

# Kofax FraudOne

## Data Warehouse Installation and Operation Guide

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**KOFAX**

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# Preface

## Related documentation

The full documentation set for Kofax FraudOne is available at the following location:

[https://docshield.kofax.com/Portal/Products/en\\_US/FO/4.4.2-c515th79bw/FO.htm](https://docshield.kofax.com/Portal/Products/en_US/FO/4.4.2-c515th79bw/FO.htm)

In addition to this guide, the documentation set includes the following items:

### Guides

- *Kofax FraudOne Administrator's Guide*
- *Kofax FraudOne Extended Reporting Features and Statistics*
- *Kofax FraudOne Feature Codes*
- *Kofax FraudOne Installation and Migration Guide*
- *Kofax FraudOne Java Client Customization Guide*
- *Kofax FraudOne Java Client Customization Layer*
- *Kofax FraudOne License Management*
- *Kofax FraudOne Report Component Installation Guide*
- *Kofax FraudOne SignCheck Result Codes*
- *Kofax FraudOne Standard Reporting Features and Statistics*
- *Kofax FraudOne The Book on CRS*
- *Kofax FraudOne Thin Client Customization Guide*
- *Kofax FraudOne Thin Client Customization Layer*

### Interfaces

- *Kofax FraudOne Archive Interface Server*
- *Kofax FraudOne ASV Blackbox*
- *Kofax FraudOne Global Fraud Signature Web Service Developer's Guide*
- *Kofax FraudOne Common API Specifications for GIA Engines*
- *Kofax FraudOne Service Program Interfaces*
- *Kofax FraudOne User Login Procedure*
- *Kofax FraudOne Standard Teller Interface*
- *Kofax FraudOne Variant Cleanup Utility*

### Online Help

- *Kofax FraudOne Administration Client Help*
- *Kofax FraudOne Java Client Help*
- *Kofax FraudOne Server Monitor Help*
- *Kofax FraudOne Thin Client Help*

## Training

Kofax offers both classroom and computer-based training that will help you make the most of your FraudOne solution. Visit the Kofax website at [www.kofax.com](http://www.kofax.com) for complete details about the available training options and schedules.

## Get help for Kofax products

Kofax regularly updates the Kofax Support site with the latest information about Kofax products.

To access some resources, you must have a valid Support Agreement with an authorized Kofax Reseller/Partner or with Kofax directly.

Use the tools that Kofax provides for researching and identifying issues. For example, use the Kofax Support site to search for answers about messages, keywords, and product issues. To access the Kofax Support page, go to [www.kofax.com](http://www.kofax.com).

The Kofax Support page provides:

- Product information and release news  
Click a product family, select a product, and select a version number.
- Downloadable product documentation  
Click a product family, select a product, and click **Documentation**.
- Access to product knowledge bases  
Click **Knowledge Base**.
- Access to the Kofax Customer Portal (for eligible customers)  
Click **Account Management** and log in.

To optimize your use of the portal, go to the Kofax Customer Portal login page and click the link to open the *Guide to the Kofax Support Portal*. This guide describes how to access the support site, what to do before contacting the support team, how to open a new case or view an open case, and what information to collect before opening a case.

- Access to support tools  
Click **Tools** and select the tool to use.
- Information about the support commitment for Kofax products  
Click **Support Details** and select **Kofax Support Commitment**.

Use these tools to find answers to questions that you have, to learn about new functionality, and to research possible solutions to current issues.

## Data Warehouse installation and operation

The FraudOne Data Warehouse component is used to hold long term statistical information about the contents and usage of a FraudOne system. This statistical information is stored in database tables in a relational database.

This document provides information to assist with the installation and configuration of a new Data Warehouse system. This document applies only to the Data Warehouse implementation used in the standard product; customer specific implementations will provide their own documentation to replace this.

The Data Warehouse database must use the same engine (Oracle, DB2 or SQL Server) as the FraudOne database from which the statistical information is extracted. The intention is that these tables are stored in a different physical database to the FraudOne production data; nothing in the installation should prevent the same database being used, however the performance of both the Data Warehouse and the FraudOne production system may be severely impacted if the Data Warehouse tables are placed into a FraudOne production database.

## General architecture

### Processes

The FraudOne Data Warehouse is shipped as a suite of multiple, interdependent Windows command script files. Only the three command script files corresponding to the processes described here are intended to be started directly. All of the scripts expect the executable commands corresponding to the configured database engine to be available in the system path at the time the script is called.

The FraudOne Data Warehouse is managed in three distinct processes,

- **Installation**

The installation process is run only once, to construct the database infrastructure and load the fixed control data into the tables. Running this script once the database contains statistical information will destroy any existing data.

- **DFP Stage 1**

Run (synchronously) during the DFP Service program execution to extract the required data from the production database into a temporary storage area before the information is deleted by the normal actions of the DFP.

- **DFP Stage 2**

Also run during DFP, this time asynchronously, in parallel with the normal processing of the DFP, to load the data extracted during DFP Stage 1 into staging tables in the data warehouse and to perform the required data analysis on the data to prepare the statistics as needed by the installed reporting and other components.

### Schema names

The standard Data Warehouse uses two schema names, the default names are VMR for Data Warehouse internal tables, views and other structures and DWSP for the views that are intended to be visible to the users of the Data Warehouse, in particular the online reporting component.

These schema names are fully configurable and may if required be configured to use the same name, although the direct access to the information held in the VMR schema may prove confusing to users creating ad-hoc queries for analysis.

### DFPKEY table and frequency of execution

The only change to a SignPlus (Release 4.0 or later) database needed by the Data Warehouse component is the addition of a single row table DEB.DFPKEY to the database (both databases in the case of an installation with separated SignBase and SignCheck databases). (For SQL Server

there are also additional stored procedures created in these databases to control the DFP Stage 1 export steps.)

The DFP service program uses this table to record the "date" of the Data Warehouse extraction that is being performed; the expectation is that the DFP is run to completion at most once per calendar day – installations where this is not the case will need a customized Data Warehouse component in any case. The table also holds information needed by the DFP service program to control the processing in the event of a rerun.

This date information is carried over into the Data Warehouse and forms the basis of the "daily" statistical analysis – installations where the DFP is run less often than once per day will have "daily" statistics aggregated from the complete time between the DFP runs.

## Data transfer operation

### General

The DFP Stage 1 process makes the required "daily" information from the SignBase and SignCheck databases available for transfer to the Data Warehouse database. The method used for this is database engine dependant. (See below.)

The standard product assumes that the data need not be moved physically from the directory where it is created to make it available to the DFP Stage 2 process. Should such a physical relocation be necessary, a customer specific DFP Stage 2 process will need to ensure that the necessary data transport is carried out.

### DB2

The required data from the SignBase and SignCheck databases is placed into operating system flat files using the DB2 for Linux, Unix and Windows database engine supplied export utility (DB2 EXPORT) and is loaded into the staging tables of the Data Warehouse database using the corresponding import utility (DB2 IMPORT). This is also true for DB2 for Z/OS installations, the exported data is stored as flat files attached to a workstation, the export and import occurs through the services of the DB2 Connect component.

These files are written into a directory identified in the configuration file; this directory must be accessible using the same directory name to both the SignBase and SignCheck database and the Data Warehouse database utilities.

The user identifier provided to the DFP Stage 1 and DFP Stage 2 scripts must have the required access rights to perform the data export and import actions.

### SQL Server

The required data from the SignBase and SignCheck databases is placed into operating system flat files using the database engine supplied export utility (BCP) and is loaded into the staging tables of the Data Warehouse database using the same utility. The required export is controlled by means of stored procedures (one per export file) created in the SignBase and SignCheck databases.

These files are written into the directory identified in the configuration file; this directory must be accessible using the same directory name to both the SignBase and SignCheck database and the Data Warehouse database utilities.

The user identifier provided to the DFP Stage 1 and DFP Stage 2 scripts must have the required access rights to perform the data export and import actions.

## Oracle

The data transfer process for Oracle uses transportable table spaces, if the SignBase and SignCheck databases are separated there are two transportable table spaces, otherwise there is one. The default association for the table spaces is to the Data Warehouse database. The DFP Stage 1 script detaches the table space(s) from the Data Warehouse database and attaches it or them to the SignBase and SignCheck databases in order to allow the creation of the required staging tables directly from the originating tables in the SignBase and SignCheck databases. The table spaces are then detached from the SignBase and SignCheck databases at the end of the DFP Stage 1 script.

DFP Stage 2 associates the transportable table space once more with the Data Warehouse database and so effectively creates the staging tables in the Data Warehouse database. The data files which form the transportable table space are identified in the configuration file and these must be visible using the same path name to both the SignBase and SignCheck databases and the Data Warehouse database. In addition, the metadata controlling the transfer of the table space is written to a directory identified in the configuration file; this directory too must be accessible using the same directory name to both the SignBase and SignCheck databases and the Data Warehouse database.

The actions needed to attach and detach the table spaces require DBA authority and the user identifier provided to the DFP Stage 1 and DFP Stage 2 scripts must have the rights needed to connect "as SYSDBA".

## Configuration

The normal configuration for an installation where the SignCheck DFP is available is completely contained in the file DWSPCnfg.cmd. More complex configuration is done by providing customer specific versions of the various other files that make up the Data Warehouse component scripts.

For installations where the SignCheck DFP is not available, the SignBase DFP program is provided. This program is configured using in the SrvMngr4.ini parameter file and the daily scheduling can be accomplished using parameters in this file or, in complex cases, by means of the calendar scheduler.

The parameters available for configuration in the DWSPCnfg.cmd file are as follows.

## Common

The following items are used for all database engines:

Configuration item	Standard value	Description
DWSPLDIR	n/a	Workstation directory where the DWSP scripts write their error and monitoring log files.
DWSPLFMTD	n/a	Format of the system provided date. Possible values are "YMD", "DMY" and "MDY" for installations where the date is returned without a day

Configuration item	Standard value	Description
		name and "XXX YMD", "XXX DMY" and "XXX MDY" for installations where the date is returned with a leading day name.  The value returned by an installation can be seen in a command window using the command "date /t" and the format value corresponding to the displayed result should be set; Y, M and D refer to the Year, Month and Day components of the result date, which can be presented in a variety of forms.
DWDBTYPE	n/a	Defines the database engine for which the scripts will be configured and executed.
DWDBNAME	n/a	Connection name of the database in which the Data Warehouse information is stored.
DWDBSCHV	vmr	Schema name for Data Warehouse holding tables
DWDBSCHD	dwsp	Schema name for Data Warehouse reporting views
DWDBSCHA	dwsp	Schema name for Short Term Archive views
DWDBSCHS	vmr	Schema name for Data Warehouse staging tables
DWDBDWTS	DWSPD	Table space name for Data Warehouse holding tables
DWDBDWIS	DWSPD	Table space name for the indexes of the Data Warehouse holding tables
DWDBSATS	DWSPA	Table space name for Short Term Archive tables
DWDBSAIS	DWSPA	Table space name for the indexes of the Short Term Archive tables
DWDBSALS	DWSPA	Table space name for the long data items in the Short Term Archive tables
DWDBSBTS	DWSPI	Table space name for SignBase staging tables (see also Oracle specific entries)
DWDBSBIS	DWSPI	Table space name for the indexes of the SignBase staging tables (see also Oracle specific entries)
DWDBSCTS	DWSPI	Table space name for SignCheck staging tables (see also Oracle specific entries)
DWDBSCIS	DWSPI	Table space name for the indexes of the SignCheck staging tables (see also Oracle specific entries)
SBDBNAME	signplus	Connection name of the database in which the SignBase production data is stored
SBDBSCHB	DEB	Schema name for SignBase production data tables

Configuration item	Standard value	Description
SCDBNAME	signplus	Connection name of the database in which the SignCheck production data is stored
SCDBSCHC	DEB	Schema name for SignCheck production data tables

## DB2 for Linux, Unix and Windows

Configuration item	Standard value	Description
DWD2XDIR	V:\DWSP\XDir	Workstation directory used to hold exported flat files between DFPStage1 and DFPStage2
DWD2HIST	91 days	Number of days to retain historical information in the short term archive. Format as needed by SQL date arithmetic expression (<date_column> – X)

## DB2 for Z/OS

The configuration for DB2 for Z/OS differs from that for DB2 for Linux, Unix and Windows mainly in that provision is made to place each table into its own table space together with a VCAT or STOGROUP for the index files. This is to support the standard practice in mainframe DB2 databases.

Configuration item	Standard value	Description
DWD2XDIR	n/a	Workstation directory used to hold exported flat files between DFPStage1 and DFPStage2
DWD2HIST	91 days	Number of days to retain historical information in the short term archive. Format as needed by SQL date arithmetic expression (<date_column> – X)
DWDBZTB_CN	%DWDBSATS%	Table space for Short Term Archive table CN
DWDBZTB_CR	%DWDBSATS%	Table space for Short Term Archive table CR
DWDBZTB_CI	%DWDBSATS%	Table space for Short Term Archive table CI
DWDBZTB_CIF	n/a	Table space for Short Term Archive table CI FRONT_IMAGE
DWDBZTB_CIB	n/a	Table space for Short Term Archive table CI BACK_IMAGE
DWDBZTB_STCX	%DWDBSCTS%	Table space for Staging table STCX
DWDBZTB_STCS	%DWDBSCTS%	Table space for Staging table STCS

Configuration item	Standard value	Description
DWDBZTB_STCN	%DWDBSCTS%	Table space for Staging table STCN
DWDBZTB_STCR	%DWDBSCTS%	Table space for Staging table STCR
DWDBZTB_STCW	%DWDBSCTS%	Table space for Staging table STCW
DWDBZTB_X1	%DWDBDWTS%	Table space for Data Warehouse Holding table X1
DWDBZTB_X2	%DWDBDWTS%	Table space for Data Warehouse Holding table X2
DWDBZTB_X4	%DWDBDWTS%	Table space for Data Warehouse Holding table X4
DWDBZTB_HY	%DWDBDWTS%	Table space for Data Warehouse Holding table HY
DWDBZTB_HS	%DWDBDWTS%	Table space for Data Warehouse Holding table HS
DWDBZTB_W1	%DWDBDWTS%	Table space for Data Warehouse Holding table W1
DWDBZTB_W2	%DWDBDWTS%	Table space for Data Warehouse Holding table W2
DWDBZTB_W4	%DWDBDWTS%	Table space for Data Warehouse Holding table W4
DWDBZTB_W6	%DWDBDWTS%	Table space for Data Warehouse Holding table W6
DWDBZTB_W8	%DWDBDWTS%	Table space for Data Warehouse Holding table W8
DWDBZTB_W10	%DWDBDWTS%	Table space for Data Warehouse Holding table W10
DWDBZTB_W12	%DWDBDWTS%	Table space for Data Warehouse Holding table W12
DWDBZTB_QM	%DWDBDWTS%	Table space for Data Warehouse Holding table QM
DWDBZTB_QH	%DWDBDWTS%	Table space for Data Warehouse Holding table QH
DWDBZTB_QD	%DWDBDWTS%	Table space for Data Warehouse Holding table QD
DWDBZTB_UM	%DWDBDWTS%	Table space for Data Warehouse Holding table UM
DWDBZTB_UH	%DWDBDWTS%	Table space for Data Warehouse Holding table UH
DWDBZTB_UD	%DWDBDWTS%	Table space for Data Warehouse Holding table UD
DWDBZTB_SD	%DWDBDWTS%	Table space for Data Warehouse Holding table SD
DWDBZTB_FD	%DWDBDWTS%	Table space for Data Warehouse Holding table FD
DWDBZTB_FR	%DWDBDWTS%	Table space for Data Warehouse Holding table FR
DWDBZTB_RT	%DWDBDWTS%	Table space for Data Warehouse Holding table RT
DWDBZTB_STVC	%DWDBSBTS%	Table space for Staging table STVC

Configuration item	Standard value	Description
DWDBZTB_STVA	%DWDBSBTS%	Table space for Staging table STVA
DWDBZTB_STVY	%DWDBSBTS%	Table space for Staging table STVY
DWDBZTB_STUY	%DWDBSBTS%	Table space for Staging table STUY
DWDBZTB_STBS	%DWDBSBTS%	Table space for Staging table STBS
DWDBZTB_STVS	%DWDBSBTS%	Table space for Staging table STVS
DWDBZVS_CN	%DWDBSAIS%	VCAT or STOGROUP for Short Term Archive table CN
DWDBZVS_CR	%DWDBSAIS%	VCAT or STOGROUP for Short Term Archive table CR
DWDBZVS_CI	%DWDBSAIS%	VCAT or STOGROUP for Short Term Archive table CI
DWDBZVS_CIAX	%DWDBSAIS%	VCAT or STOGROUP for Short Term Archive table CI Auxiliary indexes
DWDBZVS_STCX	%DWDBSCIS%	VCAT or STOGROUP for Staging table STCX
DWDBZVS_STCS	%DWDBSCIS%	VCAT or STOGROUP for Staging table STCS
DWDBZVS_STCN	%DWDBSCIS%	VCAT or STOGROUP for Staging table STCN
DWDBZVS_STCR	%DWDBSCIS%	VCAT or STOGROUP for Staging table STCR
DWDBZVS_STCW	%DWDBSCIS%	VCAT or STOGROUP for Staging table STCW
DWDBZVS_X1	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table X1
DWDBZVS_X2	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table X2
DWDBZVS_X4	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table X4
DWDBZVS_HY	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table HY
DWDBZVS_HS	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table HS
DWDBZVS_W1	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W1

Configuration item	Standard value	Description
DWDBZVS_W2	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W2
DWDBZVS_W4	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W4
DWDBZVS_W6	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W6
DWDBZVS_W8	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W8
DWDBZVS_W10	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W10
DWDBZVS_W12	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table W12
DWDBZVS_QM	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table QM
DWDBZVS_QH	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table QH
DWDBZVS_QD	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table QD
DWDBZVS_UM	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table UM
DWDBZVS_UH	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table UH
DWDBZVS_UD	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table UD
DWDBZVS_SD	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table SD
DWDBZVS_FD	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table FD
DWDBZVS_FR	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table FR
DWDBZVS_RT	%DWDBDWIS%	VCAT or STOGROUP for Data Warehouse Holding table RT
DWDBZVS_STVC	%DWDBSBIS%	VCAT or STOGROUP for Staging table STVC
DWDBZVS_STVA	%DWDBSBIS%	VCAT or STOGROUP for Staging table STVA
DWDBZVS_STVY	%DWDBSBIS%	VCAT or STOGROUP for Staging table STVY

Configuration item	Standard value	Description
DWDBZVS_STUY	%DWDBSBIS%	VCAT or STOGROUP for Staging table STUY
DWDBZVS_STBS	%DWDBSBIS%	VCAT or STOGROUP for Staging table STBS
DWDBZVS_STVS	%DWDBSBIS%	VCAT or STOGROUP for Staging table STVS

## SQL Server Only

Configuration item	Standard value	Description
DWMSXDIR	n/a	Workstation directory used to hold exported flat files between DFPStage1 and DFPStage2
DWMSHSTT	Day	Date unit represented by the DWMSHIST interval. Format as needed by the SQL date arithmetic expression <code>dateadd(%DWMSHSTT%,%DWMSHIST %,&lt;date_column&gt;)</code>
DWMSHIST	-91	Number of days to retain historical information in the short term archive. Format as needed by SQL date arithmetic expression <code>dateadd(%DWMSHSTT%,%DWMSHIST %,&lt;date_column&gt;)</code>

## Oracle Only

Configuration item	Standard value	Description
DWORXDIR	n/a	Workstation directory used to hold metadata controlling the transfer of the transportable table space between the Data Warehouse database and the SignBase and/or SignCheck database(s)
DWORHIST	interval '91' day	Number of days to retain historical information in the short term archive. Format as needed by SQL date arithmetic expression <code>date_column - %DWORHIST%</code>
TTSSCFIL	n/a	List of container files that make up the storage containers of the transportable table space used to move data between the SignCheck database and the Data Warehouse database. This is not used if the SignCheck and SignBase data is held in a single physical database.
TTSSBFIL	n/a	List of container files that make up the storage containers of the transportable table space used to move data between the SignBase database and the Data

Configuration item	Standard value	Description
		Warehouse database. This is used also for SignCheck data if the SignBase and SignCheck data is held in a single physical database.

## SignBase DFP configuration in SrvMngr4.ini

The configuration information that controls the execution of the SignBase DFP program is provided in the SrvMngr4.ini file. The configuration of the Data Warehouse scripts is done using the DWSPCnfg.cmd file in the same way as for the SignCheck DFP.

The SrvMngr4.ini entries are described in the *Kofax FraudOne Administrator's Guide*.

## Installation

This process is run manually by starting the script DWSPDBIn.cmd.

The script requires six parameters; three pairs of <user-id> <password> are required, one each for the connection to the SignBase, SignCheck and Data Warehouse databases, in that order.

Before starting the script, the new database to contain the Data Warehouse tables must have been created and the table spaces and other physical storage structures needed to contain the data must exist.

The user-ids supplied to the script need enough access rights to allow the creation of the tables and their indexes. For SQL Server, the Data Warehouse user-id must be able to create views that cross the Schema boundary between vmr and dwsp (default schema names).

The Data Warehouse physical database should be created using the same guidelines as the SignBase and SignCheck databases with respect to code page and language. ODBC connection between the Business Model server and this database is required, and should use the same configuration settings as the SignBase and SignCheck databases.

## DFP Stage 1

The DFP Stage 1 script is run internally by the DFP program. The user-ids and passwords needed by the DFP Stage 1 script are supplied by the configuration file for the DFP program and may be encrypted if required.

The database utility programs needed by the DFP Stage 1 script must be available in the path at the time the DFP program is started.

## DFP Stage 2

The DFP Stage 2 script is run internally by the DFP program. The user-ids and passwords needed by the DFP Stage 2 script are supplied by the configuration file for the DFP program and may be encrypted if required.

The database utility programs needed by the DFP Stage 2 script must be available in the path at the time the DFP program is started.