

Proven Practice

Installing the Financial Analytic Publisher (FAP) for Controller 10.2

Product(s): IBM Cognos Controller

Area of Interest: Infrastructure

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Contents

1	PURPOSE4
2	FAP OVERVIEW
2.1 2.2	FAP PROCESS
3	FAP PREREQUISITES6
4	INSTALLING THE FAP CLIENT/SERVICE7
4.1	INSTALL FAP CLIENT SOFTWARE
5	CREATE A FAP DATABASE8
5.1 5.2 5.3	IN SQL ENTERPRISE MANAGER, CREATE AN EMPTY DATABASE
6	CREATE AN ODBC SOURCE FOR TM19
6.1	STEPS NEEDED TO CREATE AN ODBC DATA SOURCE
7	SQL NOT INSTALLED ON SAME SERVER AS FAP SERVICE/CLIENT10
8	INSTALL TM1 CLIENT & CREATE A TM1 SERVICE FOR THE FAP PUBLISH11
8.1 8.2 8.3	STEPS TO INSTALL THE TM1 CLIENT ON THE FINANCIAL ANALYTICS PUBLISHER SERVER
9	STARTING THE FAP SERVICE14
9.1 9.2	STARTING THE SERVICE
10	FAP CLIENT SETTINGS15
10.1 10.2	CONNECT TO FAP
11	TM1 DATA AFTER A PUBLISH19
12	APPENDIX: FAP/TM1 WITH COGNOS CAM AUTHENTICATION20
12.1 12.2 12.3 12.4 12.4.1 12.4.2	SET UP USERS' ROLES 21 CONFIGURE COGNOS CAM AUTHENTICATION IN COGNOS CONFIGURATION 22 CONFIGURE COGNOS CAM AUTHENTICATION IN FAP/TM1 CONFIGURATION FILES 22 STEPS TO ALLOW INITIAL FAP CONNECTION THEN IMPORT THE CAM USERS TO TM1 23 Grant the FAP connection user the needed permissions 23 Change the data mart to CAM security mode and connect FAP with CAM user 23

1 Purpose

This document is designed to be a simple/basic guide (complete with screenshots) for how to install the Financial Analytic Publisher (FAP) for use with Controller 10.2 with additional notes on how to set up Cognos CAM authentication with FAP and TM1.

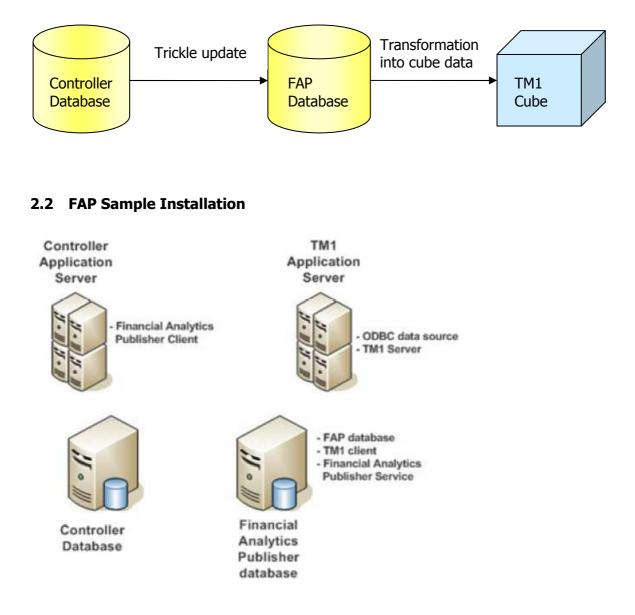
This document will assume that Microsoft SQL Server 2008 is the database used in the Controller installation.

4

2 FAP Overview

2.1 FAP Process

Changes to the Controller database, either Data or Structural, are passed to the temporary (FAP database). The FAP service then transforms this relational data in cube format.



3 FAP Prerequisites

This Document will assume that both Controller 10.2 and TM1 10.2.2 are already installed.

Full details of the supported software environments for all Controller 10.2 are listed here:

http://www-01.ibm.com/support/docview.wss?uid=swg27041444

1. Ensure that the sqljdbc4.jar file which at time of writing, this is downloadable from:

http://www.microsoft.com/en-gb/download/details.aspx?id=11774

... is placed in this folder:

...\Program Files\ibm\cognos\ccr_64\server\FAP\lib

Without this step, the FAP status will hang at "Ready for Publish"

And on the error.log file at ...\Program Files\ibm\cognos\ccr_64\server\FAP this error will be seen:

Cannot load JDBC driver class 'com.microsoft.sqlserver.jdbc.SQLServerDriver'

2. Ensure that the TM1 binaries folder is included in the Path environment variable e.g:

%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SY STEMROOT%\System32\WindowsPowerShell\v1.0\;C:\Program Files (x86)\Microsoft SQL Server;**E:\Program Files\ibm\cognos\tm1_64\bin64;**

4 Installing the FAP Client/Service

4.1 Install FAP Client Software

In the the 01.Controller 10.2.0 Microsoft Windows Multilingual (CIYX3ML)\winx64h directory (the unpacked Controller installation pack), run issetup.exe

Select a suitable location for the installation.

At this stage of the installation Wizard, select client ans server components as needed.

🗐 IBM Cognos Controller		×
Welcome IBM License Agreement Non IBM License Agreement Installation Location IBM Cognos Running Services Component Selection Shortcut Folder Summary Progress Finish	Component Selection Which components do you want to install or upgrade? Content Manager Components [Not selected] Application Tier Components [Not selected] Gateway Components [Not selected] Financial Analytics Publisher [Selected] Controller FAP Client [Selected] Controller FAP Server [Selected]	
	Description Downloads IBM Cognos Controller FAP to user machines.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

Click 'Next'

Click 'Next'

Click 'Finish'

5 Create a FAP database

5.1 In SQL Enterprise Manager, create an empty database.

Refer to SQL Server Management Studio instructions and to standard Cognos Controller installation instructions on how to do this.

5.2 Create a database connection to FAP DB

Example of FAP DB Connection in Cognos Controller Configuration

🔞 IBM Cognos Controller Configuration		
File View Actions Help		
Explorer	FAP	
IBM Cognos Controller Configuration Web Services Server Database Connections FAP Database Connections Database connections for publi COM+ Server Batch Services Report Server Enhanced Reporting Optimizati External data - Framework Man Elent Distribution Server Client Distribution Server Client Distribution Server	Setting Database type Name Provider User ID Password Initial catalog Data source	Value SQL Server FAP SQLNCLI10.1 fastnet ******* FAP_niro102 vbracontsql4.hursley.ibm.com

5.3 Use Database Conversion Utility to create FAP Database

Click the green 'Play' button in the DB connection screen. A dialogue box as below will appear. Select FA DB then click 'Connect' button. The CreateDB will highlight, click this to populate the empty DB with the initial FAP table structure. On completion the Current Version will show as 0. Then click the 'Upgrade' button. This will populate the tables correctly for the current version of Controller FAP and the final screen should be as here:

JDL File	E:\Progr	am Files\jbm\cognos\cc	r_64\Data\FAP.udl	
				Connect
Control	ler DB	Current Version:	7	
FAP DB		Upgrade to:	7	
Datama	wh DB			Upgrade

6 Create an ODBC Source for TM1

To enable TM1 to communicate with the FAP database an ODBC Data Source needs to be created.

Note: The ODBC Data Source MUST be named FAP, and MUST be created on the TM1 Server

6.1 Steps needed to create an ODBC data source

<u>Note:</u> The client software for your relational database must be installed on the same machine on which you are creating the FAP ODBC Data Source and TM1 server.

Create a New S	System DSN data source called FAP (as below)
Microsoft SQL Server D	5N Configuration
SQL Server 2008 R2	This wizard will help you create an ODBC data source that you can use to connect to SQL Server. What name do you want to use to refer to the data source? Name: FAP How do you want to describe the data source? Description: FAP Which SQL Server do you want to connect to? Server: mydbserverhost.hursley.ibm.com
	Finish Next > Cancel Help

Select the Login credentials for the database created in 'Section 5: Create a FAP database'

	Change the default database to FAP_niro102b
SQL Server 2008 R2	Mirror server:
	SPN for mirror server (Optional):
	∫
	J I ⊍se ANSI quoted identifiers.
	✓ Use ANSI nulls, paddings and warnings.



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7 SQL Not installed on same server as FAP Service/Client

If SQL Server is not installed on the same Server as the FAP Client/ Service you will need to ensure that the SQL driver is installed. To check this, open **administrative tools** select 'Data Sources (ODBC)' in the Drivers tab you should see **SQL Native Client** (see below example)

DBC Drivers that are installed on your system: Name Version Company File SQL Server 6.01.7601.17514 Microsoft Corporation SQLS	er DSN System DSN File D	5N Drivers Traci	ng Connection Pooling	About
and the second se			Сотовни	File
	and the second se		and the second	SQLSRV
SQL Server Native Client 10.0 2009.100.4000.00 Microsoft Corporation SQL		2009.100.4000.00	이상 같은 것이 같은 것이 같은 것이 같은 것이 같아.	SQLNCL

If it does not appear it will need to be installed. The SQL Native Client can be downloaded from the following link.

http://www.microsoft.com/en-us/download/details.aspx?id=36434

8 Install TM1 Client & Create a TM1 service for the FAP Publish

8.1 Steps to Install the TM1 Client on the Financial Analytics Publisher Server

The TM1 Client installation components are bundled with the main TM1 package. Start the installation by running issetup from the unpacked TM1 package folder: ...\winx64h\issetup.exe

Select the client components only as shown below then complete the wizard.

Welcome IBM License Agreement Non IBM License Agreement Installation Location Component Selection Shortcut Folder Summary Progress Finish	Component Selection Which components do you want to install or upgrade? TM1 Application Tier [Not selected] Web Application Tier [Not selected] TM1 Client Tier [Selected] TM1 Perspectives [Selected] Cognos Insight [Selected] TM1 APIs [Selected]	
	Developer Tier [Not selected] Samples [Not selected] Translated Documentation [Not selected] Description TM1 Client Tier Disk Space Total required: 995.82 MB	

8.2 Add a Path for the TM1 Client System Variables

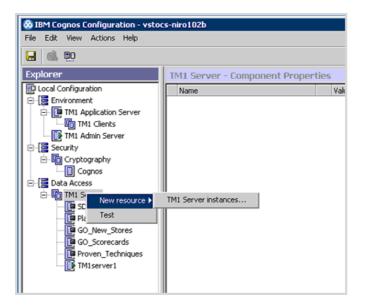
Right-click on My Computer, and select Properties. Go to the Advanced tab. Click 'Environment Variables'. Under System Variables, select Path, and click 'Edit'. In the variable value box add the binaries path to the end of the value. Eg:

%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SY STEMROOT%\System32\WindowsPowerShell\v1.0\;C:\Program Files (x86)\Microsoft SQL Server;**C:\Program Files\ibm\cognos\tm1_64\bin64;**

Tip: For accurate editing and checking, first after clicking 'Edit', use CTRL-C to copy the whole path string to Notepad. In Notepad add the bin64 path as above, the copy the whole string and paste back into the Environment Variable > System Variable > Path editing box.

Click **OK** to all dialog boxes that follow.

8.3 Install a TM1 server instance & service



This dialogue will allow you to select a name and folder location for the TM1 cube. Once the new TM1 Server instance has been created here, right-click on it and click 'test' then 'start'. The tm1s.cfg file will be created automatically in this folder and should contain the following essential lines:

[TM1S] DataBaseDirectory= {Data Directory} ServerName={Name of the TM1 server} PortNumber={Port No must be unique for each TM1 server} AdminHost={Physical Server} Language=eng Protocol=tcp

Example:

[TM15] DataBaseDirectory=C:\TM1_FAP ServerName=TM1_FAP PortNumber=33339 AdminHost=localhost GroupsCreationLimit=65535 Language=eng Protocol=tcp

Note: For best results set the **GroupsCreationLimit** to be at least 1000, the default value is 20. The maximum number of groups for GroupsCreationLimit is 65535.

The TM1 server instance's Windows service will now be registered and started.

9 Starting the FAP service

9.1 Starting the Service

Do not start the service immediately as the **'FAPService.Properties'** file needs to be edited to ensure that the FAP Service can connect to the FAP database.

9.2 Update the FAPService.Properties file

To ensure that the FAP service can connect to the FAP database, the connection properties for the database will need to be added in the FAPService.Properties file.

db=<database name> (SQL Server) or <oracle sid> (Oracle) host=<dns_to_the_FAP_database> dbType=<oracle> or <sqlserver> user=<username> passwd=<password>

Note: The FAPService will error if an SQL instance is used (ie **Server\Instance**). In this case the syntax should be **Server:Port Number**. See below for example:

Enter the relevant settings for the database created in Section 5 -Create a FAP database ie:

db=<FAPdatabasename> host=SQLServerHost:1738 dbType=sqlserver user=<dbowner> passwd=******

Once the FAPService.Properties file has been updated the 'IBM Cognos FAP Service' service will need to be started.

Note:

If the connection information contained within the FAPService.Properties file is invalid the file 'FAPFatalError.log' will appear in the directory where the file FAPNTService.exe is located.

See below for example:

Address 🗀 C:\Program Files\Cognos\c8\Server\FAP x Name 🔺 Folders 🚞 lib 🗏 🚞 Server ~ 🚞 Oracle 🗄 🧰 FAP 🚞 SQL 🗄 🚞 temp 🗄 🧰 tomcat4.1.27 🧮 FAPNTService.exe FAPService.properties 🗄 🚞 uninstall SFAPServiceGlue.dll 🚞 vers 🗄 🛅 webcontent 🕑 🗐 FAPFatalError.log

If this occurs you will need to correct the FAPService.Properties file.

10 FAP Client settings

10.1 Connect to FAP

On opening the FAP client which can be accessed from the start menu as follows: Programs\IBM Cognos\IBM Cognos Controller\IBM Cognos FAP

The FAP connect screen will appear (example see below)

Q	FAP Connect		×
	FAP Database		_
	Database type:	MS SQL Server	
	Server:	SQLServerName.hostnamedomain.	
	Database:	FAP_niro102	
	Username:	fastnet	
	Password:		
		Log in Exit	

Enter the required details for the FAP database created in Step 5.

Click 'Log in'

10.2 FAP Client Settings

Service Settings tab

Select required settings.

📀 IBM Cognos Controller Financial Analytics Publisher 📃 🗆 🗙
<u>Eile View H</u> elp
Service Settings Sources Data Marts Logs
Clock Interval: 15 🔤 seconds
Log file keep items for: 3 📥 days
Trickle tables purge every: 2 days
Connected to vbracontsql4.hursley.ibm.com\FAP_niro102b

Sources Tab Click 'New' to create a new source

Add the connection details for your Controller database e.g:

dit source: ConsTest				
Source				
Name:	ConsTest			
Log level:	High			
Interval:	1 =			
Description:				
J				
— Controller Datab	ase			
Database type:	MS SQL Server			
Server:	SQLD at abaseHost.domain.com			
Database:	NR_Test_Cons_DB			
Port:	1433			
Username:	fastnet			
Password:	******			
	Test Connection			
	Save Cancel			

Click 'Save'

In the Sources Tab the following information will be shown.

Click on 'Start' to activate the Controller Source

IBM Cognos Controller File <u>V</u> iew <u>H</u> elp			er	
Service Settings Sources	Data Marts Status	Logs Log Level	Description	New
ConsTest	Inactive	High		<u> </u>
				Remove
Selected source: ConsT Status: Inactive	estStart	Stop		
FAP DB	dex: 0			
Last Purged D Last Purged In	ate: 23/06/20 dex: 0	114		
nected to vbracontsql4.h	ursley.ibm.com	FAP_niro102b		

Data Marts Tab

it data mart: TM1C	onsTest	
Data Mart		
Name:	TM1ConsTest	
Source:	ConsTest	•
Log level:	High	•
Interval:	1 🗄	_
Specify forms:	<u>E</u> dit	Company details 🔽
Naming conventions	: <u>E</u> dit	Consolidated groups 🔽
Description:		
Company Structure] Add	Start period/Actuality
0801LE 0802LE 0803LE		<u>R</u> emove
TM1 Connection		
Admin host:	tocs-niro102	
· · · · ·	d1server1	
Client: ac	lmin	
Client: ac	lmin	
	lmin	

Click 'New' to create a new Data Mart connection

Setting Information

Source:	As defined in the Source Tab.
Log Level:	Amount of log detail provided.
Company Structure: Consolidation type).	Version of company structures to be published (Period and
Start Period/Actuality	Period and Actuality you wish to be published.
Admin Host:	TM1 server (Host Name), can be defined as DNS name or IP
	ame (ie Server Name provided in the tm1s.cfg file also shown in service name, see section 7)
Client:	Tm1 user name
Password:	Password

After the required settings have been entered Click 'Save'

After saving there will be a Data Mart row like this:

TM1Cons	Status Stopped	Log Level High	Source ConsTest	Target TM1serv	Description	Structure Status Unknown	<u>N</u> ew
							<u>E</u> dit
							Remove
			20 LB LE L		11 1		
			nitial Publish		Update St	iructure	_
Operation			nitial Publish Iled Time	Cre	Update St ation Time	iructure	_
Operation				Cre		iructure	-

Click the 'Start' button to begin the publish process.

If all the settings are correct you will see the Status change from 'Ready to Publish' to 'Initial Publish' and then 'Running'. If any errors occur check the 'Logs' tab for further information.

Notes about multiple data marts:

Multiple datamarts are possible; however each datamart must have a unique TM1 Server to publish to.

Mutiple datamarts may connect back to a single Controller database source as defined in the 'Sources' tab of the FAP GUI.

However, more than one Source may not be connected to the same Controller database.

11 TM1 data after a publish

If the publish has been successful you will see the following objects in the $\mathsf{TM1}$ server

Serv	plorer - IBM Cognos TM1 Architect Edit View Help	
<u>a</u>		18
	Currency	1
	Transaction Currency	
	Consolidation Perspective	
	Closing Version	
8		
	- 💱 Account	
	- 🔭 ActualityMonthly	
	🚽 🏲 Origin Company	
	🕂 🔁 Counter Company	
	- State Company	
	🦆 Journal Number	
	Measures	
	TM1ConsTestMonthlyCompanyDetails	
	TM1ConsTestMonthlyConsolidatedGroups	
	Products	
	Counter Dimension	
	Markets	
	Currency	
8		
	- 🛟 Closing Version	
	- 🎓 Contribution Version	
	- 🏲 Account	
	- 💱 ActualityMonthly	
8	Journal Number	
	PeriodMonthly	
	Measures	
1	MillionsTestMonthlyConsolidatedGroups	
-	Dimensions	
	Transformation and the second	
8		
	Company	
	💱 CompanyGroup	
	- 💱 Contribution Version	
	📲 Counter Company	
	Measures	
	Origin Company	
	PeriodMonthly	
	Products	
	Transaction Currency	
	Replications	
	Processes	
1.	Chores	

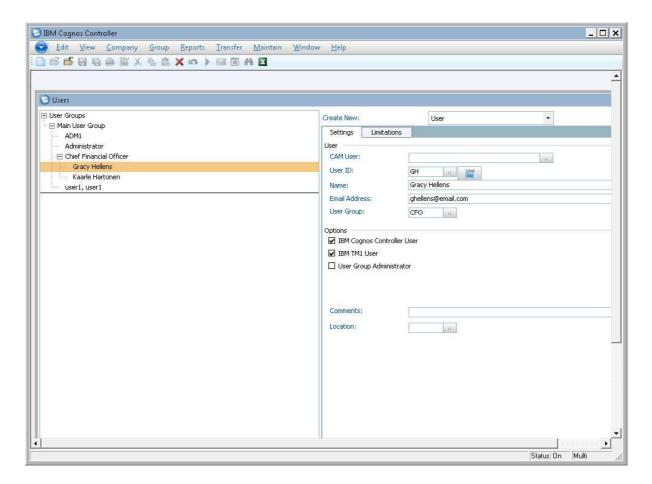
Most large Cognos Controller installations use central authentication so that users have a single user ID and password to access various components of their Cognos business suite.

Cognos Controller, FAP and TM1 have been designed to manage type of integration and automatic import of all Controller users to the TM1 Security schema is possible. A further convenience is that in Cognos Controller you can select users as *Controller only, Controller + TM1 or TM1 only users.*

This means that users' access can easily be configured to match their job roles.

12.1 Set Up Users' Roles

In Cognos Controller menu, go to Maintain > Rights > Users, see that the appropriate user options – IBM Cognos Controller user and IBM TM1 User - are ticked.



12.2 Configure Cognos CAM Authentication in Cognos Configuration

Ensure that in the Cognos Configuration, in Security > Authentication > Namespaces, an external authentication source is listed in addition to the 'Cognos' one. This could be Active Directory or LDAP.

Set the Cognos namespace to have "Allow Anonymous Access" set to False.

Click on the Restart' button and wait for the IBM Cognos service to restart to make any changes active.

See online resources for more detail on setting up external authentication sources: http://www.ibm.com/developerworks/library/ba-pp-security-cognos_bi_platform-page651/index.html

12.3 Configure Cognos CAM Authentication in FAP/TM1 Configuration Files

The FAP and TM1 services need to know where the Cognos BI server resources are. Ensure that the below entries exist in the 3 key configuration files.

Tm1s.cfg – located in the TM1 cube folder of the data mart

IntegratedSecurityMode=2 (change to 5 later – see below) ServerCAMURI=http://<Cognos_BI_hostname>:9300/p2pd/servlet/dispatch (as per the Dispatcher URI in the Cognos Configuration) ClientCAMURI=http://<Cognos_BI_hostname>/ibmcognos/cgi-bin/cognos.cgi

Or if using ISAPI - Microsoft Internet Information Services (IIS): http://<Cognos_BI_hostname>/ibmcognos/cgi-bin/cognosisapi.dll

tm1p.ini Location of this file: ...\Users\<user>\AppData\Roaming\Applix\TM1 CognosGatewayURI = http://<Cognos_BI_hostname>//ibmcognos/cgibin/cognos.cgi AllowImportCAMClients = T CognosGatewayURI = http://<Cognos_BI_hostname>:80/ibmcognos/cgibin/cognosisapi.dll

Fapservice.properties Location of this file: ...\Program Files\ibm\cognos\ccr_64\server\FAP Ensure this line exists: clientcamuri=http://<controller_appserver_hostname>/ibmcognos/cgibin/cognos.cgi

12.4 Steps to allow initial FAP connection then import the CAM users to TM1

12.4.1 Grant the FAP connection user the needed permissions

a) In Mode 2 with Cognos Anonymous = False, tm1s.cfg integratedsecuritymode=2, restart the tm1 server.

b) Navigate to the Cube with Architect and log in via the 'admin' special account.

See that service – admin, dataadmin and securityadmin are not ticked, tick them and save.

	Security Settings					Administrative Group Assignment			Ок
	Password	Expiration Days	Max Connections	Status	ADMIN	DataAdmin	SecurityAdmin		
Admin	Undefined	No Expiration.	0	Active	×				Cancel
IBM/ADM	Undefined	No Expiration.	0	Not Active	×	×	×		Settings
4								F	

12.4.2 Change the data mart to CAM security mode and connect FAP with CAM user

- In Tm1s.cfg change back to securitymode=5
- In the FAP GUI, Edit Data Mart so the user is IBM\adm
- In Windows Services, restart the TM1 service
- Stop & restart Initial Publish

Note: If the Data Mart fails to publish, hover the mouse pointer over the error line on the FAP GUI log tab.

If this error is seen: "ODBC Connection Check Failed, Please verify the ODBC Connection (named FAP) on the TM1 server machine" and "Could not Create TIProcess TestODBC"

And in the error.log in the ...\Program Files\ibm\cognos\ccr_64\server\FAP shows this in the error log:

"...com.ibm.cognos.tm1.TM1Exception: ObjectSecurityNoAdminRights"

Then the <namespace>\adm user (or the user that is set up for the data mart connection) does not have sufficient Rights - check the point in "Grant the FAP connection user the needed permissions" section above.

Now, any additional Cognos Controller users with a TM1 role will have been automatically imported like this:

., <u>c</u> iono	<u>G</u> roups <u>H</u> elp								
	Security Settings				Administrative Group Assignment			User Gri	ОК
User Name	Password	Expiration Days	Max Connections	Status	ADMIN	DataAdmin	SecurityAdmin	S	<u>.</u>
Admin	Undefined	No Expiration.	0	Not Active	X				Cancel
IBM/ADM	Undefined	No Expiration.	0	Active	×	×	X	×	Settings.
IBM\user1	Undefined	No Expiration.	0	Not Active				×	
•								F	

Notes about passwords in TM1:

The initial password for the users propagated from Cognos Controller will be the same as the user name.

Users must change their passwords manually after logging into the TM1 cube. These changed passwords will not be overwritten if a new Initial Publish is done.

See IBM Technote 1678179 for more details about this topic and how to control the TM1 users' password expiry.