start**.

The Cognos Configuration utility registers and starts the Cognos 10 BI Service.

9 Click **Close**.

Updating registry settings

Updating the AuthenticationFilter DomainSuffix registry key

If you are installing Cognos Reporting, you must update the DomainSuffix entry for the Oracle AuthenticationFilter registry key if any of the following is true on the InForm trial machine and the Cognos 10 BI Gateway Services machine.

- You use proxy servers for the Cognos 10 BI Gateway Services machine and the InForm trial server.
- The fully qualified domain name (FQDN) for either server does not end with a common domain suffix. The FQDN is registered in the Oracle AuthenticationFilter DomainSuffix entry during installation of the InForm server and the Cognos 10 BI Gateway Services software. If the FQDN for both installations ends in a common domain suffix such as **.net**, **.com**, **.org**, **.edu,** or **.gov** (with or without country name like **.uk** or **.au**), you do not need to update the DomainSuffix entry unless you use proxy servers.
- If the FQDN has just two levels. (For example: <*servername*>.com.)

Perform the DomainSuffix configuration on both the Cognos 10 BI Gateway Services machine and the InForm trial server. Both machines *must* have identical AuthenticationFilter entries for DomainSuffix.

1 In the **Windows Registry Editor**, navigate to the following Windows Registry key:

```
MyComputer\HKEY_LOCAL_MACHINE\SOFTWARE\Phase Forward\AuthenticationFilter
```

2 Update the entry for **DomainSuffix**.

   a Right-click the entry, and select **Modify**.

   The Edit String dialog box appears.

   b Enter the new value in the **Value Data** field. Edit the entry:

   - If you use proxy servers, or if the fully qualified domain name for either server does not end with a common domain suffix, remove every part of the domain suffix that is not identical on both computers. For example, if the FQDN includes <*servername*>.<*companyname*>.co.uk, after the edit, the entry would be <*companyname*>.co.uk.

   c Click **OK**.

3 Exit the **Windows Registry Editor**.

4 Restart IIS.

5 On the InForm server, restart the InForm Service.

Updating the ExternalLoginURL and ExternalLoginFailureURL registry key entries on the Cognos 10 BI servers

On each Cognos 10 BI server, update the ExternalLoginURL and ExternalLoginFailureURL entries for the Oracle AuthenticationFilter registry key.

1 In the **Windows Registry Editor**, navigate to the following Windows Registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Phase Forward\AuthenticationFilter
```

2 Update the entries for **ExternalLoginURL**:

a Right-click the entry and select **Modify**.

The Edit String dialog box appears.

b Specify the URL to configure for HTTPS.

https://<*servername*>.<*domainname*>:<*portnumber*>/PFExternalLogin/ExternalLoginFrameset.html

For example:

https://www.sample.com:443/PFExternalLogin/ExternalLoginFrameset.html

c Enter the new value in the **Value Data** field and click **OK**.

3 Update the entries for **ExternalLoginFailureURL**:

a Right-click the entry and select **Modify**.

The Edit String dialog box appears.

b Specify the URL to configure for HTTPS.

https://<*servername*>.<*domainname*>:<*portnumber*>/PFExternalLogin/ExternalLoginEscape.html

For example:

https://www.sample.com:443/PFExternalLogin/ExternalLoginEscape.html

c Enter the new value in the **Value Data** field and click **OK**.

4 Exit the **Windows Registry Editor**.

5 Restart IIS.

Update the domain settings for Cognos-generated cookies

1 On the server where Cognos 10 BI is installed, select **Start > All Programs > IBM Cognos 10 > Cognos Configuration**.

The Cognos Configuration window appears.

2 Select Actions > Edit Global Configuration.

The Global Configuration window appears.

3 Select the General Tab.

4 Edit the **Cookie Settings > Domain** value to match the value in the **DomainSuffix** value in the **HHKEY_LOCAL_MACHINE\Software\PhaseForward\AuthenticationFilter DomainSuffix** registry key.

For example, if the DomainSuffix value is **mycompany.com,** enter **.mycompany.com** for the Domain value.

Note: You must change the Domain settings in the Cognos Configuration utility whenever the AuthenticationFilter DomainSuffix registry setting is changed.

Enabling communication among distributed Cognos 10 BI software components

If you install one or more Application Tier Components on a separate server, to insure that they can communicate with other Cognos 10 BI reporting components:

- Configure cryptographic properties.
- Specify all Content Manager URIs.
- Specify the Dispatcher URIs.
- Specify the Dispatcher URI for external applications.
- In a multiserver environment, on a server where Application Tier Components are installed but the Content Manager component is not installed, configure that server's Notification Store property to point to the Content Store database. This is described in the online Help notes in the Cognos Configuration utility.

For more information, see the Cognos 10 BI documentation.

Customizing Cognos 10 BI email settings

The Cognos 10 BI installation sets up a feature that you can use to send links to report output using email. By default, the report links point to the server where the Cognos 10 Business Intelligence Gateway services are installed (the Gateway server).

If your environment is configured with an F5 switch, and you must use the generic URL to the switch, instead of pointing to the Gateway server, you must configure the SMTP mail server, using the Cognos Configuration utility.

1 Using the Cognos Configuration utility, configure the SMTP mail server.

   For more information, see the *Cognos 10 BI Reporting Quick Start Installation and Configuration Guide*, Chapter 2.

2 Select **File > Save**.

   The Cognos Configuration utility validates the settings and saves the configuration.

3 When the checks are complete (all items are marked with a green check mark), click Close.

4 Select **Actions > Start**.

   The Cognos Configuration utility registers and starts the Cognos 10 BI Service.

5 Click **Close**, and close the Cognos Configuration utility window.

Starting the Cognos 10 BI servers

After completing the Cognos 10 BI installation and configuration steps, you can start the Cognos 10 BI servers. If you have distributed Cognos 10 BI application tier components across multiple servers, see the *Cognos Installation & Configuration Guide* for the specific order for starting the servers.

1 On the server where the Cognos 10 BI service is installed, select **Start > All Programs > IBM Cognos 10 > Cognos Configuration**.

The Cognos Configuration utility starts.

2 Select **Local Configuration > Data Access > Content Manager > CS**.

The CS - Database - Resources panel appears.

3 Edit the User ID and Password field for the owner of the content store.

4 Save the configuration.

5 Select **Actions > Start**.

6 When the server is started, close the Cognos Configuration utility.

Configuring settings for CSV report output

The Reporting and Analysis module provides settings that allow you to use CSV report output files with applications such as the Excel spreadsheet application. Apply these settings to your environments:

- **Delimiter**—Comma-delimited files are widely accepted for use with several applications.
- **Encoding**—Using UTF-8 character encoding allows you to use your CSV output with a wide range of applications.
- **Terminator**—Using carriage return and line feed (CRLF) terminators ensures that the report output is properly organized into columns and rows.

Note: You must have server administration rights to modify these settings.

Configuring the CSV settings for reports

1 Use the Private Gateway to log into the Cognos application.

2 Click **Launch > Reporting Administration**.

The Administration page appears.

By default, the Status tab is selected.

3 In the pane on the left, click **System**.

4 In the **Scorecard** section, click the server name.

The full URL for the server appears below the server name.

5 Click the full URL for the server.

The available services for the server appear.

6 Select **Report Service > Set Properties**.

The Set properties - ReportService dialog box appears.

7 Select the **Settings** tab.

8 In the **Category** drop-down list, select **Environment**.

9 In the **Environment** category, in the **Advanced settings** row, click **Edit**.

The Set advanced settings dialog box appears.

10 Select the **Override the settings acquired from the parent entry** checkbox.

11 Type the following parameters and values:

Parameter	Value	Description
RSVP.CSV.DELIMITER	,	Separates each data item in the report output with a comma.
RSVP.CSV.ENCODING	UTF-8	Specifies UTF-8 character encoding for report data.

Parameter	Value	Description
RSVP.CSV.TERMINATOR	CRLF	Separates each row of data with a carriage return and line feed, so that the rows appear in ordered columns.

12 Select the checkbox next to each parameter.

13 Click **OK**.

The Set properties - ReportService page appears.

14 Click **OK**.

Disable the indexed search option on the Reporting Server

Because the indexed search functionality is not available in the Reporting and Analysis module, you should make the following adjustment to the user interface to hide the option:

Note: If you have distributed Cognos 10 BI application tier components across multiple servers, perform this procedure on each presentation server.

1 Select **Launch** > **Reporting Administration**.

The Administration page appears.

2 Click the **Configuration** tab.

3 Click Dispatchers and Services.

A list of the dispatchers that are registered with the Content Manager appears.

4 Select the **PresentationService** entry.

5 In the **Actions** column, click the **Set Properties** icon ().

6 Click the **Settings** tab

7 Select the **Environment entry (Advanced settings),** and click **Edit**.

8 Select **Override the settings acquired from the parent entry**, and do the following:

- Enter **portal.disableindexsearch** in the Parameter column**.**
- Enter **true** in the Value column.

9 Click **OK**.

Enabling Authors group permissions

By default, the Authors group is restricted from including HTML items and user-defined SQL in reports. If you are licensed to develop Report Studio reports in a self-hosted environment, you can modify these restrictions in the Cognos Administration module:

- Enable the **Execute** and **Traverse** permissions for the Authors group for the following Report Studio capabilities:
  - User Defined SQL
  - HTML Items in Report

Allowing support for restricted report elements

You may need to give a support user the ability to troubleshoot Report Studio reports that contain either restricted element.

For a user to troubleshoot reports containing custom HTML or SQL, the user must:

- Be a Support user type.
- Be a member of the following Reporting Groups:
  - Directory Administrators
  - Ad Hoc Users
  - Sponsor Users
- Not be a member of the Authors Reporting group.

CHAPTER 10

Installing and configuring the Reporting and Analysis module in a trial

In this chapter

Comparing configuration scenarios

There are three major differences between installing the trial and reporting data into the same database and installing them into separate databases:

Single database (development)	Separate databases (production)
Oracle Streams is not required.	Oracle Streams is required.
The trial schema owner owns all trial and reporting objects.	Separate schema owners own trial or reporting objects (and each schema is in a separate instance).
Running in archive log mode is not required.	Running in archive log mode is required.

When you install the Reporting and Analysis module into a different database from the trial, data is replicated using Oracle Streams. It is strongly recommended that you review the list of Oracle Streams Recommended References. These documents provide detail on Streams, Streams operations, and Streams monitoring.

Creating the InForm reporting database

You can create the InForm trial and reporting databases using either of the following configurations:

- Both databases in one instance in a development environment. For more information, see *Creating the trial and reporting databases in the same instance* (on page 115).
- Each database in a separate instance in a production environment. For more information, see *Creating the trial and reporting databases in separate instances* (on page 120).

Creating the trial and reporting databases in the same instance

You can install the reporting schema and the InForm trial schema in the same database instance to support a trial development (single-user) environment.

Note: When the trial and reporting schemas are in the same database instance/schema, there is no need to replicate trial data (Oracle Streams are not used) and reporting materialized views act directly on the trial schema PF tables.

Multiple reporting and trial combinations may be put in the same trial and reporting database instance.

Installing the InForm reporting database in a single database environment

This checklist provides an overview of the steps that you need to perform in order to install the reporting database into the same database that is used for the InForm trial.

1 Review the *InForm reporting hardware and software requirements* (on page 116) for installing reporting into the same database.

2 Review the *InForm reporting database architecture rules* (on page 116).

3 Extract the InForm reporting software.

4 *Prepare the trial database for InForm reporting* (on page 116).

   a Add/modify parameters.

   b Create RPTINSTALL user.

   c Add tablespaces for reporting.

5 *Configure the InForm reporting installation* (on page 118).

   a Configure reporting variables.

   b Check the variable settings.

Note: When trials are started, a process is begun which recalculates the trial's form state. The time needed for the recalculation of the form state is proportionate to the size of your trial. For trials that are being upgraded to InForm 4.6, be sure the recalc process has completed before installing the reporting database.

Reviewing the hardware and software requirements for a reporting database in a single database environment

There are minimal hardware requirements for a configuration in which a single database is used for both the trial and reporting

Make sure that there is enough available disk space for the installation by allowing four times the size of the trial for reporting.

For more information, see the hardware and software requirements, in the *Release Notes*.

Reviewing database architecture rules for a single database environment

Follow these rules when you install the reporting database into the same database used for the trial:

- There can be only one reporting environment per trial schema.
- A single database can hold multiple reporting schemas.
- The trial and reporting schema cannot be installed in the same database as the Content Store database for Cognos 10 Business Intelligence. No other Oracle products, such as CIS or Clintrial, should already reside in or be added to the trial and reporting database.
- The trial and reporting database must use a single-byte character set.

  Note: The Reporting and Analysis module does not support Unicode character sets or double-byte character sets in either the reporting or the trial database. For more information, see ***Configuring Oracle Database Software*** (on page 16).

- The InForm trial and reporting database is **not** required to run in archive log mode.

Preparing the trial database for the Reporting and Analysis module in a single database environment

To prepare the InForm trial database:

- Grant trial user privileges.

  For more information, see *Granting trial user privileges* (on page 116).

- Add or modify trial database parameters.

  For more information, see *Adding and modifying trial database parameters in a single database environment* (on page 19).

- Add tablespaces to the trial database.

  For more information, see *Adding tablespaces to the trial database in a single database environment* (on page 21)

- Create the RPINSTALL user.

  For more information, see *Creating the RPTINSTALL user for a single database environment for trials* (on page 117).

Granting trial user privileges

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command.

```
pfadmin stop trial <trialname>
```

Note: The trial must *not* be running while you execute this script.

3 Login to SQL*Plus with **/nolog**.

4 Connect to the trial database as a user with the privilege to grant user database privileges, for example **SYS**.

5 Type the following at the SQL*Plus prompt:

```
@grant_user_privs.sql <trial schema owner>
```

Where the <*trial schema owner*> is the database user name that holds the trial schema.

This script should run to completion without further prompts. The script produces a log called **grant_user_privs.log**.

Creating the RPTINSTALL user for a single database environment for trials

The rptinstall command creates a dba user named rptinstall.

To create a new user with DBA privileges in the trial database:

1 Identify the folder where the Reporting and Analysis database is located.

2 From a Windows command prompt, set your default to this folder.

3 Log on to the trial database with a user that has **sysdba** privileges. Make sure that the connection is made with the "as sysdba" clause.

4 Run this command:

```
create user rptinstall identified by rptinstall default tablespace
<tablespace_name> temporary tablespace <tablespace name>
```

This command creates a dba user called **rptinstall.** This account is used only for all install and uninstall operations. This account has many privileges, including sysdba privilege.

The user name must be **rptinstall**. If it is not, the installation fails. Replace <*tablespace_name*> with a valid tablespace name from the trial database. It is recommended that the SYSTEM tablespace **not** be used for the default tablespace.

The default tablespace does not require additional room for objects because the **rptinstall** user does not own any objects.

5 Type the following at the SQL*Plus prompt:

```
@grant_dba_privs rptinstall
```

The rptinstall account is *not* used for reporting operations and can be locked when not in use.

The rptinstall account can also be dropped after the installation is finished. However, you must recreate it before performing any installation or uninstallation activities.

Configuring the Reporting and Analysis installation for a single database environment

To configure the Reporting and Analysis installation:

- Configure the reporting variables.
- Check the variable settings.

Configuring the reporting variables for a single database environment

You must change the **configsamedb.sql** file. The installation and uninstallation scripts use this file for user name, tablespace, and connection information. This file is located in the reporting software folder.

The trial_default_ts variable is used to put all Reporting and Analysis objects into one tablespace. The value used for this variable is inherited by the following variables in the default **configsamedb.sql** file:

- trial_table_ts
- trial_index_ts
- rep_mv_ts
- rep_index_ts
- rep_mvlog_ts

To put all Reporting and Analysis objects into one tablespace, specify the value of a tablespace for the *trial_default_ts variable* and leave the five variables listed above defaulted to the trial_default_ts value.

If you want to use separate tablespaces, adjust the value of the five variables accordingly. The trial_default_ts value is used as the value for these variables only if the default is left in place. If all values for these variables are changed, the trial_default_ts variable is not used during the installation and has no effect.

Tablespace sizing is discussed in *Adding tablespaces to the trial database in a single database environment* (on page 21).

There are two sections in the **configsamedb.sql** script:

- The first section is for predefined variables, which you should **NEVER** change.
- The second section is for user-defined variables, most of which you need to change.

User-defined variable	Value	Comments
trialdb_tnsnames_alias	Tnsnames alias for the trial database.	Used for connection to the trial database. Also used as a part of the PUBLIC database link.
trialdbstring	@&&trialdb_tnsnames_alias	Preset variable. Do not change. Used for connection to the trial database.

User-defined variable	Value	Comments
trial_schema_owner	InForm trial schema owner.	Oracle user name of the trial schema owner in the trial database.
trial_default_ts	Existing InForm tablespace or a new one that has been created.	See comments above for usage.
trial_table_ts	Existing InForm tablespace or a new one that has been created.	Used to hold trial schema tables that are required for reporting. See comments above for usage.
trial_index_ts	Existing InForm tablespace or a new one that has been created.	Used to hold trial schema indexes that are required for reporting. See comments above for usage.
trial_temp_ts	Name of the trial temporary tablespace.	Temporary tablespace in the trial database.
dbauser_trial_password	Password for RPTINSTALL.	Assigned when the rptinstall user is created. For more information, see *Creating the RPTINSTALL user for a single database environment for trials* (on page 117).
trial_schema_owner_password	Password for the InForm trial schema owner.	
rep_mv_ts	Existing InForm tablespace or a new one that has been created.	Used to store the materialized views. Also holds materialized view logs and indexes that are created on the materialized views. See comments above for usage.
rep_index_ts	Existing InForm tablespace or a new one that has been created.	Used to store indexes that are created on reporting tables. See comments above for usage.
rep_mvlog_ts	Existing InForm tablespace or a new one that has been created.	Used to store materialized view logs that are created on reporting tables. See comments above for usage.

Checking the variable settings for a single database environment

Oracle provides a script called **configandchecksamedb.sql** to check the variable settings. The installation calls this same script to check the environment and variables before the installation.

Run the script manually, fix any error it finds, and run the script again. You can rerun the script as many times as necessary until it completes without errors.

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command:

```
pfadmin stop trial <trialname>
```

Note: The trial must *not* be running while you execute this script.

3 Identify the folder where the reporting software is located, and set your default to this folder.

Log on to **SQL*Plus** with **/nolog**.

4 Type the following at the SQL*Plus prompt:

```
@configandchecksamedb
```

If the script finds an error, fix the error and run the script again

If this script passes with no errors, the variables are correct.

Note: Do not proceed with the installation if there are errors that need to be resolved.

Creating the trial and reporting databases in separate instances

You can install the reporting schema in a separate database instance from the InForm trial schema to support a trial production (multi-user) environment.

Note: When the trial and reporting schemas are in separate database instances/schemas, it is necessary to replicate trial data (Oracle Streams are used) in reporting materialized views.

Database architecture rules in a multiple database environment

Follow these rules when installing the reporting database into the a separate database from the one used for the trial:

- You must install the Reporting and Analysis environment (reporting schema) in a database that is different from the one that holds the trial.
- The reporting schema Oracle user name in the reporting database must be the same name as the trial schema Oracle user name in the trial database. Because the users are in different databases, the user names may have different passwords.
- There can be only one reporting environment per trial schema.
- A single reporting database can hold multiple reporting schemas. The trial schemas that are associated with these reporting schemas might exist in the same or different trial databases.
- The reporting schema cannot be installed in the same database as Cognos 10 Business Intelligence and cannot be put into the same database as the trial. No other Oracle products should already reside in or be added to the reporting database.
- The reporting database must be created using a single-byte character set. The trial database must use a single-byte character set.

Note: The Reporting and Analysis module does not support Unicode character sets or double-byte character sets in either the reporting or the trial database. For more information, see ***Configuring Oracle Database Software*** (on page 16).

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

If you are installing reporting in a development environment, see *Creating the trial and reporting databases in the same instance* (on page 115) for instructions.

Installing the InForm reporting database in a multiple database environment

1 Review the *Reporting and Analysis hardware and software requirements* (on page 121) for installing reporting into a different database.

2 Review *Reporting and Analysis database architecture rules* (on page 120).

3 Extract the Reporting and Analysis software.

4 *Prepare the trial database for Reporting and Analysis* (on page 126).

   a Add/modify parameters.

   b Add tablespaces for reporting.

   c Create RPTINSTALL user.

   d Verify ARCHIVELOG mode.

5 *Create an InForm reporting database* (on page 122).

   a Configure required database parameters.

   b Create tablespaces for reporting.

   c Create RPTINSTALL user.

   d Setup communication between the trial and reporting databases.

6 Configure the Reporting and Analysis installation.

   a Configure reporting variables.

   b Check the variable settings.

Reviewing the hardware and software requirements for a reporting database in a multiple database environment

The hardware requirements for the Reporting and Analysis module are the same as the requirements for an InForm trial production database server or development database server.

For more information, see the hardware and software requirements in the *Release Notes*.

Creating an InForm reporting database in a multiple database environment

You must complete the following tasks in order to create a separate InForm reporting database:

- Configure the required database parameters.

  For more information, see *Adding and modifying trial database parameters in a multiple database environment* (on page 22).

- Create tablespaces for reporting.

  For more information, see *Adding tablespaces to the trial database in a multiple database environment* (on page 24).

- Create the **rptinstall** users.

  For more information, see *Creating the RPTINSTALL user in a multiple database environment for reports* (on page 125).

- Set up communication between the trial and reporting databases.

  For more information, see *Setting up communication between the trial and reporting databases in a multiple database environment* (on page 130).

- Verify Archivelog mode.

  For more information, see *Verifying Archivelog mode in the trial database in a multiple database environment* (on page 130).

Configuring required reporting database parameters in a multiple database environment

The database parameters listed below are required for the Reporting and Analysis installation.

Parameter	Value	Notes
db_block_size	16384	If the database will be used for reporting set this to 16384.
db_files	250	Controls the number of operating system files the database will manage. In large installations this parameter may need to be set higher. Changes to this parameter requires cycling the database forcing application down time.
deferred_segment_creation	FALSE	Required due to limitations of import/export.
processes	500	
open_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.

Parameter	Value	Notes
session_cached_cursors	300	Monitor this parameter to make sure the value is appropriate to the number of users. A parameter setting that is too low might impact database performance.
global_names	TRUE	
streams_pool_size	200M	Set if streaming is in use to a separate reporting database. 200M is the minimum value required.
memory_target	Set to maximum of memory available to Oracle. Available memory on a dedicated server is all memory except the amount needed for the Operating System.	Setting this parameter instructs Oracle to use automatic memory management. This is the recommended best practice. For mega trials, manually allocating memory may provide better performance.
sga_target	Only use this parameter for mega trials. Set to a portion of memory_target to ensure a minimum allocation for sga. **Note:** Do not allocate more than 80% of memory_target to sga_target.	sga_target is only recommended to be used on mega trials as a minimum memory setting in combination with memory_target. In general it is recommended to use memory_target alone.
workarea_size_policy	auto	
_job_queue_interval	1	Set if streaming is in use for a separate reporting database.
log_archive_dest	Defaults to $ORACLE_HOME/dbs InForm recommends this be changed to $ORADATA/ARCHIVE	The placement of archive logs is determined by available disk space on the server. It is recommended the default value for this parameter not be used to facilitate database maintenance.

Oracle recommends that you review the parameters below, which are not mandatory for the reporting installation.

Parameter	Review recommendation
sessions	For more information, see the Oracle *Streams Recommended Configuration* document on Metalink (reference below).
undo_retention	900 (minimum value) For more information, see the Oracle *Streams Recommended Configuration* document on Metalink (reference below).

For more information, see *Oracle Streams Recommendations* document.

Creating the reporting tablespaces in a multiple database environment

Tablespaces need to be created to hold Reporting and Analysis objects.

- **STRMADMIN_TS** is the only tablespace that is required for Reporting and Analysis installation.

  Use the following syntax:

```
CREATE TABLESPACE <tsname>
DATAFILE 'blah' SIZE (see table below)
AUTOEXTEND ON NEXT (see table below)
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

- The **SYSAUX** tablespace is used to store **LOGMNR** objects by default in the Oracle database. No tablespace needs to be created for Logminer objects.
- The **UNDO** tablespace size and growth will be influenced by the **UNDO_RETENTION** database parameter setting and Streams needs in addition to normal InForm reporting operations.
  - For more information about Streams, see the *Oracle 10.2 Streams Recommendations* document - **Note: 418755.1**.
  - For more information about the **UNDO_RETENTION** parameter and **UNDO** tablespace, see the Oracle Database *Administrator's Guide*.

Note: If the optional tablespaces that are listed in the following table are not created, space must be available in existing tablespaces.

Tablespace name	Initial size/autoextend size needed	File extent size/file maximum size	Required	Comments
STRMADMIN_TS	25M	Make the initial size 25 megabytes, set AUTOEXTEND on and set MAXSIZE to UNLIMITED.	Yes	The name STRMADMIN_TS is required for this tablespace. This tablespace is used to hold spillover from streams queues into streams_queue_tables. Streams queue tables reside in this tablespace. Size recommendation is taken from the *Streams Recommended Configuration* note mentioned above.
Chosen by customer – see comments	Three times the size of the trial	Chosen by customer. The size of the materialized views grows as the data in the trial grows.	Optional	Stores the materialized views. Also holds materialized view logs and indexes that are created on the materialized views. Corresponds to the variable rep_mv_ts in the Configdiffdb.sql file.

Tablespace name	Initial size/autoextend size needed	File extent size/file maximum size	Required	Comments
Chosen by customer – see comments	One-half the size of the trial	Chosen by customer. The size of the indexes grows as the trial indexes grow.	Optional	Used to store indexes that are created on reporting tables. Corresponds to the variable rep_index_ts in the Configdiffdb.sql file.
Chosen by customer – see comments	25M	Chosen by customer.	Optional	Used to store materialized view logs that are created on reporting tables. Corresponds to the variable rep_mvlog_ts in the Configdiffdb.sql file.
Chosen by customer – see comments	Size of the trial	Chosen by customer. The size of the reporting base tables grows as the trial tables grow.	Optional	Used to store reporting tables. Corresponds to the variable rep_table_ts in the Configdiffdb.sql file.

Creating the RPTINSTALL user in a multiple database environment for reports

To create a new user with DBA privileges in the report database:

1 Identify the folder where the Reporting and Analysis database is located.

2 From a Windows command prompt, set your default to this folder.

3 Log on to the report database with a user that has sysdba privileges. Make sure that the connection is made with the "as sysdba" clause.

4 Run this command:

```
create user rptinstall identified by rptinstall default tablespace
<tablespace_name> temporary tablespace <tablespace name>
```

This command creates a dba user called **rptinstall.** This account is used only for all install and uninstall operations. This account has many privileges, including sysdba privilege.

The user name must be **rptinstall**. If it is not, the installation fails. Replace <*tablespace_name*> with a valid tablespace name from the trial database. It is recommended that the SYSTEM tablespace **not** be used for the default tablespace.

The default tablespace does not require additional room for objects because the **rptinstall** user does not own any objects.

5 Type the following at the SQL*Plus prompt:

```
@grant_dba_privs rptinstall
```

The rptinstall account is *not* used for reporting operations and can be locked when not in use.

6 The rptinstall account can also be dropped after the installation is finished. However, you must recreate it before performing any installation or uninstallation activities.

Preparing the trial database for Reporting and Analysis in a multiple database environment

To prepare the InForm trial database:

- Grant trial user privileges.

  For more information, see *Granting trial user privileges* (on page 116).

- Create the rptinstall user.

  For more information, see *Creating the rptinstall user in a multiple database environment for trials* (on page 126).

- Configure reporting variables.

  For more information, see *Configuring reporting variables in a multiple database environment* (on page 127).

- Check the variable settings.

  For more information, see *Checking the variable settings in a multiple database environment* (on page 129).

Granting trial user privileges

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command.

```
pfadmin stop trial <trialname>
```

> **Note:** The trial must *not* be running while you execute this script.

3 Login to SQL*Plus with **/nolog**.

4 Connect to the trial database as a user with the privilege to grant user database privileges, for example **SYS**.

5 Type the following at the SQL*Plus prompt:

```
@grant_user_privs.sql <trial schema owner>
```

Where the <*trial schema owner*> is the database user name that holds the trial schema.

This script should run to completion without further prompts. The script produces a log called **grant_user_privs.log**.

Creating the RPTINSTALL user in a multiple database environment for trials

To create a new user with DBA privileges in the trial database:

1 Identify the folder where the Reporting and Analysis database is located.

2 From a Windows command prompt, set your default to this folder.

3 Log on to the trial database with a user that has SYSDBA privileges. Make sure that the connection is made with the "AS SYSDBA" clause.

4 Run this command:

```
create user rptinstall identified by rptinstall default tablespace
<tablespace_name> temporary tablespace <tablespace name>
```

This command creates a dba user called **rptinstall.** This account is used only for all install and uninstall operations. This account has many privileges, including sysdba privilege.

The user name must be **rptinstall**. If it is not, the installation fails. Replace <*tablespace_name*> with a valid tablespace name from the trial database. It is recommended that the SYSTEM tablespace **not** be used for the default tablespace.

The default tablespace does not require additional room for objects because the **rptinstall** user does not own any objects.

5 Type the following at the SQL*Plus prompt:

```
@grant_dba_privs rptinstall
```

The rptinstall account is *not* used for reporting operations and can be locked when not in use.

The rptinstall account can also be dropped after the installation is finished. However, you must recreate it before performing any installation or uninstallation activities.

Configuring reporting variables in a multiple database environment

To configure the reporting installation to store objects in separate tablespaces, change the CONFIGDIFFDB.SQL script. This file is used by the installation and uninstallation scripts for user name, password, tablespace, and database link and connection information. This file is located in the reporting software folder.

There are two sections in this file:

- The Predefined variables, which you should NEVER change.
- The user-defined variables (see below), most of which you should change.

User-defined variable	Value	Comments
trialdb_tnsnames_alias	Tnsnames alias for the trial database.	Used for connection to the trial database. Also used as a part of the PUBLIC database link.
trialdbstring	@&&trialdb_tnsnames_alias	Preset variable. Do not change. Used for connection to the trial database.
trial_schema_owner	InForm trial schema owner.	Oracle user name of the trial schema owner in the trial database.
rep_proxy_user<<INF-10878 #9>>	New user. Prepend RP to the InForm trial schema owner.	Oracle user name in the trial database that serves as a proxy user for reporting database connections.
trial_table_ts	Existing InForm tablespace or a new one that has been created.	Used to hold trial schema tables that are required for reporting. See comments above for usage.
trial_index_ts	Existing InForm tablespace or a new one that has been created.	Used to hold trial schema indexes that are required for reporting. See comments above for usage.

User-defined variable	Value	Comments
trial_temp_ts	Name of the trial temporary tablespace.	Temporary tablespace in the trial database.
trial_to_rep_dblink_name	Global name of the reporting database.	Connect to the reporting database and run the command **Select global_name from global_name**. Use the value returned from this command for this variable. Name of all database links in the trial database.
trial_dblink_name_select	@&&trial_to_rep_dblink_name	Preset variable. Do not change. Used for connection to remote objects in the reporting database.
dbauser_trial_password	Password for RPTINSTALL.	Assigned when the rptinstall user is created. For more information, see *Creating the rptinstall user in a multiple database environment for trials* (on page 126).
trial_schema_owner_password	Password for the InForm trial schema owner.	
rep_proxy_user_password	Password for the user created in the "REP_PROXY_USER" variable.	Proxy user is a trial user name created to act as the proxy user for the reporting user.
streams_admin_user_trial_pwd	Password for the STRMADMIN user.	**STRMADMIN** is a new user in the trial database created for Streams, which will be created during reporting setup.
streams_proxy_user_password	Password for the RPSTRMADMIN user.	**RPSTRMADMIN** is a proxy user created for the **STRMADMIN** account in the reporting database.
repdb_tnsnames_alias	Tnsnames alias for the reporting database.	Used for connection to the reporting database. Also used as a part of the PUBLIC database link.
repdbstring	@&&repdb_tnsnames_alias	Preset variable. Do not change. Used for connection to the reporting database.
rep_schema_owner	&&trial_schema_owner	Preset variable. Do not change.
rep_table_ts	Existing InForm software tablespace or new one that was *created earlier* (on page 124).	Used to store reporting tables.

User-defined variable	Value	Comments
rep_mv_ts	Existing InForm tablespace or a new one that has been created.	Used to store the materialized views. Also holds materialized view logs and indexes that are created on the materialized views. See comments above for usage.
rep_index_ts	Existing InForm tablespace or a new one that has been created.	Used to store indexes that are created on reporting tables. See comments above for usage.
rep_mvlog_ts	Existing InForm tablespace or a new one that has been created.	Used to store materialized view logs that are created on reporting tables. See comments above for usage.
rep_temp_ts	Name of the reporting db temporary tablespace.	Temporary tablespace in the report database.
rep_to_trial_dblink_name	Global name of the trial database.	Connect to the trial database and run the command: **Select global_name from global_name.** Use the value returned from this command for this variable. Name of all database links in the reporting database.
rep_dblink_name_select	@&&rep_to_trial_dblink_name	Preset variable. Do not change. Used for connection to remote objects in the trial database.
dbauser_rep_password	Password for RPTINSTALL.	Assigned when the rptinstall user is created. For more information, see *Creating the RPTINSTALL user in a multiple database environment for reports* (on page 125)
rep_schema_owner_password	Password for the reporting schema owner.	The reporting schema owner must have the same name as the trial schema owner.
streams_admin_user_rep_passwd	Password for the strmadmin user in the reporting database instance.	**STRMADMIN** is a user in the trial database for Streams that will be created during reporting setup.

Checking the variable settings in a multiple database environment

Oracle provides a script named **configandcheckdiffdb.sql** to check the variable settings. The installation calls this script to check the environment and variables before the installation.

Run the script manually, fix any error it finds, and run the script again. You can rerun the script as

many times as necessary until it completes without errors.

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command:

```
pfadmin stop trial <trialname>
```

> **Note:** The trial must *not* be running while you execute this script.

3 Identify the folder where the reporting software is located, and set your default to this folder.

4 Log on to **SQL*Plus** with **/nolog**.

5 Type the following at the SQL*Plus prompt:

```
@configandcheckdiffdb
```

If the script finds an error, fix the error and run the script again

If this script passes with no errors, the variables are correct.

> **Note:** Do not proceed with the installation if there are errors that need to be resolved.

Setting up communication between the trial and reporting databases in a multiple database environment

The InForm trial database and reporting database communicate through database links. Entries into the tnsnames.ora file(s) on the trial database and reporting database servers are required. Create two tnsnames aliases:

- On the reporting server to connect to the trial instance on the trial server.
- On the trial server to connect to the reporting instance on the reporting server.

Verifying Archivelog mode in the trial database in a multiple database environment

You must run the InForm trial database in archivelog mode. This is a requirement for Oracle Streams. To determine if the InForm database is being run in archivelog mode:

1 Log into a privileged Oracle account, for example, SYS, using SQL*Plus.

2 Run the following command:

```
archive log list
```

You should see the following values:

- The **database log mode** value should be **Archive** mode.
- The **automatic archival** value should be **Enabled**.

> **Note:** For more information, see the information about managing archived Redo logs in the *Oracle Database Administrator's Guide*.

Installing the Reporting and Analysis module

You can install the Reporting and Analysis module in either a single-database environment or a multiple database environment.

For more information, see:

- *Installing the Reporting and Analysis module in a single database environment* (on page 131).
- *Installing the Reporting and Analysis module in a multiple database environment* (on page 133).

Installing the Reporting and Analysis module in a single database environment

If you are installing reporting in a development environment, Oracle recommends that you install reporting in the same database as the trial. If you Install the Reporting and Analysis module in a single database environment, you must run the **install_reporting_samedb** script.

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

Installing the Reporting and Analysis module in a single database

Oracle provides a script called **install_reporting_samedb** for installing the Reporting and Analysis module in a single database development environment.

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command:

```
pfadmin stop trial <trialname>
```

Note: The trial must *not* be running while you execute this script.

3 Identify the folder where the reporting software is located, and set your default to this folder.

4 Modify parameters in the **configsamedb.sql** to reference specific trial information. For more information, see *Configuring the Reporting and Analysis installation for a single database environment* (on page 118).

5 Log on to **SQL*Plus** with **/nolog**.

6 Type the following at the SQL*Plus prompt:

```
@configandchecksamedb.sql
```

7 Type the following at the SQL*Plus prompt:

```
@install_reporting_samedb.sql
```

No log on is required to run this script, because the script uses information provided in the configsamedb.sql file to log on. This script should run to completion without prompts.

8 After the installation is complete,remove **configsamedb.sql** and copy it to a secure location for

future InForm Reporting upgrades and installations.

You will need this file in the future if you want to uninstall or re-install the Reporting and Analysis module.

9 Start the InForm trial.

Note: The script produces a log called **install_reporting_samedb.log**, which contains any installation messages. Search the log for the word Error. No errors should be found.

In case of installation failures in a single-database configuration

Oracle provides a script called **deinstall_reporting_samedb** to remove all components associated with the Reporting and Analysis module for a single trial schema and reporting schema combination.

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

This script uses settings in the **configsamedb.sql** to uninstall the schema. Use the same **configsamedb.sql** file to uninstall as the one you initially used for the installation.

Note: If the original is not available, set the parameters in **configsamedb.sql** for the reporting schema that you want to remove.

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command:

```
pfadmin stop trial <trialname>
```

Note: The trial must *not* be running while you execute this script.

3 Identify the folder where the reporting software is located, and set your default to this folder.

4 Verify that the **configsamedb.sql** parameters reference specific trial information.

5 Log on to **SQL*Plus** with **/nolog**.

6 Type the following at the SQL*Plus prompt:

```
@deinstall_reporting_samedb
```

This script uninstalls the InForm Reporting and Analysis environment for a single trial/reporting schema. It does not remove multiple reporting schemas or the underlying reporting infrastructure. You can re-run this script if necessary.

Note: If the error message **Reporting deinstallation aborted** appears, nothing has been removed. This usually indicates a problem with the **configsamedb.sql** settings.

You can run the **configandchecksamedb.sql** script to make sure everything has been removed. If this script completes successfully, the uninstall succeeded.

Note: This script checks the existence of tablespaces, but the uninstall does not remove tablespaces. If the script fails because it cannot find a tablespace, change the tablespace variables in **configsamedb.sql** to an existing tablespace in the database and run the script again.

Installing the Reporting and Analysis module in a multiple database environment

If you are installing reporting in a production environment, Oracle recommends that you install reporting in a different database from the trial. If you install the Reporting and Analysis module in a multiple database environment, you must run the **install_reporting_diffdb** script.

There are two installation options available for InForm reporting into multiple databases. The following sections will install reporting in one step but require the trial to be down until the installation script has finished. The other installation option is described in Appendix B. This option is composed of two scripts, one that needs to be run while the trial is down and one that can be run with the trial running. The advantage to this approach is that the trial can be used sooner. To save time, this option allows the reporting schema to be created during the installation.

Installing the Reporting and Analysis module in multiple databases

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

Oracle provides a script called **install_reporting_diffdb.sql** for installing the Reporting and Analysis module in a multiple database production environment.

1 Open a Windows command prompt.

2 Stop the InForm trial using the **pfadmin** command:

```
pfadmin stop trial <trialname>
```

Note: The trial must *not* be running while you execute this script.

3 Identify the folder where the reporting software is located, and set your default to this folder.

4 Modify the parameters in the **configdiffdb.sql** to reference specific trial information (see *Configuring required reporting database parameters in a multiple database environment* (on page 122)).

5 Login to **SQL*Plus** with **/nolog**.

6 Type the following at the SQL*Plus prompt:

```
@configandcheckdiffdb.sql
```

7 Type the following at the SQL*Plus prompt:

```
@install_reporting_diffdb.sql
```

This script should run to completion without prompts. The script produces two logs called pre-**install_reportingschema_diffdb.log** and **install_reportingschema_diffdb.log**, which contains any installation messages. Search the log for the word **Error**. No errors should be found.

8 After the installation is complete, remove **configdiffdb.sql** and copy it to a secure location for future InForm Reporting upgrades and installations.

You will need this file in the future if you want to uninstall or reinstall InForm Reporting and Analysis.

9 Start the InForm trial.

10 Oracle strongly recommends that you review Oracle Streams Recommended References.

These documents provide information about Streams, Streams operations, and Streams monitoring.

In case of installation failures in a multiple database environment

In the event that an installation fails, follow these steps to remove components of the Reporting and Analysis module that have already been installed.

Note: The InForm database installation and administration scripts are designed to be run using the InForm application server. You can also run the scripts from the InForm reporting Oracle database home on a Windows Server. Running them from a different Windows Oracle client or from a non-Windows Oracle client or database home might work, but is not supported.

1 Check the **install_reporting_diffdb.log** that is produced by the **install_reporting_diffdb.sql** script.

A section is written to this log to let you know what needs to be performed when you uninstall reporting. Search the log for the string **end of infrastructure setup**. This is surrounded by several rows of asterisks (*) above and below it in the log.

Note: If you do not find the end of infrastructure setup string, skip the next step.

2 Run the script **deinstall_reporting_diffdb.sql**. This script uses the **configdiffdb.sql** file, so make sure the correct one is in place. Run this script as many times as necessary.

a After the script is run, check for any errors by searching for the word **Error**. Correct any problems and run the script again.

b Rerun the script until it does not find anything to remove and does not find any errors.

You can run the **configandcheckdiffdb.sql** script to make sure everything has been removed. If this completes successfully, then the uninstall has succeeded.

Note: This script checks the existence of tablespaces. The uninstall does not remove tablespaces. If the script fails to find a tablespace, adjust the tablespace variables in configdiffdb.sql to those that match an existing tablespace in the database and rerun it.

3 Run the following command in both the trial and reporting databases. Do not run this command until you are sure that you have completely removed the trial and reporting schemas.

a Open a Windows command prompt.

b Stop the InForm trial using the **pfadmin** command.

Note: The trial should not be running while this is performed.

c Identify the folder where the trial database is located.

d Set your default to this folder.

e Login to **SQL*Plus** with **/nolog**.

f Connect to the reporting database as **strmadmin**.

g Type the following at the SQL*Plus prompt:

```
Delete from streams_setup_info
where trial_username = '<trial_schema_owner>'
   and rep_username = '<rep_schema_owner>'
   and trial_db_global_name = '<global name of the trial database>'
   and rep_db_global_name = '<global name of the reporting database>'
```

Note: Enclose all of these values in single quotes.

where:

- **<trial-schema-owner>**—The InForm trial owner in the trial database.
- **<rep_schema_owner>**—The reporting schema owner in the reporting database that corresponds to the InForm trial owner. This user name is the same as the InForm trial owner.
- <**global name of the trial database>**—Can be found using the command **'Select global_name from global_name;'** in the trial database.
- **< global name of the reporting database>**—Can be found using the command **'Select global_name from global_name;'** in the reporting database.

h Exit **SQL*Plus**.

i Identify the folder where the reporting database is located.

j Set your default to this folder.

k Repeat steps e to h for the reporting database.

CHAPTER 11

Configuring a trial for the Reporting and Analysis module

In this chapter

Configuring an InForm trial for the Reporting and Analysis module

Configuring a trial for the Reporting and Analysis module involves establishing communications between the InForm trial and the Cognos 10 BI server, as well as setting up the objects that are needed for reporting.

In this section, you will:

- Run the **InForm Reporting Configuration** utility.
- Run the **PFRINIT** utility to set up objects, object access, permissions for reporting.
- Run the **REFRESHREPCLIN** utility to generate a clinical reporting package for a trial, create the clinical data materialized views, or import changes and refresh the InForm reporting database.
- Authorize users for the Reporting and Analysis module.
- Specify a logo for InForm standard reports.

Note: In order to run the **PFRINIT** and **REFRESHREPCLIN** utilities, you need an InForm user who is a member of the **Publishers** group, as well as a member of either the **Sponsors** Users or the **Site** Users group. This user is referred to as <InFormTrialUser>. The <InFormTrialUser> must also have access to each trial for which you run the **PFRINIT** or **REFRESHREPCLIN** utility.

Configuring a trial for the Reporting and Analysis module using the InForm Reporting Configuration utility

1 On the server where the InForm core software is installed, select **Start > All Programs > Oracle Health Sciences > InForm 4.6.5.1 for 64-bit > InForm Reporting Configuration**.

The wizard title page appears.

2 Click **Next**

The Select Trial page appears.

3 Use the drop-down list to choose the trial you want to configure for Cognos, and click **Next**.

The Cognos parameters page appears.

4 Fill out the information as described in the table below, and click **Next**.

Cognos Namespace	Custom Authentication Provider (CAP) namespace. The default is informcap. The case of the value you enter here must be the same case as the entry in the Cognos Configuration utility. For example, if the entry in the Cognos Configuration utility is in lower case (informcap), the <namespace> option must also be in lower case (informcap). informcap is the namespace created by the InForm CRN wizard. The namespace can be shared by many studies, and it should not typically need to be changed. If you have created additional namespaces manually with the Cognos Configuration utility, use the name of the newly created namespace in this field.
Gateway URI	External public URI that communicates with the Cognos 10 BI Gateway Services from an end user's browser. This Cognos parameter is set in the Cognos 10 Business Intelligence Gateway Customization for InForm wizard. The parameter setting is stored in the cogstartup.xml file. Example: http://www.example.com/cognos
Dispatcher URI	Internal URI that the InForm server uses to communicate with the Cognos server. This Cognos parameter is set in the InForm CRN wizard. The parameter setting is stored in the cogstartup.xml file and corresponds to the Reporting internal URI value on the Admin > System Configuration page of the InForm application. Example: http://www.example.com:9300/p2pd/servlet/dispatch.
Root Folder	The top-level reporting folder for the trial. Default: /content/folder[@name='<trialname>']

The Reporting database parameters page appears.

5 Fill out the information as described in the table below, and click **Next**.

Field	Description
Reporting uses trial database	Use if the trial and the Reporting database are on the same server.
Reporting uses separate database	Select if the Reporting database and the trial database are in separate servers.
Database Connection String	Reporting database connection string (TNS Name). Use if Reporting and the InForm trial are in different databases.
User name (same as trial user)	Reporting database trial username must be the same as the InForm database trial username.
Password	Reporting trial password. Use if the trial and the Reporting database are in different databases.

The Trial URL and database connection information page appears.

6 Fill out the information as described in the table below, and click **Next**.

Field	Description
Trial URL	The URL for the InForm trial.
Database Connection String	The connection string for the for the CAP.
User	The user name for the CAP database schema owner.
Password	Password for the CAP database schema owner.
Name of Trusted User	Optional. The name of the user that is trusted for InForm Clinical Model Generation. By default, it is populated with pfreportinguser. This field can be left blank.

The Verification page appears.

7 Verify that the information on the page is correct and click **Next**.

The trial is configured according to the information provided.

The Reporting configuration is complete page appears.

8 Click **Finish**.

Run the PFRINIT utility

The **PFRINIT** utility performs the following tasks:

- Modifies the default Cognos capabilities to fit the InForm reporting environment.
- Creates new Cognos groups that match InForm reporting requirements.
- Sets permissions on Public folders so that only Publishers can write to this public area.
- Imports the InForm trial management archive and prepare for new trial setup.
- Maps trial-specific reporting groups to the Cognos groups and roles.
- Creates trial-specific data connection and set permissions so that it is restricted for the use of trial members only.
- Copies the trial management package from the trial management archive, and rename it as a trial-specific package.
- Creates a trial folder that contains all the standard folders and reports that point to the trial-specific package. Relative paths within reports are modified to reflect the new location.
- Validates all copied reports so that all successfully validated reports are syntactically correct and able to run against the trial-specific packages.
- Sets up the CRNSYSADMIN user.

To run the **PFRINIT** utility:

1 In Windows Explorer, navigate to the <*cognos_installation_directory*>\c10\bin folder.

2 Using a text editor, open the **PFRsetupTrial.xml** file, and then make the following changes:

- **Connectionstring**—Oracle connection string for the reporting database (in a single database configuration, use the trial database connection string).
- **DBUID**—Trial user id (for example, pfstprduid).

> **Note:** The DBUID must be the same Oracle user name as the trial owner in the InForm trial database.

3 Save and close the **PFRsetupTrial.xml** file.

4 Open a **Windows Command** prompt, and then type the following command to run the pfrinit utility:

```
pfrinit PFWD crnsysadmin <Namespace> <InFormTrialUser> <internal
dispatcher uri> <trialname>
```

where

- <*Namespace*>—Custom Authentication Provider (CAP) namespace. The default is informcap. The case of the value you enter here must be the same case as the entry in the Cognos Configuration utility. For example, if the entry in the Cognos Configuration utility is in lower case (informcap), the <namespace> option must also be informcap.
- <*InFormTrialUser*>—The target trial InForm user who is a member of the **Publishers** users, as well as a member of either the **Sponsors** users or the **Site** users.
- <*internal dispatcher uri*>—This is found in **InForm Configuration tab** and usually looks like **http://<***machine's FQDN***>:9300/p2pd/servlet/dispatch.**
- <*trialname*>—The name of the InForm trial.

When prompted, enter the password you have chosen for the crnsysadmin user, and the InForm trial user password.

5 When the utility completes, close the **Command** prompt.

Generating a clinical reporting package

After you have completed all installations and configurations, you must create a clinical reporting package. The clinical package makes clinical data available to users of InForm Ad Hoc Reporting. You can:

- Generate the initial clinical reporting package and deploy it as is.
- Customize the initial clinical reporting package to include improved topic labels in the InForm Ad Hoc Reporting tree.

Generating the initial clinical reporting package

To be able to access clinical data in the InForm Ad Hoc Reporting module, you must generate a clinical reporting package that is unique to an InForm trial.

To generate a clinical reporting package for a trial, run the **refreshrepclin.bat** file.

Before running REFRESHREPCLIN.BAT

Before you run refreshrepclin.bat, consider the following:

- The Oracle client must be installed and configured to connect to the trial and reporting database(s)..
- To run the script, you must have access to the <*cognos_installation_directory*>**\bin** folder.
- The gcr.vbs script must be installed in the <*cognos_installation_directory*>**\InForm\bin** folder.
- The InFormRep.cpf files must be installed in the <*cognos_installation_directory*>**\inform\model\operational** folder.
- You must provide application-specific information such as server names and ports to connect to the reporting database, the Oracle Directory Server database, and Cognos 10 BI.

Run REFRESHREPCLIN to generate a clinical reporting package for a trial

To generate the initial default reporting package for a trial:

1 Open a 32-bit command prompt (C\:Windows\SysWOW64\cmd.exe) on any server where a Cognos 10 Business Intelligence application tier component is installed.

2 Navigate to the <*cognos_installation_directory*>\inform\bin folder.

3 Set scripting to cscript to suppress popup messages:

```
cscript //H:cscript
```

4 Type the following command:

```
refreshrepclin.bat <ReportDB Connection> <ReportDB UserID> <Namespace>
<cognos_installation_directory>\bin <Trial Name>
M<cognos_installation_directory>\inform\model\operational\informrep.cpf
<InFormTrialUser>
```

where

- <*ReportDB Connection*>—The ReportDB connection you want to use to connect to the database. For example, REP.WORLD.

- <*ReportDB UserID*>—The ReportDB User ID. This ID is not case-sensitive.
- <*Namespace*>—Custom Authentication Provider (CAP) namespace. The default is informcap. The case of the value you enter here must be the same case as the entry in the Cognos Configuration utility. For example, if the entry in the Cognos Configuration utility is in lower case (informcap), the <namespace> option must also be informcap.
- <*Trial Name*>—The name of the target trial. For example, PFST45.
- <*Refresh Type*>—Identifies the type or refresh you want to perform. To generate the initial package, you use the M (Model) option. This option generates and publishes the clinical model. Use this option when the reporting database was just installed or re-installed, and the trial design has not changed since.

  This is the complete list of options for <*Refresh Type*>:

  - **D**—Data Refresh.

    When to use—To update the reporting database with data that has been added in the trial. Use this option to capture additions to operational data, which does not require a study version revision. For example, use this option to add a new site to the reporting database.

    What it does—Incrementally refreshes the operational and clinical materialized views in the reporting database from the trial database. It does not generate and publish the reporting model.

  - **F**—Full Refresh.

    When to use—When new data items or new forms are added to the trial design, revising the study version, and you want to keep the existing data dictionary (you have not performed any data dictionary customizations, such as changing report column names).

    Note: When you use this option, only new trial design objects are added to an existing data dictionary. If you change existing items, these changes are not reflected in the data dictionary, and as a result are not reflected in the clinical model. To include changes to existing items, you must use select the **R** (Reset Refresh) option.

What it does:

Refreshes the database operational and clinical materialized views in the reporting database from the trial database.

Recreates the clinical views.

Rebuilds the reporting model.

- **G**—Generate Clinical.

  When to use—To update the reporting data dictionary, for example, when you customize column names by importing a CSV file.

  What it does:

  Refreshes the reporting data dictionary.

  Recreates the clinical views.

  Rebuilds the reporting model.

- **M**—Model.

  When to use—When the reporting database has just been installed or re-installed, and the trial design has not changed since the installation.

  What it does—Generates and publishes the clinical model.

- **R**—Reset Refresh.

  When to use—To import a custom data dictionary and create the clinical model using an updated trial design that includes changed trial design objects.

  What it does: This is the most complete refresh option. It performs the same tasks as the **F** option and additionally rebuilds the data dictionary:

  Drops the data dictionary.

  Imports the new data dictionary.

  Refreshes the database operational and clinical materialized views in the reporting database from the trial database.

  Recreates the clinical views.

  Rebuilds the reporting model.

- *<InFormTrialUser>*—The target trial InForm user who is a member of the **Publishers** users, as well as a member of either the **Sponsors** users or the **Site** users.

5 When prompted, enter the password for the:

- *ReportingDBUserID*—The owner of the reporting database schema.
- *InFormTrialUser*—The target trial InForm user who is a member of the Publishers users, as well as a member of either the Sponsors users or the Site users. For example, pfreportinguser.

The files generated for the package are placed in a folder created by the refreshrepclin.bat script. The folder is created under **InForm\bin** and has the name <*trialname*>**_Clinical**.

After you generate this package, you can use the Reporting and Analysis Ad Hoc Reporting module to view the reporting tree. After viewing the package, you can customize some of the labels in the Ad Hoc viewing tree.

Note: Some of the file names that make up the clinical package have the same names as the files that make up the InForm Trial Management (operational) package. However, the operational files are placed in a folder named operational. You should not move the files between the Clinical and Operational directories. If you do, the file content is overwritten.

Note: Text controls in an InForm trial can be set to accept more than 4000 characters. However, be aware that clinical views generated for reporting are truncated. If the text is longer than 4000 characters, the first 3986 characters are shown and **TRUNCATED** appears at the beginning of the text in Ad Hoc Reporting.

Customizing a clinical reporting package

You can customize the labels for clinical report topics and elements that appear in the ad hoc reporting tree to improve the presentation and to provide users with more meaningful descriptions in the ad hoc reporting tree.

Note: Oracle recommends that only the trial designer or someone with a strong understanding of the trial design make changes to these column labels.

To modify column values and update the reporting database, perform the following tasks in this order:

1 *Create a CSV file* (on page 145) of the current clinical reporting package.

2 *Open the CSV file* (on page 146) for editing.

3 *Change column values and save them in a CSV file* (on page 147).

4 *Import the changes and update the reporting database* (on page 150).

Create a CSV file

To export data from the reporting database so that you can modify column values, create a CSV file that you can use to change column values.

Note: Although you can open the CSV file in any text editor, it is recommended that you use Microsoft Excel spreadsheet software to view and change column values in a spreadsheet.

To export data from the reporting database to create a CSV file, you must run the command from a computer:

- Where gcr.vbs is located.
- Where the database client that connects to the reporting database is installed.
- That has <*servername*> registered in tnsnames.ora.

To export data and create a CSV file:

1 Open a **Windows Command** prompt.

2 Execute the following command:

```
gcr.vbs export <filename> <servername>
```

where

- <*filename*>—The name of the CSV file that you want to create. The filename should include the full path. For example, ...\spreadsheets\datadict.csv.
- <*servername*>—The name of the database server for the reporting database. For example, server_dev1.

When prompted, enter:

- The user name that is used to access the database schema. For example, pfst45uid.
- The password that is used to access the database schema. For example, pfst45pid.

Example:

```
gcr.vbs export datadict.csv server_dev1 pfst45uid
```

Open the CSV file

After creating the CSV file, you can open it using Microsoft Excel spreadsheet software to view the column information in a spreadsheet. In this spreadsheet, you can modify selected column labels, and then import the customized labels back into the reporting database.

Modify the spreadsheet

You can modify the spreadsheet to change the values for selected columns. The values that you enter replace the default values for labels in the InForm Ad Hoc Reporting tree. When you make changes to the spreadsheet:

- Back up the original spreadsheet.
- Back up the spreadsheet after you make changes and before you import it back into the reporting database.
- Establish a way of tracking any changes that you make so that you have a record of those changes.

This section provides information about:

- The default values for a column.
- Columns that you cannot change.
- Columns that you can change.
- Things to consider when making changes.

Default values for a column

Default labels for clinical report elements come from properties that are established in the trial design code. Trial designers specified different pieces of information to identify each form, itemset, or control in your trial. The InForm application retrieves the text in these properties and uses it for default labeling of the clinical report elements.

The InForm application creates default labels for elements that appear in the Clinical Data by Forms folder as follows:

optional prefix~ control reference~ item reference

The following table describes each portion of the default label.

Report element label portion	Description

Report element label portion	Description
Optional prefix	Defines the type of element. Possible prefixes include: • None • Code • Unit • Unit Code • Normalized • Date • Time • Month Yr • YYYY/MM/DD • HH24:MM:SS • Month • Year
Control reference	Text that identifies the specific control for the item. If the control is **not** a checkbox control, the InForm application uses text that is in these properties for the second part of the control reference: • Caption property for the control, if it exists. • RefName property for the control, if no caption exists. If the control is a checkbox, the InForm application uses text entered into these properties for this portion of the report element label: • Label property of the child control element, if it exists. • Caption property of the child control element, if no Label exists. • RefName property for the child control element, if no Label or Caption exists.
Item reference	Text that identifies the item, as it appears in the trial. The InForm application uses text entered into these properties for this portion of the report element label: • Itemset Column Header property for the item, if it exists and is not the default. • Question property for the item, if no Itemset Column Header exists.

Note: Trial designers should ensure that Itemset Column Header definitions are unique within a trial. If duplicate Itemset Column Header values exist, the Reporting and Analysis module combines the items into one row in reports.

Columns that you cannot change

Do not change the values in any of the columns beginning with the column labeled **RID** through the column labeled **ItemOrder**.

Note: If you make changes to these columns, especially if the column is a key column, **all** of your changes might be invalidated and discarded when you import the spreadsheet back into the reporting database.

Columns that you can change

Initially, the column labels in the InForm Ad Hoc Reporting tree might be very long and contain a description that is not meaningful when using these reports to analyze information. Therefore, you can change the values for the following columns to improve the presentation and to provide users with a more meaningful description of some of the topics and elements in the ad hoc reporting tree:

Column Name	Description
Columndesc	Column description in the reporting database.
Columnenable	If value is 0, this column is suppressed from clinical view and the clinical report topic. Use this column to filter the amount of information that you want to appear in ad hoc reporting tree.
Columnfolder	Folder in the Ad Hoc reporting tree in which this clinical report element should reside. Clinical report elements appear in one of the following folders: • Basic Data • Additional Data • Incomplete Data Reasons
Columnlabel	Label used for the report topic in the ad hoc reporting tree.
Columnname	Name of the column in the reporting database.
Columnvalue	One of a set of values that pertain to the Clinical View column/Clinical report element.
Viewdesc	Description of the clinical view in the reporting database.
Viewlabel	Label used for the report element in the ad hoc reporting tree.
Viewname	Name of the clinical view in the reporting database.

Considerations when making changes

Consider the following when you change values:

- In the following columns, you must change the values in all of the rows in the column:
  - Columnname
  - Columnlabel
  - Columndesc

  For example, if you change the label of an item that matches a gender control, you would need to change two rows. If you want to change the label for Demographics, you must change all the rows for the relevant columns and views.
- For columnfolder, you can move an item from and to the predefined folders: Basic, Additional, and Not Done. You cannot rename a columnfolder or move the same item into two different folders.
- In the viewname column, if you change your viewnames, you might want to remove the old views to manage the size of the database. You can remove old views using the refreshrepclin.bat file. For more information, see *Importing changes and refreshing the reporting database* (on page 150).
- Do not use special characters such as ?, /, *, ? \, and so on, when you change the column values.

Importing changes and refreshing the InForm Reporting Database

After making changes to the spreadsheet and creating a CSV file, you must import the CSV file into the reporting database. After importing the CSV file, you can refresh the reporting database and recreate the database clinical views and the reporting clinical model.

After you complete these tasks:

- Customizations are placed in the database and remain in the database.
- If changes are made to the database, and you export the database again, the modifications that you made previously are retained.

To import information and update the reporting database, run the **refreshrepclin.bat** file.

Before running REFRESHREPCLIN.BAT

Before you run refreshrepclin.bat, consider the following:

- The Oracle client must be installed and configured to connect to the trial and reporting database(s)..
- To run the script, you must have access to the <*cognos_installation_directory*>**\bin** folder.
- The gcr.vbs script must be installed in the <*cognos_installation_directory*>**\InForm\bin** folder.
- The InFormRep.cpf files must be installed in the <*cognos_installation_directory*>**\inform\model\operational** folder.
- You must provide application-specific information such as server names and ports to connect to the reporting database, the Oracle Directory Server database, and Cognos 10 BI.

Run REFRESHREPCLIN to import changes to a clinical reporting package

1 Open a 32-bit command prompt (C\:Windows\SysWOW64\cmd.exe) on any server where a Cognos 10 Business Intelligence application tier component is installed.

2 Navigate to the <*cognos_installation_directory*>\inform\bin folder.

3 Set scripting to cscript to suppress popup messages:

```
cscript //H:cscript
```

4 Type the following command:

```
refreshrepclin.bat <ReportDB Connection> <ReportDB UserID> <Namespace>
<cognos_installation_directory>\bin <Trial Name>
M<cognos_installation_directory>\inform\model\operational\informrep.cpf
<InFormTrialUser>
```

where

- <*ReportDB Connection*>—The ReportDB connection you want to use to connect to the database. For example, REP.WORLD.
- <*ReportDB UserID*>—The ReportDB User ID. This ID is not case-sensitive.
- <*Namespace*>—Custom Authentication Provider (CAP) namespace. The default is informcap. The case of the value you enter here must be the same case as the entry in the Cognos Configuration utility. For example, if the entry in the Cognos Configuration utility is in lower case (informcap), the <namespace> option must also be informcap.
- <*Trial Name*>—The name of the target trial. For example, PFST45.
- <*Refresh Type*>—Identifies the type or refresh you want to perform. To generate the initial package, you use the M (Model) option. This option generates and publishes the clinical model. Use this option when the reporting database was just installed or re-installed, and the trial design has not changed since.

  This is the complete list of options for <*Refresh Type*>:

  - **D**—Data Refresh.

    When to use—To update the reporting database with data that has been added in the trial. Use this option to capture additions to operational data, which does not require a study version revision. For example, use this option to add a new site to the reporting database.

    What it does—Incrementally refreshes the operational and clinical materialized views in the reporting database from the trial database. It does not generate and publish the reporting model.

  - **F**—Full Refresh.

    When to use—When new data items or new forms are added to the trial design, revising the study version, and you want to keep the existing data dictionary (you have not performed any data dictionary customizations, such as changing report column names).

    Note: When you use this option, only new trial design objects are added to an existing data dictionary. If you change existing items, these changes are not reflected in the data dictionary, and as a result are not reflected in the clinical model. To include changes to existing items, you must use select the R (Reset Refresh) option.

What it does:

Refreshes the database operational and clinical materialized views in the reporting database from the trial database.

Recreates the clinical views.

Rebuilds the reporting model.

- **G**—Generate Clinical.

  When to use—To update the reporting data dictionary, for example, when you customize column names by importing a CSV file.

  What it does:

  Refreshes the reporting data dictionary.

  Recreates the clinical views.

  Rebuilds the reporting model.

- **M**—Model.

  When to use—When the reporting database has just been installed or re-installed, and the trial design has not changed since the installation.

  What it does—Generates and publishes the clinical model.

- **R**—Reset Refresh.

  When to use—To import a custom data dictionary and create the clinical model using an updated trial design that includes changed trial design objects.

  What it does: This is the most complete refresh option. It performs the same tasks as the **F** option and additionally rebuilds the data dictionary:

  Drops the data dictionary.

  Imports the new data dictionary.

  Refreshes the database operational and clinical materialized views in the reporting database from the trial database.

  Recreates the clinical views.

  Rebuilds the reporting model.

- *<InFormTrialUser>*—The target trial InForm user who is a member of the **Publishers** users, as well as a member of either the **Sponsors** users or the **Site** users.

5 When prompted, enter the password for the:

- *ReportingDBUserID*—The owner of the reporting database schema.
- *InFormTrialUser*—The target trial InForm user who is a member of the Publishers users, as well as a member of either the Sponsors users or the Site users. For example, pfreportinguser.

The files generated for the package are placed in a folder created by the refreshrepclin.bat script. The folder is created under **InForm\bin** and has the name <*trialname*>**_Clinical**.

After you generate this package, you can use the Reporting and Analysis Ad Hoc Reporting module to view the reporting tree. After viewing the package, you can customize some of the labels in the Ad Hoc viewing tree.

Note: Some of the file names that make up the clinical package have the same names as the files that make up the InForm Trial Management (operational) package. However, the operational files are placed in a folder named operational. You should not move the files between the Clinical and Operational directories. If you do, the file content is overwritten.

Note: Text controls in an InForm trial can be set to accept more than 4000 characters. However, be aware that clinical views generated for reporting are truncated. If the text is longer than 4000 characters, the first 3986 characters are shown and **TRUNCATED** appears at the beginning of the text in Ad Hoc Reporting.

Refreshing the InForm reporting database in an InForm multi-release environment

If you are running in an environment where one Cognos and Reporting installation supports multiple InForm trials with different InForm 4.6 releases, run the refresh_reporting_diffdb.sql script in conjunction with the **refreshrepclin.bat** script with the **M** option.

The **refresh_reporting_diffdb** script:

- Sets the reporting schema refresh job schedule dates to future dates.
- Stops the apply process.
- Removes reporting schema owner jobs (refresh jobs) from the job queue.
- Refreshes operational materialized views.
- Recreates clinical objects with new trial design changes.
- Starts the apply process.
- Submits refresh jobs to queue.
- Starts the refresh job. The script gives an error in case the refresh job fails to start.

To get trial design (metadata) changes in clinical model:

1 Run the following at a command prompt:

```
sqlplus /nolog
@refresh_reporting_diffdb
```

2 Run **RefreshRepClin.bat** with the **M** option.

To see the changes with blinding and unblinding items, as well as operational and clinical data changes:

1 Run the refresh job either manually or wait for the hourly refresh.

2 Generate the clinical model by running **RefreshRepClin.bat** with the **M** option.

Note: You do not need to run **refresh_reporting_diffdb.sql** to see these changes.

Authorizing users for the Reporting and Analysis module

Authorization on the reporting server

Reporting authorizations on the reporting server rely on permissions that are defined in authorization namespaces on the reporting server.

All rights to create or run reports are governed by reporting authorizations in the InForm trial, which is referenced by the Cognos Custom Authentication Provider (CAP).

The Cognos namespace

Each reporting server references one master namespace that controls authorization for all studies. This namespace, the Cognos namespace, contains the Cognos objects, such as groups, roles, distribution lists, and contacts. During the Cognos Content Store initialization, predefined security entries that control access to specific Cognos features are created in this namespace.

Default reporting groups

As part of the initial Reporting and Analysis setup, the pfrinit utility imports the PFRsetupTrial_<*lang*>.xml file, which loads the following predefined reporting groups into the Cognos namespace for an InForm trial.

In the following table, some groups are described as custom groups added by the InForm application. By default, these groups have no corresponding group or role in the Cognos namespace. The groups are added to the Cognos namespace by the pfrinit utility.

InForm reporting group	Cognos namespace group or role	Provides these permissions
Ad Hoc Users	Query Users	Can run the Ad Hoc Reporting utility. Users also have the same rights as members of the Cognos 10 BI Consumers namespace role.
Authors	Authors	• In Report Studio—Authors can create, edit, or run reports that use clinical or operational model packages. Authors cannot create, edit, or run reports that contain custom HTML and/or custom SQL. • In Cognos Connection—Authors can run reports that use clinical or operational model packages. Authors cannot run reports that contain custom HTML and/or custom SQL.

InForm reporting group	Cognos namespace group or role	Provides these permissions
No equivalent group	Consumers	Can run reports in the Public folders. These reports can be Standard Reports or custom reports that users create. Every user that has the InForm Reports rights group right is by default a member of the Consumers group. This group is visible only as a Cognos namespace role.
Directory Administrators	Directory Administrators	• Can view Groups and Roles, but not Cognos Capabilities. Cannot make changes to Cognos Capabilities or Cognos Groups and Roles. • Can accept only InForm Support user types. Sponsor or Site users can no longer be added to this group.
Publishers	Publishers	Can create, change, schedule, or delete all content, including reports (Ad Hoc or Report Studio) to a Public folder. When users in the Publishers group run a report in a Public folder, their prompt selections are saved with the report.
Report Administrators	Report Administrators	Can administer permissions for all public content including folders and reports.
Server Administrators	Server Administrators	Can administer servers, dispatchers, and jobs. Can accept only InForm Support user types. Sponsor or Site users can no longer be added to this group.
Site Users	Site Users	Access to all Standard Reports except for **by User** reports. Users are automatically assigned to this group based on their user type. Custom group added by the InForm application.
Sponsor Users	Sponsor Users	Access to all InForm standard reports. Users are automatically assigned to this group based on their user type. Custom group added by the InForm application.

InForm reporting group	Cognos namespace group or role	Provides these permissions
No equivalent group	System Administrator	The superuser role in Cognos. This user has full control of every setting for every trial that can be set in a given Cognos server. There is no equivalent InForm reporting group. At initial setup, all users have this right. You should identify a small group of highly trusted users and directly assign them to the Cognos namespace System Administrator role. Then, remove the Everyone group from this role.
User Admin Info Data Users	User Admin Info Data Users	Access to user data including password related data. Custom group added by the InForm application.
User Info Data Users	User Info Data Users	Access to user data except password related data. Custom group added by the InForm application.

Specifying a logo for InForm Standard Reports

You can specify a company logo to appear in your InForm Standard Reports.

To specify a logo file:

1 Create a file called **logo.gif**.

2 Copy logo.gif to the following location on the Cognos Gateway Web Server:

`<cognos_install_folder>\webcontent\<trialname>`

For example: **d:\c10\webcontent\Depression Study\logo.gif**.

If you do not want a logo to appear in the InForm Standard Reports, you must place a blank image in the location that is specified above. If you do not include the blank graphic file, a missing graphic icon appears on your InForm Standard Reports.

CHAPTER 12

Performance tuning

In this chapter

About performance tuning

Perform the performance tuning steps as needed, in any order.

Controlling the load behavior

Trials with a very large number of patients can take a long time to start up, because all patients are loaded into memory cache. To confirm whether this problem is occurring, check the InForm Performance Monitor utility.

To start the InForm Performance Monitor utility:

- Select **Start** > **Programs** > **Oracle Health Sciences** > **InForm 4.6.5** > **InForm Performance Monitor**.

You will see that there are many SQL statements that contain the text

```
select * from DCV_PatientCRF where PatientID=xxxx
```

Note: You must start the InForm Performance Monitor utility before you start the trial to see trial startup activities.

You can modify registry settings to help alter the load behavior to make the trial startup more efficient. The settings are located in the following location:

```
HKEY_LOCAL_MACHINE/SOFTWARE/PHASEFORWARD/InForm/PFMngrTrial/PatientCacheLoadingMode
```

The following registry settings control load behavior:

- **sync**—Patient cache is loaded in bulk instead of one patient at a time.

  Use this setting if it is important to load all patients before the trial becomes available.

  This option takes the most time at trial startup.

- **ondemand**—Trial starts immediately and the patient data is loaded into cache only when an InForm user tries to access data for that patient.

  This option provides the fastest trial startup, but results in slow performance the first time a patient is accessed.

  Patients that are not accessed are not cached at all, which means they do not consume memory or require other server resources to load them.

- **async**—Trial starts immediately and the patient cache continues to load in the background.

  When an InForm user tries to access data for a patient that is not yet loaded, the patient is loaded on demand.

  Performance might be slow the first time the patient is accessed.

Updating statistics in a production environment

Oracle recommends that you analyze all tables and indexes for better performance. The trial setup process creates statistics for your trial. As you add patient data to the trial, it is important to refresh these statistics periodically. In a production environment, refreshing once per day during the maintenance window is usually sufficient.

- To update the statistics, run the updatec.sql script (located in the *InForm_installation_directory*\bin\dbora folder) using the following syntax:

```
sqlplus pfdbadmin@<connect_string> @updatec.sql <trialUID>
```

When prompted, enter the password for the pfdbadmin user.

Note: Do not use the **dbms_utility.analyze_schema** with the **COMPUTE** or the **FOR TABLES** option on any production servers. The recommended procedure is to analyze each table and index with the **ESTIMATE** option (35 percent is adequate).

Configuring an ODBC connection

To configure ODBC connection pooling by changing the Timeout value to provide a longer connection time:

1 Select **Start** > **Programs** > **Administrative Tools** > **Data Sources**.

The **ODBC Data Source Administrator** window appears.

2 Select the **Connection Pooling** tab.

3 Double-click Oracle in **<ORACLE_HOME>**

where **<ORACLE_HOME>** is your Oracle Client Home.

The **Set Connection Pooling Attributes** dialog box appears.

4 Make sure that the **Pool connections to this driver** radio button is selected and that the value is moderately long (about 450 seconds*). If it is too short, the connection will constantly be refreshing itself; if it is too long, the connection will consume too many resources.

The recommended Pooling Timeout = 1.5 x MSDTC Timeout Value

5 Click **OK**, and then **OK** again to close the ODBC Data Source Administrator.

Resizing virtual memory

The InForm software uses virtual memory (disk space simulated as memory) aggressively. Oracle recommends that you create a large paging file in a location that is different from the default location (C:); particularly on a drive with lots of disk space.

To resize virtual memory:

1 Select **Control Panel** > **System**.

2 In the **System Properties** dialog box, click the **Advanced** tab.

3 Click **Performance** > **Settings**.

4 In the **Performance Options** dialog box, click the **Advanced** tab.

5 Click **Change**.

6 Highlight a drive in which to place the virtual memory in the **Drive (Volume Label)** section.

7 Type a value in the **Initial Size (MB)** field (the sum of physical RAM plus 11 is recommended, or you can use the Recommended size).

8 Type a value in the **Maximum Size (MB)** field (the minimum * 1.5 or 2).

9 Click **Set**.

10 Click **OK** until all the dialog boxes close.

Removing preferential treatment from foreground applications

To provide more resources for background applications:

1 Select **Control Panel** > **System**.

2 In the **System Properties** dialog box, click the **Advanced** tab.

3 Click **Performance** > **Settings**.

4 In the **Performance Options** dialog box, click the **Advanced** tab.

5 Select **Background applications**.

6 Click **OK** until all dialog boxes close.

Optimizing Windows for network applications

To optimize Windows for network applications:

1 Click **Start** > **Control Panel** > **Network Connections** > **Local Area Connection**.

2 Click **Properties**.

3 On the General tab, select **File and Print Sharing for Microsoft Networks**, and then click **Properties**.

4 To tune the Server service to reduce paging activity, click **Maximize Throughput for Network Applications**.

5 Click **OK**, and then **Close**.

Monitoring the Windows Event Logs

The InForm application logs events to the Application Event log. For optimum performance, make sure to manually clear the log periodically, or wrap events.

To monitor event logs:

To access the log, in the Event Viewer window select **Log** > **Log Settings**.

You can:

- Overwrite events as needed.
- Overwrite events older than *n* days.
- Clear the log manually.

Oracle recommends that you overwrite events as needed.

Note: The Application Event log holds a record of all InForm log on attempts. Be aware of this when you choose a setting for event logs, because you may not want to lose any of the InForm log on information.

For production servers, Oracle recommends that you save event logs periodically.

Moving locations for MS DTC logs

The MS DTC logs are generated by default in the %SYSTEMROOT%\SYSTEM32\DTClog folder. Oracle recommends that you place the logs on a different disk, and increase the log file size.

To move locations for MS DTC logs:

1 In Windows Explorer, create a new folder for the DTC logs.

2 At a Windows command prompt, stop the MS DTC service.

3 Open Microsoft Component Services by selecting **Start** > **Programs** > **Administrative Tools** > **Component Services**.

   a Expand **Component Services**.

   b Expand **Computers**.

   c Right-click **My Computer** and select **Properties**.

   d Select the **MS DTC** tab.

   e In the Log Information group box, change the **Capacity** to 16 MB or higher.

4 Click **Reset log**.

5 To reset the existing log file, in the dialog box, click **Yes**.

6 In the dialog box, type a new drive location.

7 Click **Reset**.

8 Click **OK**.

9 Start the MS DTC service.

10 Delete the original MS DTC folder through Windows Explorer.

Clearing and enlarging MS DTC logs

If you experienced an MS DTC log problem, for example if you received the following error message, you can reset the log size:

```
The MS DTC log file is full and cannot accept new log records.
```

To reset the log size:

1 At a command prompt, use the pfadmin command to stop the InForm application.

2 At a command prompt, stop the MS DTC service.

3 To open the Microsoft Component Services, select **Start** > **Programs** > **Administrative Tools** > **Component Services**.

4 Expand **My Computer**.

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

6 Select the **MS DTC** tab.

7 In the **Capacity** section, increase the capacity of the log file to 100 MB.

8 Click **Reset log**.

9 Click **OK**.

10 Right-click **My Computer**, and select **Start MS DTC**.

11 Close the **Component Services**.

12 Click **YES** to save the settings.

APPENDIX A

Scripts for InForm Reporting

In this appendix

Overview

This appendix lists the scripts that are used during the installation and configuration of the Reporting and Analysis module.

For installation instructions, see the chapter *Configuring reporting variables in a multiple database environment* (on page 127).

Prerequisites

Before any of the scripts in this Appendix can be run, the following conditions apply:

- Oracle software requirements must be met. For more information, see the hardware and software requirements. in the *Release Notes*.
- Reporting must be in a separate database from the trial database. For more information, see ***Creating the trial and reporting databases in separate instances*** (on page 120).
- Reporting architecture requirements are met. For more information, see ***InForm reporting database architecture rules*** (on page 116).
- The reporting database must exist with the appropriate parameters and tablespaces. For more information, see ***Preparing the trial database for Reporting and Analysis in a multiple database environment*** (on page 126).
- The configdiffdb.sql file variables must be configured. For more information, see ***Export/import variables*** (on page 176).

Scripts

- **preinstall_reportingschema_diffdb.sql**

  Creates the reporting infrastructure, users, privileges, and trial objects necessary to support reporting.

  This script:

  - Must be run with the trial down. Oracle recommends running this script with all trials down in a maintenance window to avoid conflicts and errors.
  - Only needs to be run once per trial and reporting installation. It must be rerun if reporting is completely uninstalled (that is, the deinstall_reporting_diffdb.sql script was run.
  - To check the environment prior to running this script, run the configandcheckdiffdb.sql script.
  - This script uses the configdiffdb.sql and the configaddsdiffdb.sql files; the correct ones must be in place.

- **configandcheckdiffdb.sql**

  Checks the environment and variable settings. This script is run by the installation program; it can also be run manually.

- **configandcheckreportingschemadiffdb.sql**

  Checks the environment before running the install_reportingschema_diffdb.sql script. This can run at any time and can be rerun as necessary.

- **install_reportingschema_diffb.sql**

  Installs a reporting schema without bringing the trial down.

  Before running this script:

  - Run the preinstall_reportingschema-diffdb.sql script. (Required.)
  - Disable all Streams processes (capture, propagation and apply)
  - Disallow access to the reporting database. Reporting database users should not be allowed to access the reporting schema while this script is running.
  - To check the environment, run the configandcheckreportingschemadiffdb.sql script (Optional.)

- **deinstall_reportingschema_diffdb.sql**

  Uninstalls a reporting schema without bringing the trial down. All Streams processes (capture, propagation and apply) must be disabled prior to running this script.

  remove_streams_setup_info_diffdb.sql

  Deletes the STREAMS_SETUP_INFO row in the trial and reporting databases.

  When you install the Reporting and Analysis module, a table called STREAMS_SETUP_INFO is created in both the trial and reporting databases. The STRMADMIN user owns this table in both databases. This table has one row per trial and reporting schema. When you remove a trial and reporting schema, you must delete the row in the STREAMS_SETUP_INFO table for the trial and the reporting schema.

  Do not run remove_streams_setup_info_diffdb.sql until you are sure that:

  - You have completely removed the trial and reporting schemas.
  - The configdiffdb.sql file is correctly set up for the trial and its reporting environment.

  Run this script with SQL*Plus with /nolog.

  You must be connected as STRMADMIN.

  configaddsdiffdb.sql

  Configures optional variables, all of which depend on user requirements. No changes to the variables in this file are required; any changes are optional.

  add_table_diffdb.sql

  Adds tables to the list of tables streamed to the Reporting database after Reporting has been completely installed.

  For information about specifying table names, see *streams_table_adds_postinstall and streams_table_drop_postinstall variables* (on page 177).

  drop_table_diffdb.sql

  Drops tables from the list of tables streamed to the Reporting database after Reporting has been completely installed.

  For information about specifying table names, see *streams_table_adds_postinstall and streams_table_drop_postinstall variables* (on page 177).

- **create_cap_table.sql**

  Creates the TRIAL_URLS table for the PFCAPAdmin user.

configaddsdiffdb.sql

Configaddsdiffdb.sql file contains variables for managing streams processes and adding tables for replication.

Any changes to variable values are optional. The installation is unaffected if default values are used.

There should be one copy of this file per trial and reporting schema. If values in this file have been changed, then make a copy of the file after the installation for later use.

Export/import variables

Variable name	Description and Comments
Exp_var	Name of the export executable. Default is "exp". The executable name can be preceded by a full hardcoded folder path (for example, **C:\oracle\product\11.2.0\db_1\bin**) or a variable (for example, **$ORACLE_HOME\bin**).
Imp_var	Name of the import executable. Default is "imp". The executable name can be preceded by a full hardcoded folder path (for example, **C:\oracle\product\11.2.0\db_1\bin**) or a variable (for example. **$ORACLE_HOME\bin**).
export_parfile	Filename for the export parameter file. Format is the trial schema name concatenated to the trial database tnsnames alias concatenated to expparams.par. See Note.
import_parfile	Filename for the import parameter file. Format is the trial schema name concatenated to the trial database tnsnames alias concatenated to impparams.par. See Note.
expimp_dumpfile	Filename for the export data file. Format is the trial schema name concatenated to the trial database tnsnames alias concatenated to datafile.dmp. See Note.

Note: Files created by export_parfile, import_parfile, and expimp_dumpfile are not removed after the installation is complete. The files are overwritten each time a reporting installation is run for the same trial schema, so there will be only one copy of each file per trial schema.

streams_table_adds variable

Description

The **streams_table_adds** variable is used to specify additional tables for replication. Table names you specify must exist in the trial schema in the trial database.

Values

The default value for this variable is null (no value). To add tables to this variable, surround table names with single quotes, put a comma after each table name (including the last one) and do not use spaces between the table names.

Examples

```
streams_table_adds = 'PF_TABLEONE,'
```

```
streams_table_adds = 'PF_TABLEONE,PF_TABLETWO,PF_TABLETHREE,'
```

Considerations

- The **configandcheckdiffdb.sql** and **configandcheckreportingschemadiffdb.sql** scripts verify the following:
  - The table(s) added to this variable exist in the trial schema. An error is generated if they do not.
  - The tables do not have primary keys.
  - The table does not have an unconditional supplemental log (**configandcheckreportingschemadiffdb.sql** only).
- Table names added to this variable should not be removed unless they are being removed from replication.
- Tables added prior to running the **preinstall_reportingschema_diffdb.sql** or **install_reportingschema_diffdb.sql** script will have a supplemental log automatically added to them.
- Tables added after running the **preinstall_reportingschema_diffdb.sql** and prior to running the **install_reportingschema_diffdb.sq**l script need to have a supplemental log added to them manually, using the command below:
- Run this command after logging into the trial database as the trial schema owner

  ```
  alter table <table_name> add supplemental log data (all) columns;
  ```

- Table rules added to the capture, propagation, and apply processes are generic and specify that the entire table and all rows in the table be replicated to reporting.

streams_table_adds_postinstall and streams_table_drop_postinstall variables

Description

- **streams_table_adds_postinstall** is used by the **add_table_diffdb.sql** script when adding tables after Reporting is installed.
- **streams_table_drop_postinstall** is used by the **drop_table_diffdb.sql** script when dropping tables after Reporting has been installed.

Values

For each variable, specify the values shown in the table.

- TABLEONE and TABLETWO represent names of tables to be added or dropped.
- To specify one table, use a single quote before and after the table name.
- To specify more than one table name:
  - Use a single quote before the first table name, and a single quote after the last table name in the series. (Do not use any other single quotes in the table names.)
  - Use a comma between the table names. Do not use a space.
  - Do not use a comma after the last table name in the series.

Number of tables	Setting in configaddsdiffdb.sql
1 table	streams_table_adds_postinstall = 'TABLEONE' streams_table_drop_postinstall = 'TABLEONE'
2 or more tables	streams_table_adds_postinstall = 'TABLEONE,TABLETWO' streams_table_drop_postinstall = 'TABLEONE,TABLETWO'

capture_chkpnt_ret_time variable

Description

The **capture_chkpnt_ret_time** variable is used to set the number of days for which capture checkpoints are retained. This variable value is passed to the **dbms_capture_adm.create_capture** procedure when the capture process is created.

Values

The default is 60 (This is the same as the default Oracle provides with the **dbms_capture_adm.create_capture** procedure). This parameter cannot be null.

Note: A large of number of days specified for this parameter can cause a large number of capture checkpoints to be retained and cause the SYSAUX tablespace in the trial database to grow significantly. This setting along with the capture parameter _checkpoint_frequency influence the amount of checkpoints retained.

Values in the form of decimals (such as. 0.50 or .50) are considered to be parts of a day – 0.50 would cause checkpoints to be purged every 12 hours. Decimals can be combined with whole numbers (e.g. 1.25 – this would be 30 hours or 1.25 days).

This parameter does not accept the **dbms_capture_adm.infinite** setting (never purge checkpoints). However, the parameter can be set to a very high number of days (e.g. 365000000), effectively causing checkpoints not to be purged.

Considerations

- The **preinstall_reporting_diffdb.sql** and **install_reporting_diffdb.sql** scripts always use the value for this variable when creating the capture process.
- The **install_reportingschema_diffdb.sql** script does not use the value of this variable unless the **streams_capture_reset** variable is set to **"Y"** (the capture process will be dropped and recreated).
- The **configandcheckdiffdb.sql** and **configandcheckreportingschemadiffdb.sql** scripts verify that this variable is not null and generate an error if it is null.
- If the **checkpoint_retention_time** for a capture process is changed after the process has been created, you should change the value of this parameter as well so the next time the capture process is created the value of **checkpoint_retention_time** retains the desired value.

For more information, see the Oracle database document *PL/SQL Packages Types and Reference*

(dbms_streams_adm,create_capture procedure) and the Oracle database Streams document *Concepts and Administration Guide* for more information on **checkpoint_retention_time**.

Streams reset variables

Variable name	Description
streams_capture_reset	Drops and recreates the Streams capture process in the trial database
streams_propagation_reset	Drops and recreates the Streams propagation process in the trial database.
streams_apply_reset	Drops and recreates the Streams apply process in the reporting database.
streams_trial_queue_reset	Drops and recreates the Streams queue and queue table in the trial database
streams_rep_queue_reset	Drops and recreates the Streams queue and queue table in the reporting database.

These variables are used by the **install_reportingschema_diffdb.sql** script, which is used primarily to create a new reporting schema.

Values

Values cannot be null. All Streams reset variables must have the same value. Setting mixed values could cause the installation to fail.

- **"N"** (default) causes the script to do nothing. No Streams processes or objects are dropped and recreated.
- **"Y"** causes the streams processes to be dropped and recreated.

Considerations

- These variables are used by the **install_reportingschema_diffdb.sql** script only. They are not used by the **preinstall_reportingschema_diffdb.sql** script.
- Setting values to **"Y"** can be useful in the following situation:

  If **preinstall_reportingschema_diffdb.sql** has been run separately and the capture process it created has existed for some time, that capture process might need access to an archive log that is no longer on disk. The archive log must be restored. To avoid the need to restore archive logs, the capture (and other streams processes) can be dropped and recreated using these variables.

  Dropping and recreating the capture process does not necessarily remove the need for older archive logs, so it is recommended that the **capture_build** variable also be set to **"Y"** in this circumstance so that a new Logminer data dictionary is created and used by the capture process.
- If you are running the **install_reporting_diffdb.sql** script, it is recommended that the Streams reset variables be set to **"N"**.

  Setting the values to **"Y"** caused the installation program to do more work and take longer to complete, because the following occurs when **install_reporting_diffdb.sql** calls both the

preinstall_reportingschema_diffdb.sql and the **install_reportingschema_diffdb.sql** scripts.

- **preinstall_reportingschema_diffdb.sql** creates Streams processes and objects.
- **install_reportingschema_diffdb.sql** script drops the Streams processes and objects and recreates them.

Although this does not cause problems, it causes the installation to do more work and take longer to complete.

- The **configandcheckdiffdb.sql** and **configandcheckreportingschemadiffdb.sql** scripts verify the variable values, and generate an error if any variable has a value other than **"N"** or **"Y".**

capture_build variable

Description

This variable is used to extract a copy of the data dictionary to the redo logs.

The Oracle database dbms_capture_adm.build procedure is invoked to extract a copy of the data dictionary to the redo logs. This procedure returns a scn that is used as the "first scn" for the capture process. As a result, the capture process uses a new Logminer data dictionary.

Values

Value cannot be null.

- **"N"** (default) causes the script to do nothing. No extract is done.
- **"Y"** causes an extract to be done.

Considerations

- The **install_reporting_diffdb.sql** and **preinstall_reportingschema_diffdb.sql** scripts always use the value of this variable.
- The **install_reportingschema_diffdb.sql** script uses the value of capture_build only if the **streams_capture_reset** variable is set to **"Y"** (the capture process will be dropped and recreated).
- The **configandcheckdiffdb.sql** and **configandcheckreportingschemadiffdb.sql** scripts verify the variable value and generate an error if the variable has a value other than **"N"** or **"Y".**

capture_first_scn and capture_start_scn variables

Variable	Description
capture_first_scn	Sets the first scn for the capture process
capture_start_scn	Sets the start scn for the capture process.

Values

- Default is 1. This value is interpreted as a null value by the installation scripts. Do not set the value to null directly.
- Values for both variables must be greater than or equal to 1.
- Value for capture_start_scn must be greater than or equal to the value for capture_first_scn
- Values for both variables can also be set valid scn numbers from the trial database, subject to some restrictions described in Value assignments. The values for both variables cannot be set to a scn that is greater than the current scn number for the database.

Value assignments are based on the following hierarchy:

- **capture_first_scn** value assignment:
  - If no capture processes exist in the trial database, assign a **null** (Oracle requirement).
  - If the value of the capture_build variable is set to **"Y"**, use the scn number returned from the dbms_capture_adm.build procedure.
  - If the value is **1** from the **configaddsdiffdb.sql** file, assign a **null**.
  - Otherwise, use the scn value assigned (cannot be greater than the current database scn) from the **confgaddsdiffdb.sql** file.
- **capture_start_scn** value assignment:
  - If no capture processes exist in the trial database, assign a **null** (Oracle requirement).
  - If capture processes exist in the trial database but no capture checkpoints have been taken, assign a **null** (Oracle requirement).
  - If the value is **1** from the **configaddsdiffdb.sql** file, assign a **null**.
  - Otherwise, use the scn value assigned (cannot be greater than the current database scn) from the **condigaddsdiffdb.sql** file.

Considerations

- The **install_reporting_diffdb.sql** and **preinstall_reportingschema_diffdb.sql** scripts always use the value of these variables.
- The **install_reportingschema_diffdb.sql** script does not use the values of these variables unless the **streams_capture_reset** variable is set to **"Y"** (the capture process will be dropped and recreated).
- The **configandcheckdiffdb.sql** and **configandcheckreportingschemadiffdb.sql** scripts verify that all of the following conditions are met:
  - Both variables are not null.
  - Both variables are set to a value of **1** or greater,
  - Value of both variables is not greater than the current scn for the trial database.
  - The value of **capture_start_scn** is greater than or equal to the value of **capture_first_scn**.

  An error is generated if these conditions are not met.
- The **capture_first_scn** can be changed so that a particular existing Logminer dictionary can be

used.

- The **capture_start_scn** can be changed to set the starting scn for the capture process.

For more information on setting "first scn" and "start scn" for the capture process, see the *Oracle Streams Concepts and Administration Guide*, Chapter 2.

PFAdmin syntax

About PFAdmin

The PFAdmin utility is used to set up the InForm software server environment. The parameters are stored in the registry. Therefore, you need local administrator privileges to run the utility.

The PFAdmin utility has the following command options:

```
pfadmin [ CHECKREG | CONFIG | HELP | INSTALL | KILLSERVER | PING | REMOVE |
SETSERVER | SETUP | START | STOP | SYNC | UNINSTALL | VIEW |RULESCANVIEW |
RULESCANPROCESS | UPGRADEENV]]
```

Note: Before using PFAdmin, make sure that Default Authentication Level in Default Properties is set to Connect.

PFAdmin commands

Note: Any arguments containing commas, equal signs, or spaces must be enclosed within double quotes.

Command	Purpose and Syntax
CHECKREG [/Del] [/DelAll]	Displays the current InForm Server COM and MTS components in the NT registry. **WARNING**: Be careful to remove the server(s) or uninstall the service before using either of the delete options: • [/Del]—Removes obsolete settings. • [/DelAll]—Removes the settings of all servers.

Command	Purpose and Syntax
CONFIG Service [/AdminDB *DBServer* | [/AdminDSN *DsnName* | [/LDAPMngr *LDAPServer:Port AdminDN*] [/PfUser] | [/SysDBA	Configures an existing service. • [/AdminDB *DBServer* [SQL]]—Sets the ODBC DSN for the InFormAdmin database. Make sure that *DBServer*, (and *user_ID*, and *password* you enter when prompted) are the same ones that were used to create the InFormAdmin database. • [/AdminDSN *DsnName*]—Creates the ODBC DSN InForm software with the default database server, using the specified user name and password. • [/LDAPMngr *LDAPServer:Port* "*AdminDN*"]—Save Administrator Distinguish Name and password for a particular LDAP server. Use this command after installing Oracle Directory Server to pass the LDAP administrator credentials to the Reporting and Analysis module. • [/PfUser]—Creates the PfUser_*computername* account during the InForm software installation. The account is for Microsoft MTS packages used by InForm servers. In general, you do not need to configure the account. If you change the password through NT User Manager, you must reconfigure the InForm Service with the new password. • [/SysDBA]—Sets the InForm Service DBA user name and password. You can use this command to change the pfdbadmin password as needed. If you want to change the InForm Service DBA name, modify the provided SQL script InFormPrepORA.sql with the new user name and password, then run the script as SYS. After running the script, use this command option to configure the InForm Service to use the new InForm Service DBA.
CONFIG Server *ServerName* [Automatic|Manual]	Configures the startup mode for an existing server as either Automatic or Manual.
CONFIG Trial *TrialName* [Automatic | Manual] | [/TriDSN *DSN*] | [/RndDSN *DSN*] | [/Rnd [*MDBFilePath*]] | [/Host *ServerName*] |	Configures an existing trial. • [Automatic | Manual]—Configures the trial startup mode. • [/TriDSN *DSN* —Configures the trial ODBC DSN. • [/RndDSN *DSN*]—Configures the trial randomization source dataset name. • [/Rnd [*MDBFilePath*]]—Creates a trial randomization source dataset name to use the given Microsoft Access database file. • [/Host *ServerName*]—Moves the trial from current host server to another server in the InForm Service.

Command	Purpose and Syntax
CONFIG CDD *TrialName* [Enable | Disable] | [*DSN* [Active | Inactive]] | [*DSN*]	Configures an existing CDD: • [Enable | Disable]—Enables or disables the CDD for a particular trial. • [*DSN* [Active | Inactive]]—Makes a CDD DSN active or inactive for a particular trial. • [*DSN*]—Configures an existing CDD DSN with the User ID and password specified.
CONFIG WEBSERVICE AuthService	Specifies the port number for the InForm application to use to validate users in the Reporting and Analysis module.
HELP	Lists all the options of the pfdamin command.
INSTALL	Creates PfUser_*computername* and other settings, and installs the MTS library package InFormTrial. The InForm service does not have to be running for the command to work.
KILLSERVER *ServerName*	Stops server MTS packages without stopping trials on the server.
PING *MachineName* 1 | 2 | 3:*ServerName* | *4:ServerName* | 5:*ServerName* [Port#]	Pings the InForm Service or a particular server. The ping levels are: • 1—Ping the InForm Service. • 2—Ping the InForm Service and all InForm server(s). • 3—Ping the specified server. • 4—Ping and get information about the specified server. • 5—Ping the specified server and dump the user session to a server-side file. • [Port#]—Allows you to specify the port number the echo server is listening on, if you changed it.

Command	Purpose and Syntax
REMOVE [Server *ServerName*] | [Trial *TrialName* [/DSN]] | [CDD *TrialName* [/All | *DSN*] [SYNC *TrialName* *[DestinationComputer*]]	Removes an existing server, trial, or CDD. • [Server *ServerName*]—Removes an InForm server from the InForm Service. Trials should be either reconfigured to other servers or removed before this command is run. • [Trial *TrialName* [/DSN]]—Deletes the named trial from the InForm Service. The Web virtual directories and folders for the trial are physically removed. Use the /DSN option to remove the trial-related DSNs. • [CDD *TrialName* [/All | *DSN*]—Removes either all CDD DSNs in the specified trial or the given CDD by DSN. • [SYNC *TrialName* [*DestinationComputer*]]—Removes the connection from the *trial* to the remote trial instance on *destination computer*. **Note:** Before using the PFADMIN REMOVE command, verify that IIS is running.
[RULESCANVIEW | RULESCANPEOCESS] *TrialName*	• RULESCANVIEW—Scans existing rules and execution plans, and outputs a list of rules that violate the allowed rule objects list • RULESCANPEOCESS—This command executes the same validation process that occurs during trial start. It marks rules as valid or invalid.

Command	Purpose and Syntax
SETSERVER [Site *TrialName ComputerName*] | [MedMLInstaller *TrialName ComputerName*] | [REPORTING *TrialName ReportingUrl*] | [REPORTINGAN *TrialName AuthenticationNamespace*] | [REPORTINGUR *TrialName UserRoot*] | SYSTEMPW *TrialName*	Changes the MedML and Site servers and sets the Reporting configuration settings • [Site *TrialName ComputerName*] • [MedMLInstaller *TrialName ComputerName*] • [REPORTING *TrialName ReportingUrl*]—Set Cognos 8 URL for trial. • [REPORTINGAN *TrialName AuthenticationNamespace*]—Set Cognos 8 AuthenticationNamespace for trial. • SYSTEMPW—Activate and set or change the password for the InForm system user. **Note:** Before using SETSERVER MedMLInstaller, put the trial in design mode. To do this, use the pfadmin start trial /design command. **Note:** The SETSERVER command requires that you set the Default Authentication Level property of the InForm server to Connect: To set this property: • Select Administrative **Tools** > **Component Services** > **My Computer - Properties**. • Set the **Default Properties - Default distributed communication properties - Default Authentication Level** value to Connect.
SETUP Server *ServerName* [Automatic]	Creates a new InForm server in the InForm Service. • [Automatic]—The server is automatically started with the InForm Service. Manual startup is the default.
SETUP Trial *TrialName ServerName* [/DB *OracleConnStr*] | [/DSN *TriDSN* [Automatic]]	Creates a trial on the given InForm server with the option to either create a new or use an existing ODBC DSN. The server has to be created. The trial startup mode is Manual by default. The mode can be configured in automatic with the option Automatic. A trial with the automatic startup mode is started automatically when the InForm server that hosts the trial is started. • [/DB *OracleConnStr*]—Creates an ODBC DSN *TrialName* with the given *ServerName*. • [/DSN *TriDSN* [Automatic]]—Configures the created trial *TrialName* to use the given trial dataset name *TriDSN* The trial must be present in the ODBC DSN. **Note:** Before using the /DSN command, verify that IIS is running.

Command	Purpose and Syntax
SETUP CDD *RefName TrialName* /DB *OracleConnStr DSN* [/TBSP *OraTBSP*] [Active] [NoSchema]	Sets up a new CDD DSN associated with the given CDD refname. • [/TBSP *OraTBSP*]—Defines the Oracle tablespace for the CDD schema. • [Active]—Specifies that the DSN is transactional. • [NoSchema]—Indicates that no new CDD schema should be created during setup. The existing database is not touched. By default, the user is dropped and the Oracle database destroyed. Then, a new schema is created and populated based on the RefName that defines the schema. **Note:** To execute this command successfully, the trial must be started.
SETUP CDD *RefName TrialName* /DSN *DSN* [/TBSP *OraTBSP*] [Active] [NoSchema]	Sets up an existing DSN associated with the given CDD RefName. • [/TBSP *OraTBSP*]—Defines the Oracle tablespace for the CDD schema. • [Active]—Makes the DSN transactional. • [NoSchema]—Indicates that no new CDD schema should be created during setup. The existing database is not touched. By default, the user is dropped and the Oracle database destroyed. Then, a new schema is created and populated based on the RefName that defines the schema. **Note:** To execute this command successfully, the trial must be started.
START [Server *ServerName*] | [Trial *TrialName*]	Starts an existing InForm server or trial. • [Server *ServerName*]—Starts an existing InForm server by server name. • [Trial *TrialName*]—Starts an existing trial by trial name.
START [Trial *TrialName* [/Design]]	Starts the trial in design mode. This means you can install trial components that are not completely designed (strict checking is not in force). By default, the trial starts in production mode.
STOP [Server *ServerName* [/Trials]] | [Trial *TrialName* [/Anyway]]	Stops an existing InForm server or trial. • [Server *ServerName* [/Trials]]—Stops an existing InForm server by server name. By default, a running server can be stopped if there is no trial running and no other application connected to it. The Trials keyword stops all running trials, and then stops the server. • [Trial *TrialName* [/Anyway]]—Stops the named trial. The Anyway keyword stops a trial regardless of any connections or HTTP requests.

Command	Purpose and Syntax
SYNC *Path*	*Path* specifies the location of the XML files to be transferred to another server using file-based transfer. This command results in inbound synchronization.
UNINSTALL	Removes all InForm servers and trials, and then removes the InForm service settings PfUser_*computername* and the MTS library package. **Note:** The InForm service must be running for the command to work.
UPGRADEENV *TrialName*	Upgrade InForm environment settings for the pfUSR account.
VIEW [Service] | [Server *ServerName*] | [Trial *TrialName*] | [CDD *TrialName*]	Displays a monitoring list of all servers in the InForm service, all trials in servers, or all RefNames for CDD DSNs configured for a trial. • [Service]—Lists all the servers and trials in the InForm service. • [Server *ServerName*]—Lists each server by server name and trials hosted on that server. • [Trial *TrialName*]—Lists a trial by its name. • [CDD *TrialName*]—Lists the RefNames for each CDD DSN configured for the specified trial.

Command line prompts

Depending on the options you specify, you are prompted for the following parameters:

For **pfadmin setup** or **pfadmin config** commands:

- **uid**—InForm trial database user.
- **pid**—InForm trial database user password.

For **pfadmin setserver** commands:

- **pid**—InForm trial database user password.

Use alphabetic or alphanumeric characters for the UID and PID, and begin them with a letter; do not use all numeric characters.

APPENDIX B

Troubleshooting

In this appendix

Install issues

Oracle MTS configuration is invalid

If the Oracle registry settings are not correct, you may get the following InForm core installer errors during the installation process:

- Oracle MTS configuration is invalid.
- Registry Settings: INVALID.
- XA Views: INVALID.

Possible solutions:

- If the installation wizard is still open:
  1 Click **Back** to display the **Database Configuration** window.
  2 Select the **Prep Oracle** checkbox.
  3 Click **Next** to proceed.

  This runs the informprepora.vbs and mtsora102.vbs scripts.
- If the installation window has been closed, run mtsora102.vbs from the command line. The mtsora102.vbs file is in the InstallSupport folder of the InForm installation image.

XA Views: INVALID

If you have tried the solution that is recommended in *Oracle MTS configuration is invalid* and still get this error, or if you run mtsora102.vbs from the command line and get a warning, the xaview.sql file may not be installed.

Note: This can happen for some Oracle client-only installations (multi-tier setup).

Possible solution:

1 Copy the xaview.sql file from another machine (running the same Oracle version) to your Oracle rdbms\admin directory.

2 Log in as SYS on a machine with xaview.sql.

3 Run xaview.sql against your InForm core instance.

4 Run mtsora102.vbs from the command line.

Database connectivity

If you get a warning about database connectivity, make sure that:

- The connect string value is correct.
- The pfdbadmin password is valid.

If you get a message that the pfdbadmin user does not exist, create the user by doing one of the following:

- Select the **Prep Oracle** checkbox in the InForm installation wizard.
- Run the informprepora.vbs script located in the InstallSupport folder of the InForm installation image.

Password error on InForm service start up

The InForm installation wizard cannot ensure that the password entered on the Account Configuration Window for the Local Machine User (pfUSR) meets the password requirements set for the machine. If you enter a password that does not conform to the Windows password requirements, an error will prevent the InForm service from starting.

1 To change the pfUser password enter the following command at a DOS prompt:

```
pfadmin install
```

2 When prompted for the pfUSR password, enter a password that meets the password requirements.

3 Run the following command to start the InForm service:

```
new start pfservice
```

Use the pfadmin view service command to verify that the InForm service has started.

Uninstall issues

Errors when removing a reporting schema

If you run the **deinstall_reporting_diffdb.sql** script to remove a reporting schema, and you receive the message **Reporting deinstallation aborted**, the uninstall fails and no reporting objects are removed.

The probable cause is a problem with the settings in the **configdiffdb.sql** file.

Check the configdiffdb.sql file to make sure that the settings are correct for the reporting schema that you want to remove. In particular, the uninstall scripts check for the existence of a tablespace. If the configdiffdb.sql file contains variables that refer to nonexistent tablespaces, update the file and rerun the uninstall script.