CA BEST PRACTICES

CA IT Process Automation Manager
Quick Start Guide

- INSTALL BASIC STANDALONE COMPONENTS
- CREATE SIMPLE "HELLO WORLD" PROCESS

THIS IS A DRAFT DOCUMENT – FEEDBACK IS WELCOME

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ACKNOWLEDGEMENTS

CA PRODUCT REFERENCES

This document references the following CA products:

- CA IT Process Automation Manager (CA IT PAM)

- CA Embedded Entitlements Manager (CA EEM)

FEEDBACK

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CA IT Process Automation Manager Quick Start

Overview

CA IT Process Automation Manager (IT PAM) is a powerful and flexible orchestrator that can be installed and configured in a number of ways with various security and data store options. The pros and cons of each of these different configurations must be carefully analyzed prior to deployment in order to determine the optimal solution for your specific target environment and business requirements. Detailed information is available from several sources, including the product documentation, to help you select the most appropriate configuration.

The purpose of this "quick start" document is to provide step-by-step instructions for installing a very basic instance of CA IT PAM that can be used for training or testing purposes. The installation can then be used as a reference while studying more advanced subjects in the product documentation and training materials. The instance may also be useful for unit testing more complex processes in more complicated environments.

Note: Careful planning of a production implementation is the key to success and this document is not intended to replace or supersede other available resources.

Before You Begin

The procedures in this document provide step-by-step directions for:

- installing CA IT PAM

- accessing the user interface

- testing CA IT PAM by creating and running a very basic "Hello World" process

These procedures require a suitable target environment for the installation that already includes the following:

- Real or virtual system running Microsoft Windows Server 2003 with current maintenance applied

- Microsoft SQL Server 2005 (any edition), with mixed mode security enabled and current maintenance applied, installed locally or on an accessible remote host

- Most recent build of the Java 1.6 JDK (be sure to run the installation procedure that will perform the integration with the browser as opposed to simply copying the content of Java to the target system)

Procedures for installing the operating system, database server, and Java and for verifying connectivity are not covered in this document. You will also need to obtain the installation media for CA IT PAM (downloadable from http://support.ca.com) and make it available to access from the target system.

Step 1: Install and Configure CA Embedded Entitlements Manager

CA IT PAM relies on an external directory for security. Although Windows Active Directory (AD) and Sun One LDAP directories are supported, this document will use CA Embedded Entitlements Manager (CA EEM) for a consistent and more rapid installation.CA EEM is included with the CA IT PAM installation media.

Install EEM

The installation package for EEM is located under the \EEM subdirectory on CD 2 of the CA IT PAM installation media. To launch the installation application for Windows execute the following command:

```
EEMServer_8.4.100.0_win32.exe
```

Provide the following when prompted:

■ Provide a password for the "EiamAdmin" user ID when prompted.

   Note: Be sure to note this password as you will need to supply it later in the installation directory.

■ Browse to the Java installation that will be used. This is the directory that contains the \bin sub-directory for Java JDK 1.6 (see Before You Begin)).

For all remaining prompts select the default values.

Create CA IT PAM Security Objects

To create the CA IT PAM Security Objects, do the following:

1. Copy the IT PAM security configuration XML file ("ITPAM_eem.xml") from the \EEM sub-directory on CD 2 of the CA IT PAM installation media to the \iTechnology sub-directory that was created when EEM was installed. By default this is:

   ```
   C:\Program Files\CA\SharedComponents\iTechnology").
   ```

   The default security certificate password is "itpamcertpass". To change this password edit the "password" attribute value in the following element in that document:

   ```
   <Register certfile="itpamcert.p12" password="itpamcertpass"/>
   ```

2. Open a command shell console window and navigate to the \iTechnology sub-directory and confirm that the "safex.exe" file exists.

3. Execute the following command to create the IT PAM certificate file, EEM security groups and users:

   ```
   safex.exe –h <hostname> –u EiamAdmin –p <Password> –f ITPAM_eem.xml
   ```

   The results should be similar to the following:

```
Command Prompt                                                          _ | □ | ×
OK: Successfully Authenticated
OK: action[Attach] with ApplicationInstance label[]
OK: action[Register] performed on ApplicationInstance name[ITPAM] with label[ITPAM]
OK: action[Detach] from ApplicationInstance label[]
OK: action[Attach] with ApplicationInstance label[ITPAM]
OK: action[Add] performed on object[GlobalUser] name[/itpamuser]
OK: action[Add] performed on object[GlobalUser] name[/itpamadmin]
OK: action[Add] performed on object[UserGroup] name[/UserGroups/ITPAMUsers]
OK: action[Add] performed on object[UserGroup] name[/UserGroups/ITPAMAdmins]
OK: action[Modify] performed on object[UserGroup] name[/UserGroups/ITPAMAdmins]
OK: action[Add] performed on object[User] name[/itpamuser]
OK: action[Add] performed on object[User] name[/itpamadmin]
OK: action[Add] performed on object[Policy] name[/Itpam User Policy]
OK: action[Add] performed on object[Policy] name[/Environment Policy]
OK: action[Add] performed on object[Policy] name[/Domain Policy]
OK: Total objects Added[10]
OK: Total objects Modified[1]
OK: Total objects Removed[0]
OK: Total objects Skipped[0]
OK: Total objects Exported[0]
```

This command also creates the "itpamcert.p12" file in the \iTechnology sub-directory and populates the required security objects for CA IT PAM in EEM. For security reasons, you should remove the CA IT PAM configuration XML file ("ITPAM_eem.xml").

TIP: Should you encounter a problem the ITPAM objects created can easily be removed by copying the "UnRegisterITPAM.xml" (also located in the \EEM sub-directory on CD 2 of the CA IT PAM installation media) to the \iTechnology sub-directory then running the command:

safex.exe –h <hostname> -u EiamAdmin –p <Password> -f UnRegisterITPAM.xml

Set ITPAMAdmin and ITPAMUser Passwords

Proper execution of the "safex.exe" command (see Create CA IT PAM Security Objects) also creates the following required IT PAM security groups and users in EEM:

- ITPAMAdmins group

- ITPAMUsers group

- ITPAMAdmin user

- ITPAMUser user

The default passwords for the "ITPAMAdmin" and "ITPAMUser" user IDs are specified in the IT PAM XML configuration file for EEM (see Create CA IT PAM Security Objects); however, the actual values are intentionally encrypted. Since these passwords will be needed later, you need to reset them using the EEM user interface by doing the following:

1. Use the EEM UI shortcut created by the EEM installation (All Programs -> CA -> Embedded Entitlements Manager -> EEM UI) to launch the application

2. When the EEM login screen is displayed, choose "ITPAM" from the Application drop down list.

3. Specify "EiamAdmin" in the user text box.

Provide the "EiamAdmin" password that was set when EEM was install (see

4. Install EEM)

5. After successful login choose the "Manage Identities" tab

6. Specify "itpam" in the Value text box on the "Search User" dialog and click Go.

   Two users ("itpamadmin" and "itpamuser") should be displayed under the \Users folder in the "Users" tile.

7. Click on either user ID and scroll down in the Global User Details panel in the right hand pane to the "Authentication" tile.

8. Select the "Reset Password" action from the "Authentication" tile

   Two text boxes, "New Password" and "Confirm Password" should be displayed

9. Provide a new password and confirm it.

10. Click the Save button on the bottom or top of the right hand pane

11. Repeat the process for the other user ID

The passwords for the "itpamadmin" and "itpamuser" should now be reset to known values. Log out and exit the EEM administrative UI.

Step 2: Install CA IT Process Automation Manager Prerequisites

CA IT PAM relies on the following third party components:

■ JBoss

■ Hibernate

■ JDBC

To install the required third party components, execute the following command from CD 1 of the CA IT PAM source media:

`Third_Party_Installer_windows.exe`

When the "Setup – 3rd Installer" starts, do the following:

1. Click Next on the "Welcome" screen.

2. Select "I accept the agreement" on the "License Agreement" screen and click Next.

3. On the "Select Destination Directory" panel it is recommended that you edit the default entry "C:\Program Files\ITPAM" to read "C:Program Files\CA\ITPAM"

4. Click Next when the "Prerequisites for ITPAM installation" screen appears and follow the procedures provided in the next sections.

JBoss Installation

The "JBoss Installation" should display the path to the installation source "ZIP" file. By default this is:

`D:\ITPAM\CD1\JBoss\jboss-4.0.3SP1.zip`

If this is not correct, browse to select the correct path and click Next when you are done.

Click Next to proceed – do NOT enable "Use Domain" option.

The required JBoss components will now be unpacked and installed to the \ITPAM directory. When completed, the "Hibernate Installation" screen will be displayed.

Hibernate Installation

Do the following for the Hibernate Installation screen:

1. If the default entry displayed is incorrect, browse to locate the correct source file. By default this is:

   `D:\ITPAM\CD1\hibernate\hibernate-3.0.jar`

   Do NOT enable the "Use Domain" option!

2. Click Next

The required Hibernate fillies will be unpacked and installed. When this is completed the "JDBC Jars Installation" screen will be displayed.

JDBC Installation

Do the following on the "JDBC Jars Installation" screen:

1. Click Add Files

2. Select "MS SQL 2005" from the drop-down list

3. If the default source location displayed for the JDBC JAR file is incorrect, browse to the correct location. By default this is:

   `D:\ITPAM\CD1\drivers\sqljdbc.jar`

4. Click Next

The required file(s) will be copied to the proper location.

The "Tapi Jars Installation" screen will display next. However, since installation and configuration of telephony services is not required for this example and is beyond the scope of this document, click Next to continue.

Installation of third party prerequisites is now complete. Click Next on the "Prerequisites for IT PAM installation" panel to continue to the CA IT PAM Domain installation.

Step 3: Install CA IT Process Automation Manager Domain

The next step is to install the CA IT Process Manager Domain. This is done through the Installation Wizard which can be launched in either of the following ways:

■ Execute CA_ITPAM_Domain_windows.exe from the root of CA IT PAM installation media CD 2.

■ As a continuation of the third party installation process (see Step 2: Install CA IT Process Automation Manager Prerequisites). After verifying the path to CD 2 on the "Completing the 3rd Party Installer Setup Wizard" screen that appears at the end, click Finish to proceed.

Once the Installation Wizard is launched, do the following:

1. Click Next to proceed from the Welcome screen.

2. On the License Agreement screen select the "I accept the agreement" and click Next.

3. When prompted, browse to locate the root directory of the installed Java JDK (see Before You Begin). This is the directory that contains the \bin sub-directory. Click Next to proceed.

The installer will begin copying files to the target system. Follow the procedures provided in the next sections to continue.

Configuration Screen

When the "Configuration Screen" screen is displayed do the following:

■ Accept the default values and click Next. Do NOT enable the "Configure Load Balancer" option.

■ On the "Set Certificate Password" screen enter and confirm the password (default "itpamcertpass") set when the EEM certificate file was created (see Create CA IT PAM Security Objects) then click Next

Select Start Menu Folder

On the "Select Start Menu Folder" panel it is recommended that you specify "CA\ITPAM Domain" although the default ("ITPAM Domain") is acceptable. Click Next to continue.

General Properties

Accept the defaults on the "General Properties" screen unless this will cause a port conflict with other installed applications and enable the "Install as Windows Service" option.

Tip! For future reference you should do a screen capture of this dialog.

Click Next to proceed to the EEM Security Settings dialog.

EEM Security Settings

Do the following on this dialog:

1. Choose "EEM" from the drop-down list the click Next

2. On the "EEM Security Settings" screen enter the host name in the "EEM Server" text box

3. Enter "ITPAM" in the "EEM Application" text box

4. Use the "Browse" button to locate the "EEM Certificate File" (see Create CA IT PAM Security Objects). By default this is:

   `C:\Program Files\CA\SharedComponents\iTechnology\itpamcert.p12`

5. Enter the "EEM Certificate Password" (default "itpamcertpass") specified when the IT PAM certificate file was generated (see Create CA IT PAM Security Objects)

6. Click Test EEM Settings to verify the entries are correct.

7. Click OK in response to the "Performing a test…may take a few minutes" message

8. When "Verify EEM settings" login dialog appears enter user name "itpamadmin" and the password set previously for the "itpamadmin" user in EEM (see Set ITPAMAdmin and ITPAMUser Passwords)

Assuming all the correct values were entered a dialog indicating "Connect" was "Ok", "User provided belongs to user group" was "Ok" and "User is an admin" is "Yes" should appear. If necessary correct the entries and re-test.

Once the test is successful, click Next to proceed.

Database Settings

The "Database Settings" screen will appear. Do the following:

1. Select "MS SQL 2005" from the "Type of Database" drop-down list

2. Provide a database user ID with sufficient privileges to create a database, logins and grant privileges ("sa" is recommended) in the "User Name" text box

3. Provide the password for this user in the "Password" text box

4. Update the "Database Server", "Database Port" and "Driver Jar" entries if necessary

5. Click the "Create Database" button to create the "itpam" database and test connectivity by clicking the "Test Database Settings" button

6. When successful click Next

7. Check the "copy from main repository" check box on the "Reporting Database Setting" dialog and verify connectivity by clicking the "Test Database Settings" button. Do NOT click the "Create Database" button.

8. When successful click Next

Additional JARs Installation

The next dialog, "Additional Jars for Installation"" should list the SQL JDBC Jar file path. Check the corresponding check box and click Next to proceed.

Choose Connectors

The "Choose connectors that need to be installed/updated" dialog lists a number of connectors for various CA products. For the purposes of this exercise, none of these connectors is required. Therefore, click Next to proceed.

The CA IT PAM installation process will now copy files and configure the application. When this process completes, the "Completing the IT PAM Domain Setup Wizard" dialog will display. Click Finish to exit the wizard.

Step 4: Launch the CA IT Process Automation Manager Console

Before launching the CA IT PAM user interface you need to start the ITPAM Server service which was created by the installation process (see Step 3: Install CA IT Process Automation Manager Domain).After the service has been started for a few minutes, use one of the following methods to launch the client:

■ On the server, select the shortcut created by the installation process. If the recommendations provided in the Step 3: Install CA IT Process Automation Manager Domain section were followed, this is All Programs -> CA -> ITPAM Domain -> Start ITPAM Client.

■ On the server, or from a remote system, launch the following URL:

http://<server>:<port, default 8080>/itpam/

Note that Java JRE or JDK 1.6 must be properly installed and integrated with the browser on the remote system.

Login to the application using the "itpamadmin" user ID and corresponding password (see Set ITPAMAdmin and ITPAMUser Passwords). After successful login the "CA IT Process Automation Manager" will open.

Note: Depending on browser type, version and configuration an attempt to launch the management console may result in only a blank page. Typically, this is because the URL is not included in the current list of "trusted sites" for the browser. To resolve this issue, simply add the URL to the list of "trusted sites" for the browser.

Step 5: Install the CA IT Process Automation Manager Agent

A CA IT PAM agent must be installed on the target systems (systems where process actions are to be executed). The simplest method for doing this is to open the "CA IT Process Automation Manager" in a browser on the target system (see Step 4: Launch the CA IT Process Automation Manager Console).

To install the agent from the CA IT PAM management console do the following:

1. Expand the "Installation" tile located in the left hand navigation pane of the UI and select "Agent Installation" from the sub-items listed

2. Click the Go button at the bottom-right of the "Download and install an agent on this computer" panel in that appears in the right hand pane

3. Depending on your browser security settings, a number of prompts may appear asking for authorization to start the installation. Select the appropriate affirmative response to proceed. For example, click Run to start the agent install.

4. Click Next on the agent setup wizard "Welcome" screen

5. Select "I accept the agreement" on the "License Agreement" screen and click Next.

6. You may be prompted to provide the location for the installed Java 1.6 SDK (see Before You Begin). Browse to locate the root directory of the installation (the directory containing the \bin subdirectory)

7. It is recommended that you change the default agent installation path, which is "C:\Program Files\ITPAM Agent", to "C:\Program Files\CA\ITPAM Agent" before clicking the "Next" button on the "Select Destination Directory" screen.

8. It is recommended that you rename the default "ITPAM Agent" folder to "CA\ ITPAM Agent" on the "Select Start Menu Folder" screen

9. Enter the URL for the IT PAM Domain (http://<server>:<port, default 8080>) then click the "Next" button on the "Domain URL" screen

10. Optionally, edit the "Display Name" value on the "General Properties" screen and verify the "Agent Port" value. By default this is 7003 (see Step 3: Install CA IT Process Automation Manager Domain).

11. Select both the "Install as Windows Service" and "Start Agent After Installation" options and click Next

The installation wizard will begin extracting and installing the required agent files to the target system. When the "Completing the ITPAM Agent Setup" screen displays, click Finish.

Step 6: Access CA IT Process Automation Manager Client

The "CA IT Process Automation Client" is launched from the "CA IT Process Automation Manager" console, however, the "CA ITPAM Server" service (created by the installation process – see Step 3: Install CA IT Process Automation Manager Domain) must be started first. A few minutes after the service starts, launch the console. This can be done using one of the following two methods:

■   On the server, use the shortcut created by the installation process. If the recommendations in the section Step 3: Install CA IT Process Automation Manager Domain were followed this should be All Programs -> CA -> ITPAM Domain -> Start ITPAM Client

■   Optionally, from the server or from a remote system, launch the following URL:

http://<server>:<port, default 8080>/itpam/

Note that Java JRE or JDK 1.6 must be properly installed and integrated with the browser on the remote system to use this option.

Login to the application using the "itpamadmin" user ID and corresponding password (see Set ITPAMAdmin and ITPAMUser Passwords). Upon successful login the "CA IT Process Automation Manager" will open.

To launch the ITPAM client click the "ITPAM Client" link in the upper right hand corner.

Authentication Failure

The CA IT PAM client is a Java Web Start application based on the Java Network Launching Protocol (JNLP). Certain proxy configuration settings or auto-configuration scripts may interfere with the download and launch process. The most typical symptom of this is a "Failed to Authenticate" error message. To work around this issue, do the following:

■   Disable any proxy auto-configuration scripts in the browser settings, if defined

■   If a proxy server is defined or can be defined, add an exclusion for the CA IT PAM server

Alternatively, if browser proxy reconfiguration is problematic, change the browser configuration settings for Java itself. To do this:

1.   Open the Windows Control Panel dialog

2.   Launch the Java applet

     The Java Control Panel appears.

3.   Click the Network Settings button on the General tab

4.   Enable the "Direct Connection" option on the "Network Settings" dialog

5.   Click OK on both dialogs

If the client fails to open after implementing one of the above workarounds contact CA support for additional information.

Step 7: Define "Hello World" Process

The next step is to define the "Hello World" process that will be used to demonstrate CA IT PAM. At this point, the following steps should have been completed:

■   Base system components were installed (see Before You Begin)

CA Embedded Entitlements Manager (EEM) was correctly installed and required security objects were created and configured (see

■   Step 1: Install and Configure CA Embedded Entitlements Manager)

■   CA IT Process Automation Manager prerequisites were installed correctly (see Step 2: Install CA IT Process Automation Manager Prerequisites)

■   CA IT Process Automation Manager domain installation was completed (see Step 3: Install CA IT Process Automation Manager Domain)

■   CA IT Process Automation Manager management console was accessible and a CA IT Process Automation Agent was successfully installed (see Step 5: Install the CA IT Process Automation Manager Agent)

■   CA IT Process Automation Manager client UI has been launched (see Step 6: Access CA IT Process Automation Manager Client)

The task of defining the "Hello World" process consists of the following steps:

1. Lock the Default Environment

2. Add the Hello World Touchpoint to the Default Environment and unlock it

3. Add the Hello World Orchestrator Folder

4. Add the new process

5. Add actions to the process

6. Add Normal Stop operators to the process

7. Connect Operators

8. Test the process

Lock the Default Environment

Before defining the process itself, you need to register the previously installed CA IT PAM agent (see Step 5: Install the CA IT Process Automation Manager Agent) to the "Default Environment" as a Touchpoint. To do this from the CA IT PAM client, first lock the default environment by doing the following:

1. Select the "Browser" tile in the left-hand navigation pane or select the "Configuration Browser" tab in the right-hand pane

2. Navigation to and select the "Default Environment" node in the left-hand navigation pane

3. Right click on the "Default Environment" node and select "Lock" from the in-context menu that appears

The default environment is now locked.

Add Touchpoint to the Default Environment

After locking the default environment (see Lock the Default Environment) do the following:

1. Right click on the "Default Environment" node and select "Add Touchpoint" from the in-context menu that appears.

   A dialog box titled "Add Touchpoint: Default Environment" should appear with the previously installed IT PAM agent listed (see Step 5: Install the CA IT Process Automation Manager Agent).

2. Select the agent and specify a name for the Touchpoint to be associated with the agent.

   For the purpose of this exercise enter "Hello World App Server" in the "Touchpoint Name" text box.

3. Click Save.

   The newly defined Touchpoint should now appear below the "All Touchpoints" node list under the "Default Environment" node.

The "Default Environment" can now be unlocked. When prompted to save changes click the Yes.

Add a New Orchestrator Folder "Hello World"

Next, add a new Orchestrator folder for "Hello World" by doing the following:

1. Right click on the "Orchestrator" node under the "Default Environment" node and select Open from the in-context menu that appears.

   The left-hand navigation pane should display a node tree with only a root folder and a tab labeled "Default Environment: Orchestrator" should be displayed in the right-hand pane.

2. Right-click on the root folder node in the left-hand navigation pane tree

3. Select New Object from the in-context menu that appears

4. Select Folder from the in-context sub-menu that appears

5. Add a new folder under the root. For the purposes of this exercise, name this "Hello World" and hit Enter.

Add New Process "Hello World"

After defining a new "Hello World" folder (see Add a New Orchestrator Folder "Hello World") add the new "Hello World" process by doing the following:

1. Right click on the "Hello World" folder

2. Select New Object from the in-context menu that appears

3. Select Process from the in-context sub-menu that appears

   A new process appears in the right-hand pane "Contents of 'Hello World'" panel with the default name "Process".

4. For the current example, change the name to "Hello World" and hit Enter.

Add Actions to Process "Hello World"

After adding the "Hello World" process (see Add New Process "Hello World") do the following to add actions to this process:

1. On the "Contents of the Hello World" panel right click on the "Hello World" line item

2. Select Open from the in-context menu that appears

   An empty process design panel should appear on a new tab labeled "Hello World" in the right hand pane. The "Common" panel listing some basic process actions should be displayed in the left-hand pane.

3. See the next two sections to add the Start, Watch File and Script operators.

Add "Start" Operator

To add a Start operator select the "Start" operator icon from the "Common" panel and drag it to the right-hand panel. A "Start" operator icon should now appear in the right-hand panel.

Add "Watch File" Operator

To add a Watch File operator, do the following:

1. Right-click on the right-hand process definition panel and select "File Watch Module" from the in-context menu that appears.

2. Select "Watch File" from the in-context sub-menu.

   A "Watch File" operator icon should now appear in the right-hand panel.

3. Right-click on the new "Watch File" operator then select the item "Properties" from the in-context menu that appears.

   A "Properties of Watch_File_1" panel appears to the far right.

4. Click on the "Information" bar

5. Change the entry in the "Name" text box from "Watch_File_1" to "Watch_File_Hello"

6. Click the "File Watch" bar.

7. For the purpose of example enter "C:\\Hello" as path and name of the file to watch for in the "File/directory name" test box

   Note: The entry must be encapsulated in double quotes and the double backslashes are required.

8. Enter 30 in the "Expiration timer (secs)" text box to specific that the process should wait 30 seconds for the file to appear

9. Verify the "Condition" value is set to "Presence"

10. Click the "Execution Settings" bar

11. Locate the "Touchpoint" text box and click the "Select" button

12. Expand the tree in the "Object Browser" dialog that appears and select the previously defined example Touchpoint ("Hello World App Server", see Add Touchpoint to the Default Environment) node

13. Click OK

    The "Touchpoint" text box should display "Hello World App Server".

14. Click Apply at the bottom of the panel to save the changes.

Add "Script" Operator

Next, to add the Script operator do the following:

1. Right-click on the right-hand process definition panel

2. Select "Process Module" from the in-context menu that appears then select "Start Script" from the in-context sub-menu.

   A "Start Script" operator icon should now appear in the right-hand panel.

3. Right-click on the new "Start Script" operator then select the item "Properties" from the in-context menu that appears.

   A "Properties of Start_Script_1" panel appears to the far right.

4. Click on the "Information" bar

5. Change the entry in the "Name" text box from "Start_Script_1" to "Start_Script_Hello"

6. Click the "Script" bar

7. Click on the button below the label "Inline Script"

8. Enter the command below in the text area of the "Inline Script" dialog that appears:

   `echo Hello World > C:\Hello.txt`

9. Click the OK button on the "Inline Script" dialog

10. Finally, click the "Execution Settings" bar

11. Locate the "Touchpoint" text box and click Select

12. Expand the tree in the "Object Browser" dialog that appears and select the previously defined example Touchpoint ("Hello World App Server", see Add Touchpoint to the Default Environment) node

13. Click OK

    The "Touchpoint" text box should display "Hello World App Server".

14. Click the "Apply" button at the bottom of the panel to save the changes.

Add "Stop" Operator

To add a Normal Stop operator select and drag the "Normal Stop" operator icon from the left-hand "Common" panel to the right-hand process definition panel.

To add an Abnormal Stop operator select and drag the "Abnormal Stop operator icon from the left-hand "Common" panel to the right-hand process definition panel.

Connect Operators

At this point all the operators required for the "Hello World" example process should have been added to the process definition panel and the necessary properties should have been set (see Add Actions to Process "Hello World"). The next step is to define a *process flow* by connecting the operators. To do this:

15. Locate the small black triangle at the bottom of the "Start" operator. Click on it and drag it to the "Watch_File_Hello" operator.

16. Right-click on the "Watch_File_Hello" operator and select "Completed" from the in-context menu that appears

17. Click on and drag the green check mark that appears below the "Watch_File_Hello" operator and drag it to the "Start_Script_Hello" operator

18. Right-click on the "Watch_File_Hello" operator once again and select "Timeout" from the in-context menu that appears

19. Click on and drag the hourglass icon that appears below the "Watch_File_Hello" operator to the "Abnormal Stop" operator

20. Right-click on the "Start_Script_Hello" operator and select "Completed" from the in-context menu that appears

21. Click on and drag the green check mark that appears below the "Start_Script_Hello" operator to the "Normal Stop" operator

22. Right-click on the "Start_Script_Hello" operator and select "Failed" from the in-context menu that appears

23. Click on and drag the red "X" that appears below the "Start_Script_Hello" operator to the "Abnormal Stop" operator

The "Hello World" sample process is now complete. Save the process by selecting File, Save from the menu.

Step 8: Test "Hello World" Sample Process

If the previous steps have all been completed correctly (see Step) the resulting process diagram should appear similar to the following:
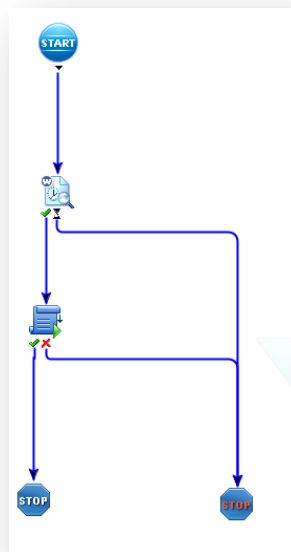

To test the process, do the following:

1. Open a Windows explorer folder and navigate to the root of the C: drive

2. In the IT PAM Client UI click the run icon (a green circle with a white arrow) on the toolbar in "Hello World" process definition panel

3. When prompted to "Monitor New Process" click Yes

   A process monitoring panel should appear and stop at the "Watch_File_Hello" operator.

4. Within 30 seconds create a file in the root of the C: drive named "Hello"

   The "Watch_File_Hello" operator should detect the existence of the file and the process should move to the "Start_Script_Hello" operator

   The "Start_Script_Hello" should write the text "Hello World" to a file named "Hello.txt" in the root of the C: drive

The process should move to the "Normal Stop" operator and terminate. The process diagram in the process monitor panel should appear similar to the following:
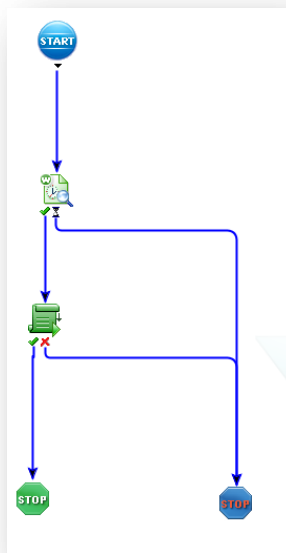
Notice that the "File_Watch_Hello", "Start_Script_Hello" and "Normal Stop" operators are all green, indicating successful execution.

Summary

The exercises outlined in the document were obviously not intended to make the reader a CA IT Process Automation Manager expert or implement a production-ready instance of the application. Hopefully, the experience helped familiarize you with the CA IT PAM installation, configuration and tools. You can also use this CA IT PAM instance for further self-paced learning, reference and testing of more complex use cases.