# FX-₹etail Participant Interface Configuration

## Introduction

The Participant Interface (PI) is a software component that resides in the premises of each participant, connecting to the ClearCorp Retail FX system through a Retail API Gateway at the ClearCorp end.

## Configuration

## Note: In this document, the paths of various folders that are given to be residing on the “C:” drive are for sample purposes only. They can also be made resident on “D:” drive, if so desired by the member bank. However, in that case, corresponding changes would need to be made in the values of the environment variables mentioned in the document and also in the batch file “ParticipantsInterface.bat”

## 

1. Get the following files from the Report Browser
   1. *ParticipantInterface.war*
   2. *ParticipantsInterface.bat*
2. Create a folder structure for the above files as indicated below,
   1. ***C:\FXRetailApplication\Exe\ParticipantInterface\***

*Inside this folder, keep the* ***ParticipantInterface.war***

* 1. ***C:\FXRetailApplication\Batch Files\***

*Inside this folder, keep the* ***ParticipantsInterface.bat***

1. Also, have an another folder structure for PKI and trade files as suggested below
   1. ***C:\FXRetailApplication\API\PKI\***

*Inside this folder, have the private key (.pfx) file of the PI client (Banks or customer) and public key (.cer) of the API server (ClearCorp) 🡪 This is mandatory to enable authentication process between PI client and API server located at the ClearCorp site.*

* 1. ***C:\FXRetailApplication\PI\PKI\***

*Inside this folder, have the private key (.pfx) file of the PI client (Bank or customer) and public key (.cer) of the HUB 🡪 This is required only when the authentication & encryption process is enabled (i.e., when the value of* **ccilfx.pi.encryptionRequired** is set to TRUE) *between PI client & HUB.*

* 1. ***C:\FXRetailApplication\Trades\***

*Inside this folder trade files will be stored*

1. Create the following system environmental variables in the PI client machine.

**Table 1**

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Variable Name | Sample Value | Description |
| 1 | ccilfx.apisocket.host | Pi.fxretail.co.in (Production)  Pimock.fxretail.co.in (Mock setup)  Clearcorp INFINET IP | Indicates the API server IP address in case member wants to connect over internet  Indicates the API server IP address in case member wants to connect over INFINET |
| 2 | ccilfx.apisocket.port | 443 | Indicates the application port |
| 3 | ccilfx.apisocket.participant | For example CCBPHDFC0005 | Specifies the participant Id assigned by RFE. **For banks:** Specify the CCIL Membership Id **For Customers:** Specify the Customer Id |
| 4 | ccilfx.apisocket.CERDirectory | C:\FXRetailApplication\API\PKI\ | Specifies the file path of the API server public key |
| 5 | ccilfx.apisocket.PFXDirectory | C:\FXRetailApplication\API\PKI\ | Specifies the file path of the PI client private key |
| 6 | ccilfx.apisocket.PFXPassword | hW86CxzIxqbujs38Eu279Q== | Specifies the encrypted password of the PI client private key file |
| 7 | ccilfx.apisocket.messageLogLocation | C:\FXRetailApplication\Trades | Specifies the file path wherein the trade files to be downloaded |
| 8 | ccilfx.pi.protocol | HTTP | Specifies the communication protocol to be used when transferring messages from PI to HUB. It should be either **HTTP or NONE** |

**Table 2**

The following configurations are required **only when** the value of **ccilfx.pi.protocol** is HTTP.

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Variable Name | Sample Value | Description |
| 9 | ccilfx.pi.host | 172.19.103.98 | Indicates the IP address of the PI client machine |
| 10 | ccilfx.pi.port | 8025 | Indicates the PI client listening port |
| 11 | ccilfx.pi.queuedMessageLocation | C:\FXRetail\PI\PIMessageLog | Specifies the file path where the PI message log is written. |
| 12 | ccilfx.pi.hub.host | 172.19.103.98 | Specifies the HUB’s IP address. |
| 13 | ccilfx.pi.hub.port | 8026 | Indicates the HUB listening port |
| 14 | ccilfx.pi.hub.rest.protocol | http | Required to be filled when the chosen PI protocol is HTTP. The possible values can be either HTTP or HTTPS |
| 15 | ccilfx.pi.encryptionRequired | FALSE | This is to enable/disable the encryption/digital signature authentication process for the message transmission between PI and HUB. The values should be either  **TRUE** or **FALSE** |

**Table 3**

The following configurations are required **only when** the value of **ccilfx.pi.encryptionRequired** is set to TRUE.

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Variable Name | Sample Value | Description |
| 16 | ccilfx.pi.PFXDirectory | C:\FXRetailApplication\PI\PKI\ | Specifies the file path of the PI client private key to be used for PI to HUB authentication/encryption. |
| 17 | ccilfx.pi.PFXPassword | 4Y53ecyplCtomYN0V/+f9w== | Specifies the encrypted password of the PI private key file. |
| 18 | ccilfx.pi.CERDirectory | C:\FXRetailApplication\PI\PKI\ | Specifies the file path of the HUB public key file. |

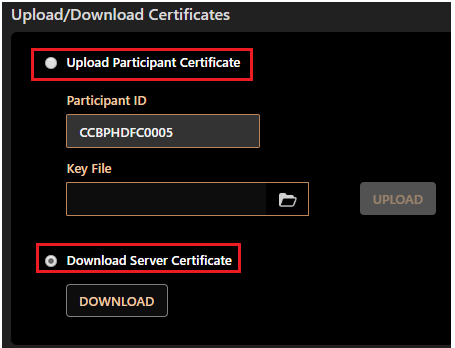
**Table 4**

Environment variables pertaining to proxy settings at the member’s end should be configured on the PI Client server as given below.

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Variable Name | Sample Value | Description |
| 1 | ccilfx.apisocket.proxyType | NoProxy  HostPortAlone  HostPortWithCredentials | Should be one of these values |
| 2 | ccilfx.apisocket.proxyHost | 172.27.62.35 | Indicate the proxy IP address |
| 3 | ccilfx.apisocket.proxyPort | 8080 | Indicate the proxy number |
| 4 | ccilfx.apisocket.proxyUser | << user id >> | This variable is to be created only if the member’s proxy has a user-id. The user-id should be in encrypted form. For encryption of the user-id please follow the method discussed in point 9. |
| 5 | ccilfx.apisocket.proxyPassword | << password >> | This variable is to be created only if the member’s proxy has a password. This password should be in encrypted form. For encryption of the password please follow the method discussed in point 9. The only change here is that the password to encrypt will be the proxy’s password. |
| 6 | ccilfx.apisocket.proxyWorkstation |  | Specify the proxy server workstation name |
| 7 | ccilfx.apisocket.proxyDomain | << Proxy Domain >> | Specify the proxy server domain name |

1. To download the PI server public key file of Clearcorp (.CER), provision is available in the FX Retail Web Platform as shown below.

**Screen direction:** *Participants Interface menu 🡪 Upload/Download Certificates*



1. Please use Google Chrome or Firefox browser to download / upload certificates
2. Kindly ensure that the downloaded server certificate is copied to the appropriate file path as indicated in the environmental variable (ccilfx.apisocket.CERDirectory)
3. Next, upload the API client public key file using the same screen as indicated above
4. To get the encrypted value of the password of PI client private key file, run the following command,

*C:\FXRetailApplication\Exe\ParticipantInterface>java -jar ParticipantInterface.war crypto abc@123*

Where, in place of **abc@123** specify the actual password

1. You will get the encrypted value as shown below

Annotation 2020-03-05 092453.jpg

1. Kindly ensure that the encrypted password is specified as a value for the environmental variable (ccilfx.apisocket.PFXPassword)
2. As a final step, run the participant interface utility. To do this, double click on the **ParticipantsInterface.bat** received from ClearCorp or run through schedule task.
3. Now, you are connected to the API server and will start receiving the trade files in real time.
4. The new participant interface will run 24/7 to provide the assistance for customer approval, limit settings, swap quote and markup settings to the member banks. The Member bank to make sure the participant interface and HUB running at their premises before doing any such activities.
5. Location of the folders for the Intra-day file and post session close reconciliation file will be available within folders as given below:

* yyyymmdd
  + 1. Intraday
    2. Postclose

1. The Intraday and Postclose folders will be automatically created by the utility within the main folder as mentioned in the environment variable ccilfx.apisocket.messageLogLocation in Table 1 above.
2. The trade information would be saved in .CSV and FIX format
3. The trades during Intraday and Trade reconciliation will be sent to HUB as messages in an agreed format. The messages will be sent in FIX format.
4. The file naming conventions have been shared with you in a separate document shared with members.