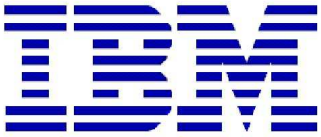


Proven Practice

Installing the Financial Analytic Publisher (FAP) for Controller 10.2

Product(s): IBM Cognos Controller

Area of Interest: Infrastructure

This document is maintained by the Best Practices, Product and Technology team. You can send comments, suggestions, and additions to cscogpp@ca.ibm.com.

Contents

1 Purpose

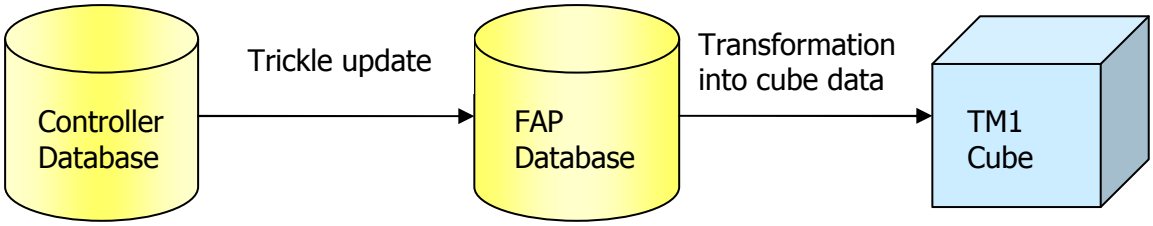
This document is designed to be a simple/basic guide (complete with screenshots) for how to install the Financial Analytic Publisher (FAP) for use with Controller 10.2 with additional notes on how to set up Cognos CAM authentication with FAP and TM1.

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

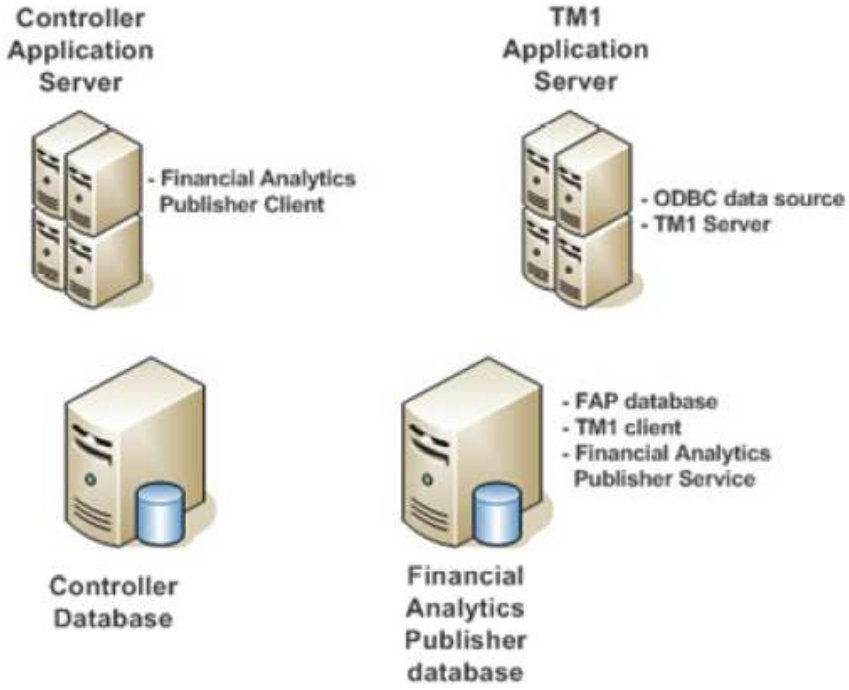
2 FAP Overview

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.



2.2 FAP Sample Installation



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

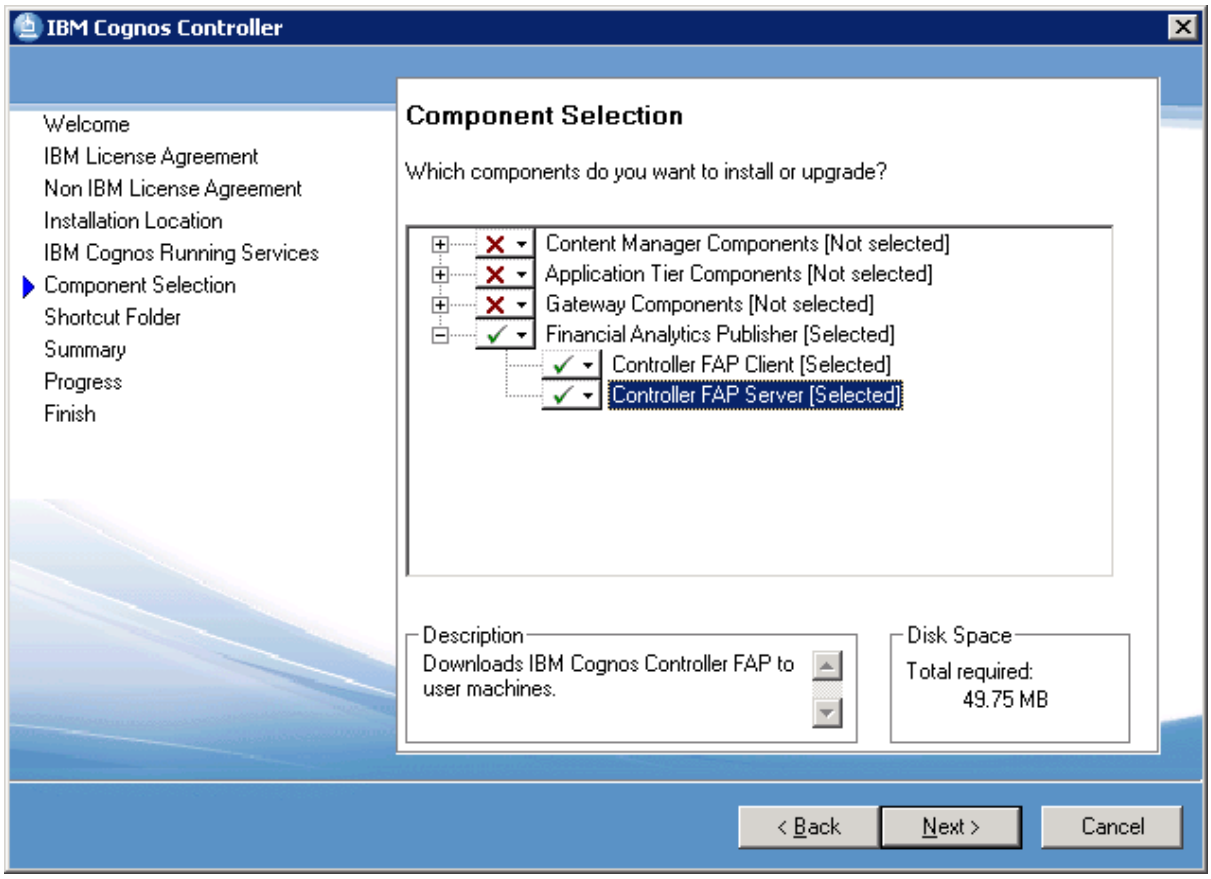
4 Installing the FAP Client/Service

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.



Click 'Next'

Click 'Next'

Click 'Finish'

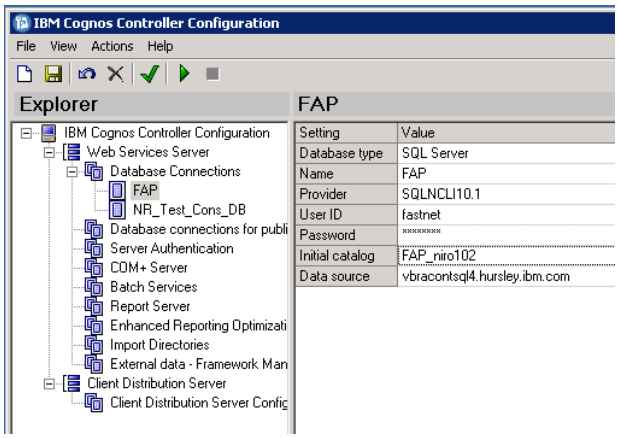
5 Create a FAP database

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.

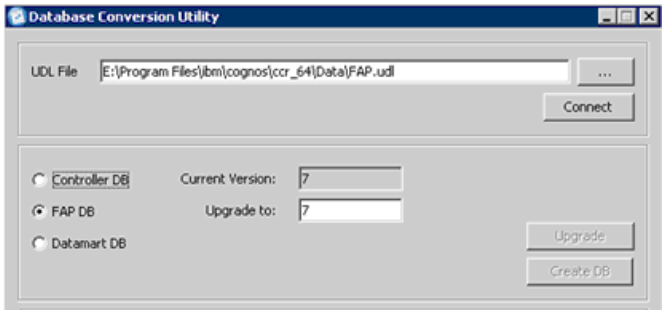
5.2 Create a database connection to FAP DB

Example of FAP DB Connection in Cognos Controller Configuration



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:



6 Create an ODBC Source for TM1

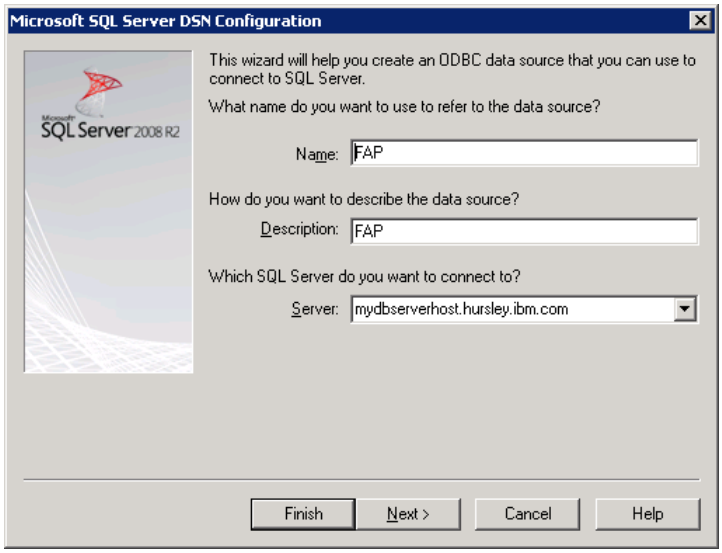
To enable TM1 to communicate with the FAP database an ODBC Data Source needs to be created.

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

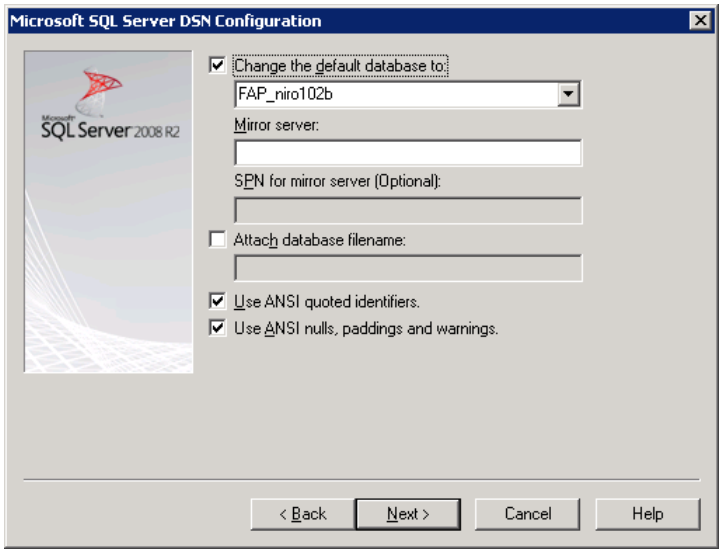
6.1 Steps needed to create an ODBC data source

Note: 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 System DSN data source called **FAP** (as below)

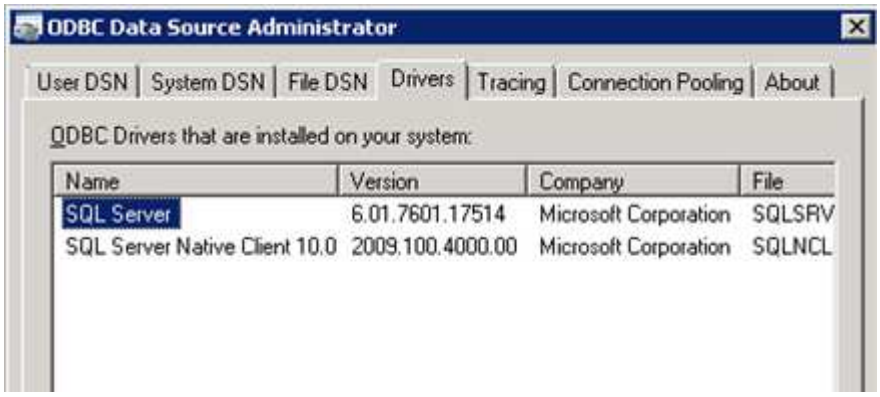


Select the Login credentials for the database created in 'Section 5: Create a FAP database'



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)



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

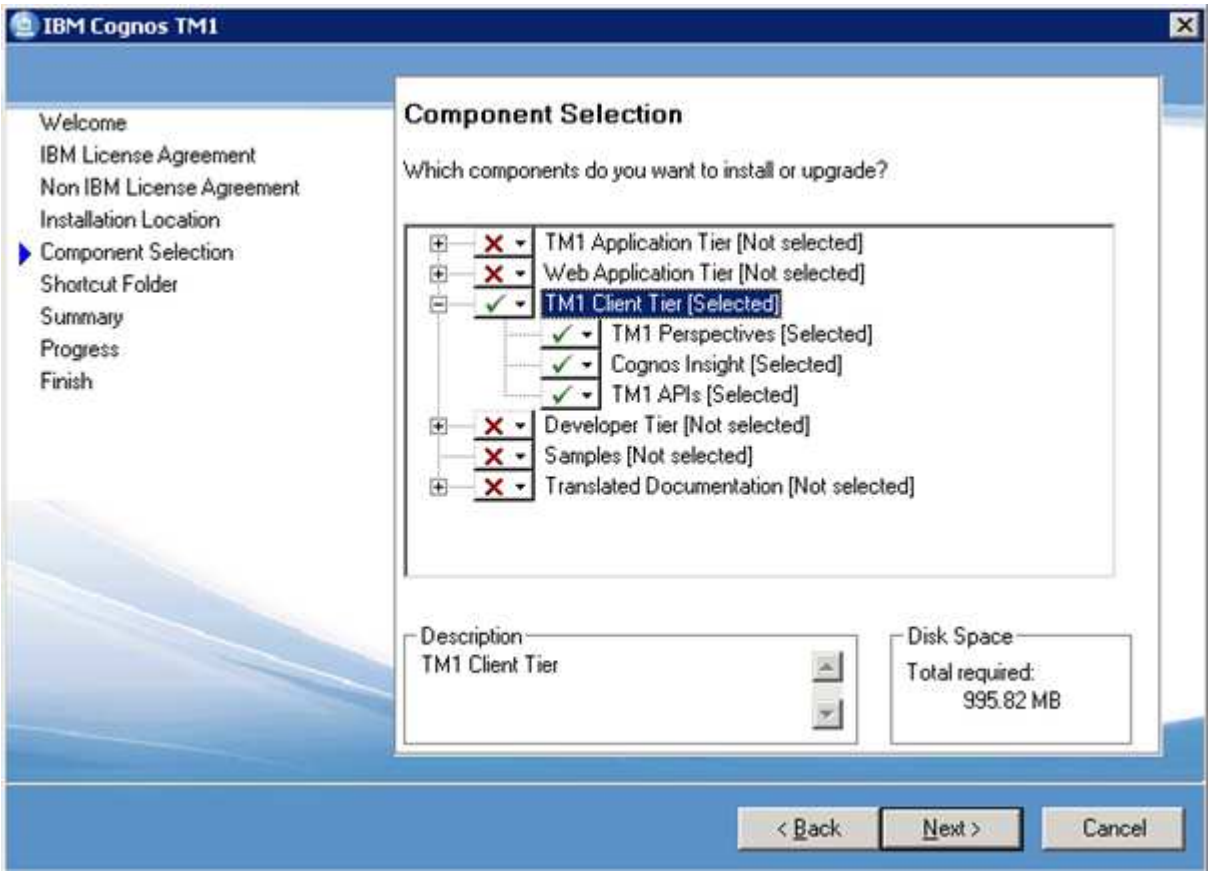
http://www.microsoft.com/en-us/download/details.aspx?id=36434

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.



8.2 Add a Path for the TM1 Client System Variables

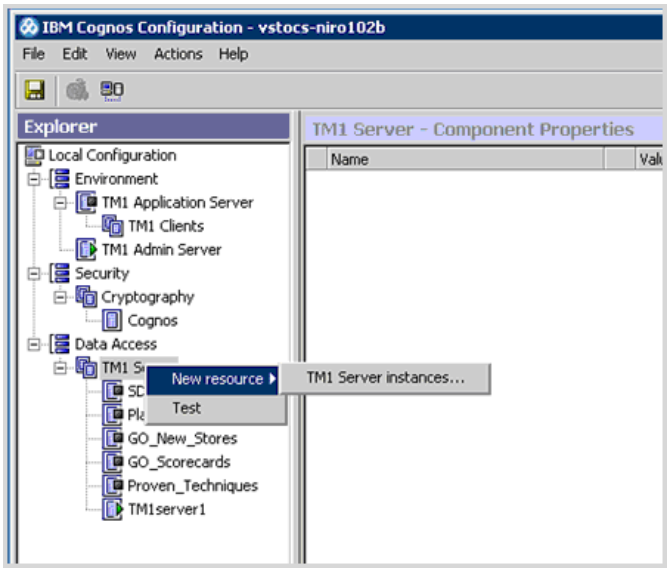
Right-click on My Computer, and select Properties.
Go to the Advanced tab.
Click 'Environment Variables'.
Under System Variables, select Path, and click 'Edit'.
In the variable value box add the binaries path to the end of the value. Eg:

%SystemRoot%\system32;%SystemRoot%;%SystemRoot%\System32\Wbem;%SYSTEMROOT%\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:

```
[TM1S]
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:

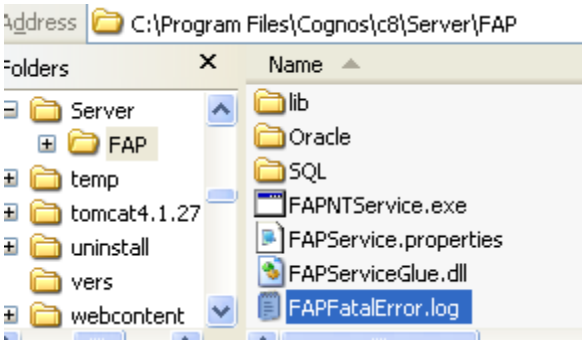
Enter the relevant settings for the database created in Section 5 -Create a FAP database ie:

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:



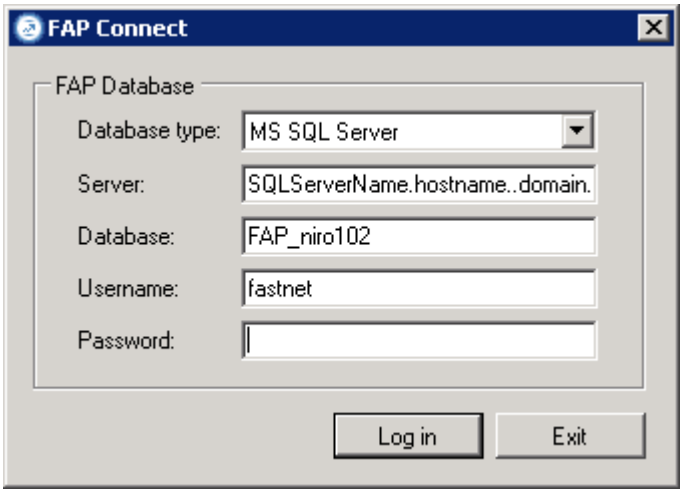
If this occurs you will need to correct the FAPService.Properties file.

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)



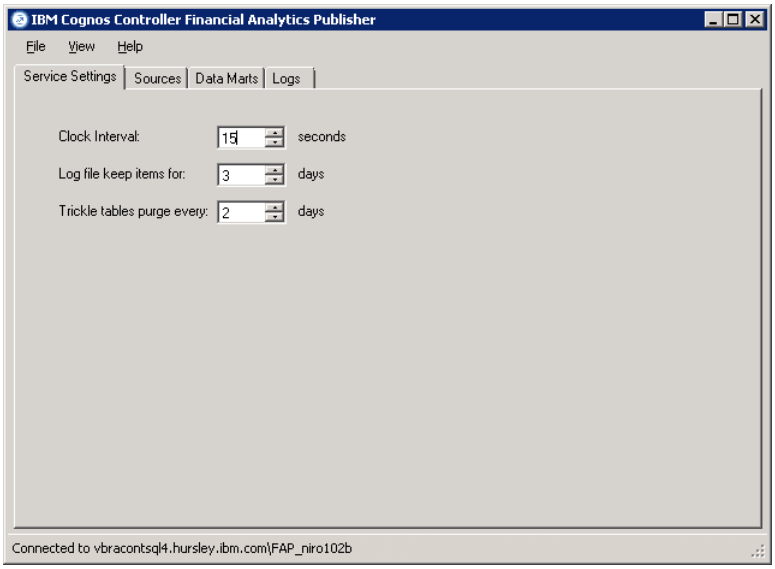
Enter the required details for the FAP database created in Step 5.

Click 'Log in'

10.2 FAP Client Settings

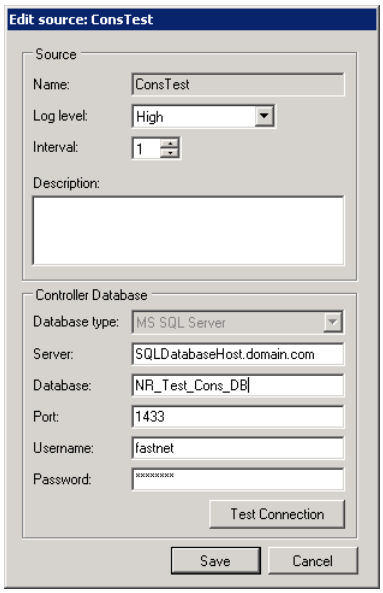
Service Settings tab

Select required settings.



Sources Tab
Click 'New' to create a new source

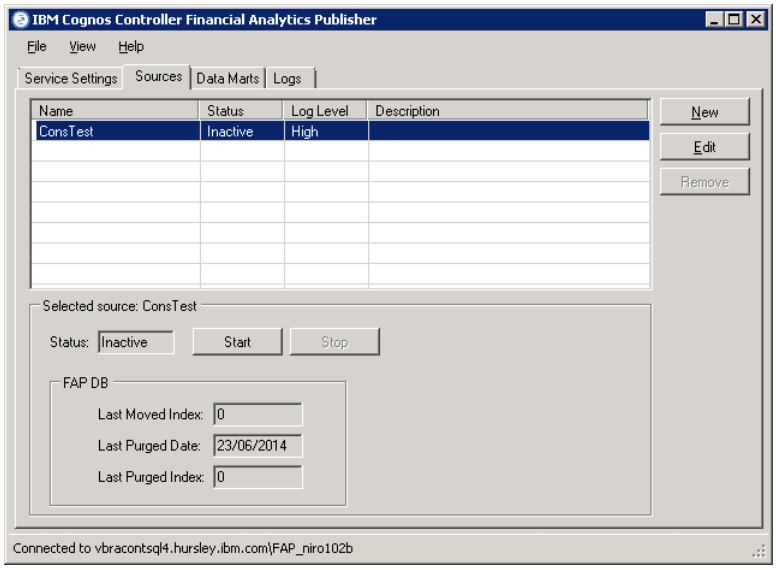
Add the connection details for your Controller database e.g:



Click 'Save'

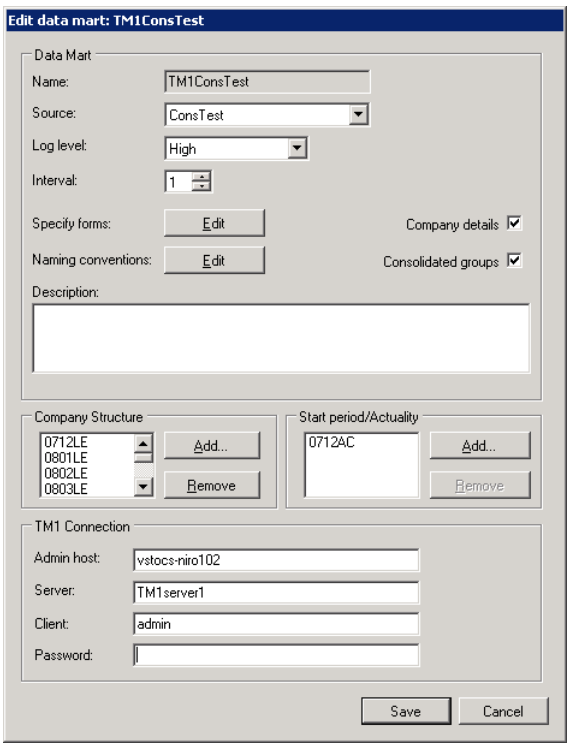
In the Sources Tab the following information will be shown.

Click on 'Start' to activate the Controller Source



Data Marts Tab

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: Version of company structures to be published (Period and Consolidation type).

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

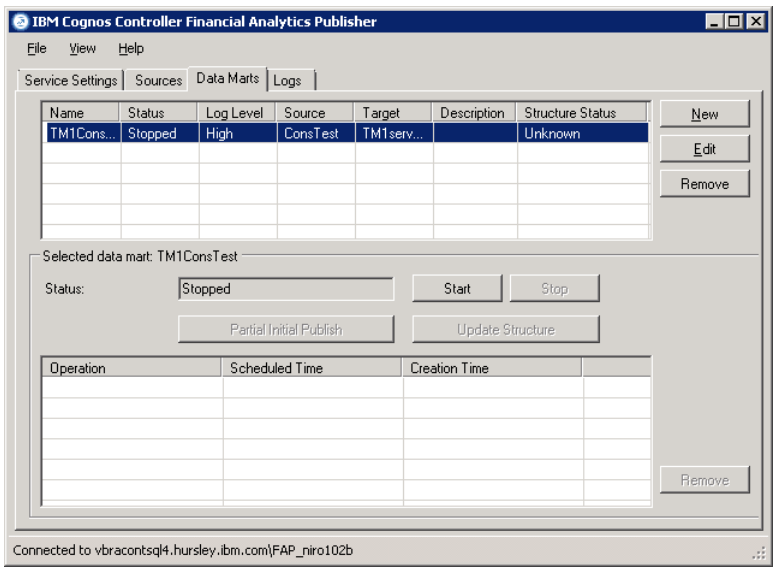
Server: TM1 Server name (ie Server Name provided in the tm1s.cfg file also shown in Windows Services as service name, see section 7)

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:



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:

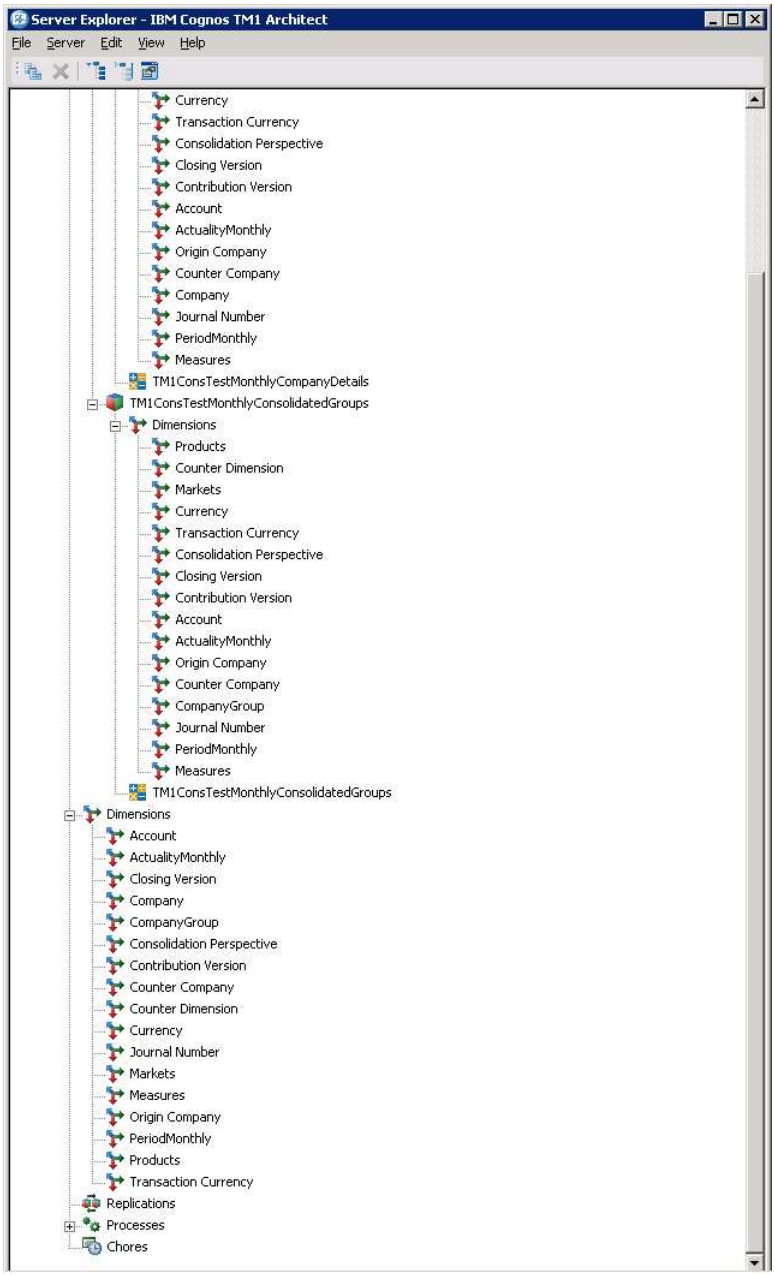
Multiple datamarts are possible; however each datamart must have a unique TM1 Server to publish to.

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 TM1 server



12 Appendix: FAP/TM1 with Cognos CAM Authentication

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.

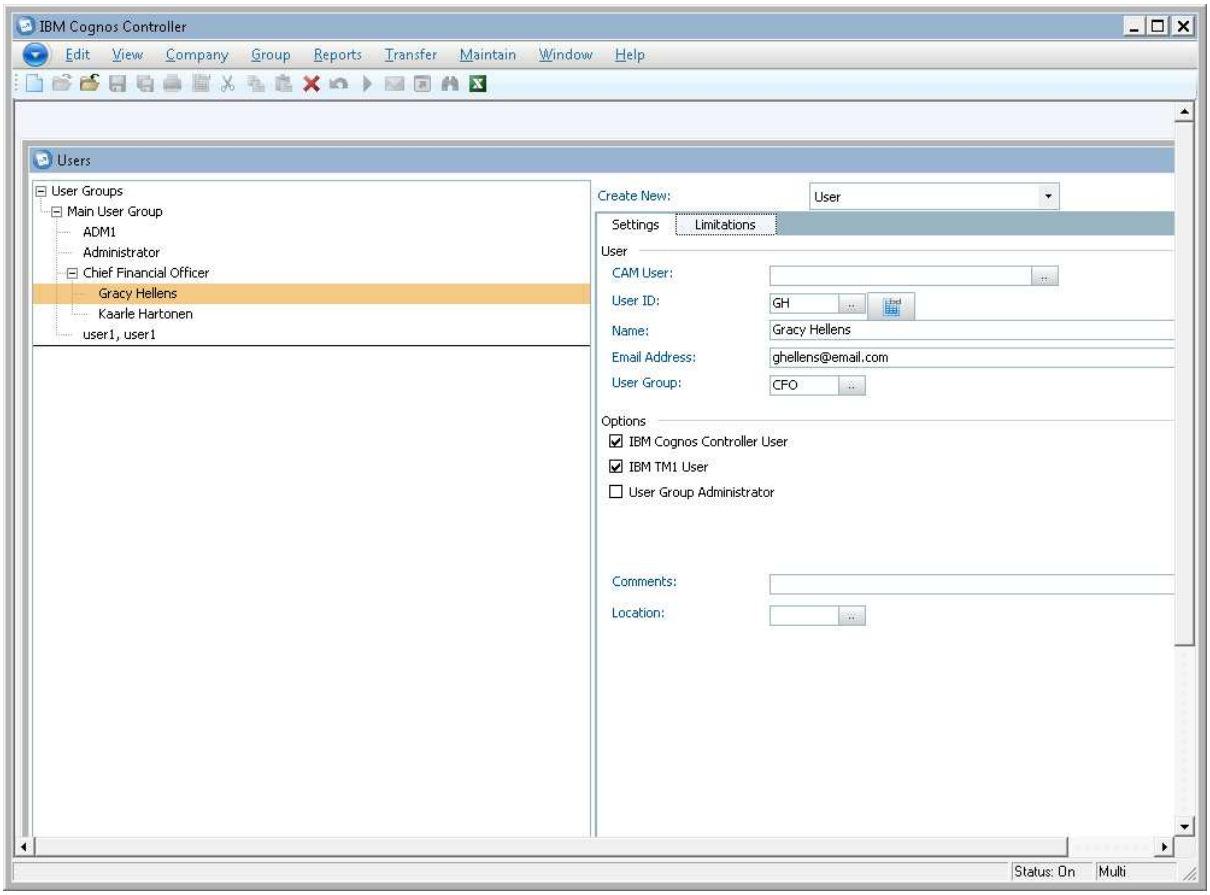
Cognos Controller, FAP and TM1 have been designed to manage type of integration and automatic import of all Controller users to the TM1 Security schema is possible.

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/cgi-bin/cognos.cgi
AllowImportCAMClients = T
CognosGatewayURI = http://<Cognos_BI_hostname>:80/ibmcognos/cgi-bin/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/cgi-bin/cognos.cgi

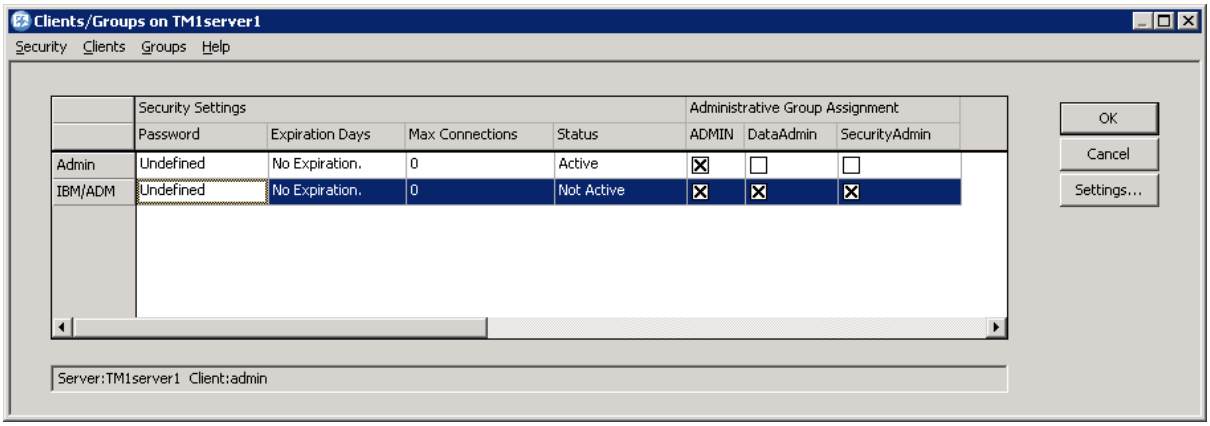
12.4 Steps to allow initial FAP connection then import the CAM users to TM1

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.



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

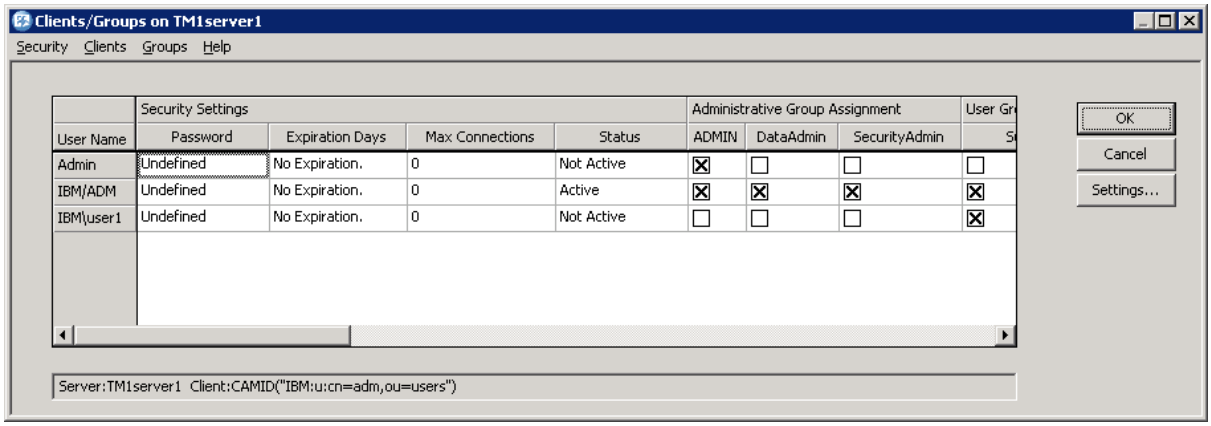
Note: If the Data Mart fails to publish, hover the mouse pointer over the error line on the FAP GUI log tab.

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:



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.