IBM Partner Engagement Manager(PEM) Standard

Product Manual V 1.0

Contents

1. Introduction

IBM Partner Engagement Manager(PEM) Standard with PEM Community Manager (PCM) increases efficiency when onboarding trading partners in Sterling Integrator and Sterling File Gateway. It is critical to structure your install correctly to ensure proper functionality and allow for ease of use. This document details the PEM Standard with Community Manager and Secure File Gateway activities. This guide also covers installation, configuration, and administration of PEM Standard, including additional details on community manager and a guide for basic troubleshooting.

Intended Audience and Prerequisites

This document is intended for System Administrators, Managed File Transfer Engineers, Electronic Data Interchange professionals, and Business Analysts. To understand the instructions and reference material, you must have a working knowledge of connection requirements, Docker containers, IBM Sterling B2B integrator as well as Sterling File Gateway. You can find more information on these topics below;

- Sterling File Gateway
- Sterling B2B Integrator

Information Not Covered

The topics not covered in IBM PEM Standard documentation include:

- IBM Sterling B2B integrator installation
- IBM Sterling File Gateway installation
- Mapping documentation
- Docker Container setup
- Managed File Transfer software administration

Understanding IBM PEM Standard Architecture

The components of IBM Partner Engagement Manager(PEM) Standard, IBM PEM Portal, Repository, Provisioner and Community Manager are shown in figure 1. PEM Standard runs in docker containers in a cloud-agnostic architecture. Information collected in the PEM portal is stored in the PEM repository. PEM provisioner analyzes the data in the PEM repository and calls the API of Community Manager to create partner setups in IBM Sterling B2B Integrator, IBM Sterling File Gateway, and IBM Transformation Extender Advanced(ITXA). This enables partner setups and workflow configurations.

IBM PEM calls the APIs to automate additional setups using data collected though the PEM portal.

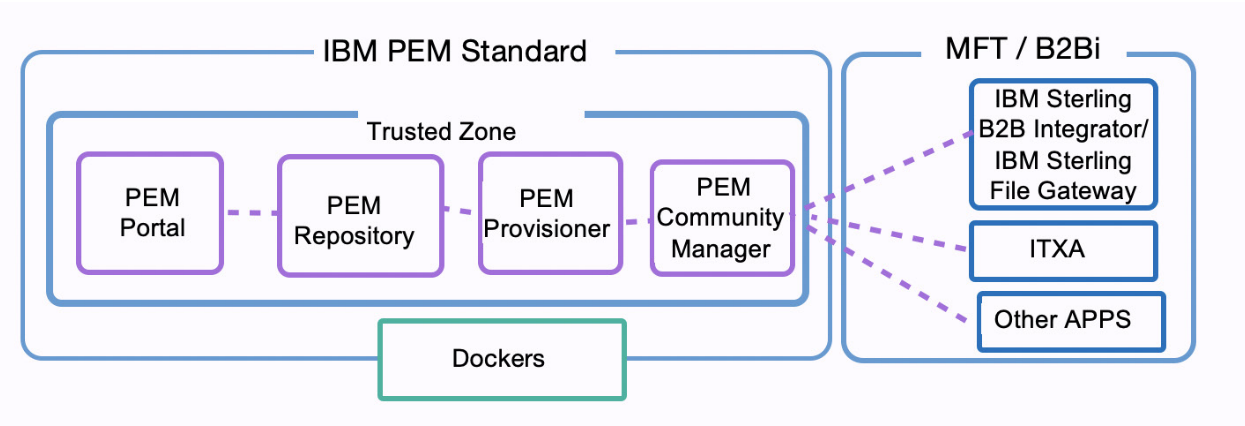


Figure 1. IBM PEM Standard and B2Bi deployment architecture

The IBM PEM Standard Docker is deployed in a Trusted zone with the following components;

- PEM Portal
- PEM Repository
- PEM Provisioner
- PEM Community Manager

PEM Community Manager calls the API of IBM Sterling Integrator / IBM Sterling File Gateway and leverages the database of IBM Sterling Integrator / IBM Sterling File Gateway to automate setups.

2. IBM Partner Engagement Manager Standard Requirements and Install Procedures

Software requirements

Operating system	All operating systems that are supported by Docker on the x86 platform. IBM has qualified IBM PEM Community Manager by running the Docker CE on CentOS.
Docker CE	18.06.0-ce
Docker Engine	1.11.0 to 1.13.x versions
Database	IBM Sterling B2B Integrator supported database

Hardware requirements
The minimum hardware required for each container is 2 processor cores and 2 GB RAM.
For exact hardware requirement based on your business need, contact IBM for hardware sizing information.

Licensing requirements

Licensing:

We can view the license of the product using the below command

Syntax:

docker run --entrypoint "/bin/cat" <Repository>:<TAG> License

Example:

ImageName==> pem_cm: 6.1

docker run --entrypoint "/bin/cat" pem_cm: 6.1 License

Accepting the License:

To accept the license, we need to update the parameter in application.yml

Below is the parameter that needs to be updated to accept the license

- *accept-license: true*

Installing IBM PEM standard with community manager

Install and configure IBM PEM Standard using this 3-step process.

1. Setup IBM Sterling B2B Integrator

   - Create a custom pool and Cache properties in IBM Sterling B2B Integrator

     - jdbc_customer.properties.in
     - CM_cache.properties

   - Import the artifacts based on the database leveraged for the IBM Sterling B2B integrator

     - IBM_B2Biimport_MSSQL.xml
     - IBM_B2Biimport_Oracle.xml
     - IBM_B2Biimport_DB2.xml

2. Deploy IBM PEM Standard

   - Setup IBM PEM
   - Import the Activities of IBM PEM

3. Deploy IBM PEM Community Manager

   - Unzip IBM PEM Community Manager Docker and set up IBM PEM Community Manager / Configure application.yml
   - Setup logback-spring.xml

Sterling B2Bi Licensing PEM Community Manager

To view the product license, run the following command

```
docker run --entrypoint "/bin/cat" <Repository>:<TAG> License
```

For example:

```
ImageName==> pem_cm:6.1
docker run --entrypoint "/bin/cat" pem_cm:6.1 License
```

Activating the B2Bi License

To accept the license, update the accept-license parameter in application.yml. Set the parameter value to `true` and save application.yml to accept the license

- *accept-license: true*

Encrypting the password in application.yaml

Encrypt the password using following command

```
java -jar pass-enc-1.0.0.jar <Sting to be encrypted>
```

For example:

```
java -jar pass-enc-1.0.0.jar Expl0re
```

Outputs:

```
cKtfzpIvwNdvHP+8QdHYiQ==
```

Set the cmks parameter value to the encrypted password in application.yml. For example:

```
cmks: ENC (cKtfzpIvwNdvHP+8QdHYiQ==)
```

Mounting the directory to Docker

Save application.yml, logback-spring.xml, jars, key Grabber, pgpLoad, archive directories in the same folder. Mount the folder in the docker container as you start docker. Community Manager generates

logs in the same directory. Specify the mount directory when you create the containers. Use the following parameter with the mount command:

```
-v “$(pwd)”:/src
```

where:

- $(pwd) is the directory, which will be mounted into the docker container.
- /src is the folder where it will be mounted in the docker.

Note: /src is default path in docker. That should not be modified.

Deploying PEM Standard and Community Manager

Perform the following steps to deploy B2Bi

1. Set up the JDBC pool properties for Sterling B2Bi Integrator

Create a JDBC pool in IBM Sterling B2B Integrator with the database pool name CM_FRAMEWORK in jdbc_customer.properties.in. For example, to create an Oracle pool use the parameters below, to configure IBM Sterling B2B Integrator to create a database. Refer to the IBM Sterling B2B Integrator documentation for more information on how to create connection pools.

```
useNewStateAndStatusLogic=true
CM_FRAMEWORK.driver=oracle.jdbc.OracleDriver

## Provide DB details
CM_FRAMEWORK.url=dbc:oracle:thin:@host:1521:SBI2P
CM_FRAMEWORK.user= EDIB2B
CM_FRAMEWORK.password=password
CM_FRAMEWORK.prop_TCP.NODELAY=YES
#CM_FRAMEWORK.maxconn=20

# this section refers to connecting to the database
CM_FRAMEWORK.storedProcClassName=com.sterlingcommerce.woodstock.util
.frame.jdbc.OracleNoAppStoredProcQuery
CM_FRAMEWORK.varDataClassName=com.sterlingcommerce.woodstock.util.fr
ame.jdbc.OracleBlobVarData
CM_FRAMEWORK.catalog=SBI2P
CM_FRAMEWORK.schema=EDIB2B
CM_FRAMEWORK.type=remote
CM_FRAMEWORK.testOnReserve=true
CM_FRAMEWORK.testOnReserveQuery=SELECT PRODUCT_LABEL from SI_VERSION
where PRODUCT_LABEL = ?
CM_FRAMEWORK.testOnReserveInterval=60000
CM_FRAMEWORK.maxRetries=100
CM_FRAMEWORK.blobPageSize=1024000
CM_FRAMEWORK.compressBlob=true
CM_FRAMEWORK.max8177RetryCount=-1
CM_FRAMEWORK.dbvendor=oracle
CM_FRAMEWORK.buffersize=500
CM_FRAMEWORK.maxsize=30
CM_FRAMEWORK.initsize=1
CM_FRAMEWORK.factory=com.sterlingcommerce.woodstock.util.frame.jdbc.
ConnectionFactory
CM_FRAMEWORK.behaviour=2
CM_FRAMEWORK.lifespan=0
CM_FRAMEWORK.idletimeout=86400000
CM_FRAMEWORK.housekeepinginterval=3600000
CM_FRAMEWORK.waittime=1000
CM_FRAMEWORK.errorMissingTable=942
```

```
CM_FRAMEWORK.transaction=true
CM_FRAMEWORK.systemPool=true
```

Configuring the PEM Community Manager (PCM) Cache

To configure the PCM cache, save the CM_cache.properties file in the Sterling Integrator properties folder. Imported Community Manager Business Processes (BP) use the parameters in this file to customize them as needed.

```
## System Info
environment=QA
appserver=xx.xx.xx.xxx /Host IP
port=8080//SFG port
hostname= xx.xx.xx.xxx /Host IP
## SMTP Info sent from email address
smtphost=<SMTP host>
smtpport=<SMTP Port>
smtpsupportemail=<Email ID>
smtpadminemail=<Email ID> ## Pending Mailbox Check for File Rules
Engine
MailboxFileTimeDays=0
MailboxFileTimeHours=1
MailboxFileTimeMinutes=1
MailboxMailboxPath=288
MailboxWarningThreshold=053000
MailboxAlertThreshold=060000
MailboxRecieptNotification=NO
MailboxWarningEmail=<Email ID>
```

2. Import artifacts from (something) to (something else)

To import artifacts from (something) to (something else), use the following (commands? Parameters?) in the following:

```
IBMB2Bi_Importv6.1
IBM_B2Biimport_MSSQL.xml
IBM_B2Biimport_Oracle.xml
IBM_B2Biimport_DB2.xml
```

Import IBM_B2Biimport_MSSQL.xml for MSSQL version of IBM Sterling B2B Integrator.

Import IBM_B2Biimport_Oracle.xml for Oracle version of IBM Sterling B2B Integrator.

Import IBM_B2Biimport_DB2.xml for DB2 version of IBM Sterling B2B Integrator.

Note: Bps, Adapters, and the artifacts are for reference purpose, customers are advised to change as per the requirements.

Passphrase for the import files is ***Expl0re (Always?)***

3. Setting up Security Context for (SOMETHING)

To use import service for envelope load we need to add security context in SI

Redirect to <SI install directory>/bin and run the below command

```
./securityContext.sh set Inbound_Envelope <Password>
./securityContext.sh set Outbound_Envelope <Password>
```

Password needs to be updated in CM_Inbound_Envelope_X12_Map, CM_Outbound_Envelope_X12_Map Maps and give base64 of that password in the maps

Note: By default, password is set as password in those maps.

4. Set up the PEM CM Docker

Download the required jdbc drivers to the server and save them in a folder with jars' names in the path to mount to the docker container. Using Admin Credentials update them to the docker container.

Note: This is specific to the database version and vendor(Oracle, mssql, db2 as supported by Sterling integrator)

Run a build using the (yaml file name).yml file. Ensure the yml file includes the current environment specifications in the environment settings

Update the following parameters in application.yml file. The example parameter values shown below is for reference

```
accept-licence: true
##This parameter is used to accept the license.
cm:
  color: black  #red, green, grey, yellow, black
##a. CM will support red, green, yellow, black. If we want to have
red color as theme then update cm:color: red

  cm-deployment: true
  cmks: password
#  logo-location:
#
====================================================================
```

```
# To enable TLS in production, generate a certificate using:
# keytool -genkey -alias community-manager -storetype PKCS12 -keyalg
RSA -keysize 2048 -keystore keystore.p12 -validity 3650
#
# You can also use Let's Encrypt:
# https://maximilian-boehm.com/hp2121/Create-a-Java-Keystore-JKS-
from-Let-s-Encrypt-Certificates.htm
#
# Then, modify the server.ssl properties so your "server"
configuration looks like:
#
===================================================================
server:
  port: 8181
  #  ssl:
  #    key-store: classpath:config/tls/cmkeystore.p12
  #    key-store-password: password
  #    key-store-type: PKCS12
  serverHeader: IBM Partner Engagement Manager Community Manager
  compression:
    enabled: false
    min-response-size: 1024
  ajp:
    enabled: false
    port: 8585
spring:
  liquibase:
    enabled: true
    liquibase-tablespace:
  datasource:
    type: com.zaxxer.hikari.HikariDataSource
    url: jdbc:oracle:thin:@dbhostname:1521/DBNAME
    username: Username
    driver-class-name: oracle.jdbc.driver.OracleDriver
    hikari:
      connection-timeout: 60000
      maximum-pool-size: 60
      auto-commit: false
  jpa:
    show_sql: true
    open-in-view: false
database-platform:
com.pe.pcm.config.database.dialect.Oracle10gExtendedDialect
-------------------------------------------------------------------
##a.ORACLE
##           i.URL               :
jdbc:oracle:thin:@HostName:1521/SID  (ex=
jdbc:oracle:thin:@localhost:1521/XE)
##          ii.DRIVER            : oracle.jdbc.driver.OracleDriver
##         iii.USERNAME         : dbUserName
##          iv.DATABASE_PLATFORM :
com.pe.pcm.config.database.dialect.Oracle10gExtendedDialect (For 12c
```

```
: com.pe.pcm.config.database.dialect.Oracle12cExtendedDialect)
##          v.DATABASE          : oracle
------------------------------------------------------------------
##    a.MSSQL
##           i.URL              :
jdbc:sqlserver://HostName;databaseName=DbName  (ex=
jdbc:sqlserver://localhost;databaseName=TestDB)
##          ii.DRIVER           :
com.microsoft.sqlserver.jdbc.SQLServerDriver
##         iii.USERNAME         : dbUserName
##          iv.DATABASE_PLATFORM :
org.hibernate.dialect.SQLServer2012Dialect
#org.hibernate.dialect.SQLServerDialect (for lower)
-------------------------------------------------------------------
##          v.DATABASE          : sql_server
##    a.DB2
##           i.URL              : jdbc:db2://HostName:Port/DbName
(ex= jdbc:db2://localhost:50000/TestDB)
##          ii.DRIVER           : com.ibm.db2.jcc.DB2Driver
##         iii.USERNAME         : dbUserName
##          iv.DATABASE_PLATFORM  :
com.pe.pcm.config.database.dialect.DB2ExtendedDialect
##          v.DATABASE          : db2
##
```

Note: Other configurations under spring.datasource.hikari and spring.jpa are constant(No need to change)

```
    properties:
      id:
        new_generator_mappings: true
    hibernate:
      naming:
        physical-strategy:
com.pe.pcm.config.database.PhysicalNamingStrategy
  mail:
host: SMTP.Hostname
port: 587 #25
username: username@company.com
 cmks: BGtW8/EyoBAJSLAvVwFzt27bQMCJtpCv2wmiKfKN5vax
 from: from_mail@company.com
    app-contact-mail: app@company.com
mail-signature: IBM Partner Engagement Manager Community Manager
Support team

##i.mail.host: SMTP Host Name
##ii.mail.port: SMTP Port   accept-licence: true
##This parameter is used to accept the license.
cm:
  color: black  #red, green, grey, yellow, black
##a. CM will support red, green, yellow, black. If we want to have
red color as theme then update cm:color: red
##iii.mail.username: Username
```

```
##iv.mail.cmks: Password
##v.mail.from: provide from email
##v.If you want to send a mail with ssl authentication then
mail.properties.mail.smtp.ssl.auth: true or make that as false
##vi.if smtp.auth: false then we no need to provide values for
password, from properties(but the properties should be there) and
provide usernames with any email address(valid or invalid)
##vii.If smtp.auth: true then we must provide a valid email for
"mail. From" property like mail. From: admin@yourcompany.com.
provide the valid details for remaining mail properties.
##viii. mail.thymeleaf.cache: true (constant)

    properties:
      mail:
        smtp:
          auth: true
          starttls:
            enable: true
  thymeleaf:
   cache: true
#  sendgrid:
#    api-key:
SG.xAu2cMWQSP6sIejF0FuHaA.V0HnHRJGXV7s9MFBmYJUTC1DM5xs3pRO3czkgqFTaZ
0
login:
  sm:
   enable: false
   param-name: SM_USER

##a.If the customer has SSO login then update the login.sm.enable =
true or else false
##b.login.sm.param: SM_USER (This will be changed by depending on SM
server config)

basic:
  auth:
   username: pemuser
   cmks: Password
jwt:
 secretkey: CACE9E5A149ED201C4033C1A1E02C9BE
 session-expire: 60 # Minutes
##a. Basic Authentication: If we deploy application on PEM then
below properties will be used for Authentication. If application
deploy on CM, then we can remove the values for below properties
##       1. basic.auth.username: pemuser
##       2. basic.auth.cmks:
$2a$04$C8mDxwqLlIU6qMKd7b7a1.UmchHFr3I.6XvDJAjK3/0eAcYseO4xO
##b. Token Base Authentication: If we deploy application on PCM then
below properties will be used to generate the token, If we deploy
app on PCm then we can remove the values for below properties
##      1. secretkey: CACE9E5A149ED201C4033C1A1E02C9BE
##      2. session-expire: 60 # Minutes (Token session Expiry)
```

```
sterling-b2bi:
 core-bp-name: CM_MailBox_GET_RoutingRule
 user:
cmks: Passw0rd
##cmks should be same as your Sterling Integrator passphrase
    cmks-validation: true
    cmks-validation-profile: CM_Profile
  sfg-api:
   active: false
   community-name: CM_PEMCommunity   ##SFG Community Name
  b2bi-api:
   active: true
   as2:
    active: false
   api:
    username: cm_user
    cmks: ENC(KKtUwo6lrp1At7pa/fUn4g==)
    baseUrl: http://10.1.1.1:10074/B2BAPIs/svc
   cd:
    net-map-name: Test_CD
    proxy:
     internal:
       server-host: 10.0.0.1
      server-port: 1364
      secure-plus-option: ENABLED
      ca-cert: CA_cd_0099
      system-certificate: B2BHttp
      security-protocol: TLS 1.2
      cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
     external:
      server-host: 10.0.0.1
      server-port: 1364
      secure-plus-option: ENABLED
      ca-cert: CA_cd_0099
      system-certificate: B2BHttp
      security-protocol: TLS 1.2
      cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
##a.If the customer has B2BApi deployed with SI then update
b2b.active = true or else make it false
##b.If you want to enable the As2 partner onboarding using B2B APi
then enable b2b.as2.active = true or else make it false
##c.If B2B available then you need to update below params as well
##    i.b2b.api.username      : apiUserName
##    ii.b2b.api.cmks      : apiPassword
##    iii.b2b.api.url           : apiURL
##    iv.b2b.profile.community : SI Community Name
##d.SFG_CONNECT_DIRECT Protocol internal and external profiles
information
##    cd:
##      net-map-name: Test_CD
```

```
##      proxy:
##        internal:
##          server-host: 10.0.0.1
##          server-port: 1364
##          secure-plus-option: ENABLED
##          ca-cert: CA_cd_0099
##          system-certificate: B2BHttp
##          security-protocol: TLS 1.2
##          cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
##        external:
##          server-host: 10.0.0.1
##          server-port: 1364
##          secure-plus-option: ENABLED
##          ca-cert: CA_cd_0099
##          system-certificate: B2BHttp
##          security-protocol: TLS 1.2
##          cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
```

Note: The above properties values will be provided by IBM® Sterling File Gateway (SFG) Connect_Direct (CD) Profile Onborder, if we do not have SFG CD we can keep all the values as empty. SFG CD enables the Sterling Connect: Direct inbound and outbound protocol.

```
##a.If the customer has B2BApi deployed with SI then update
b2b.active = true or else make it false
##b.If you want to enable the As2 partner onboarding using B2B APi
then enable b2b.as2.active = true or else make it false
##c.If B2B available then you need to update below params as well
##    i.b2b.api.username      : apiUserName
##    ii.b2b.api.cmks       : apiPassword
##    iii.b2b.api.url           : apiURL
##    iv.b2b.profile.community : SI Community Name
##d.SFG_CONNECT_DIRECT Protocol internal and external profiles
information
##    cd:
##      net-map-name: Test_CD
##      proxy:
##        internal:
##          server-host: 10.0.0.1
##          server-port: 1364
##          secure-plus-option: ENABLED
##          ca-cert: CA_cd_0099
##          system-certificate: B2BHttp
##          security-protocol: TLS 1.2
##          cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
##        external:
##          server-host: 10.0.0.1
##          server-port: 1364
##          secure-plus-option: ENABLED
##          ca-cert: CA_cd_0099
##          system-certificate: B2BHttp
```

```
##          security-protocol: TLS 1.2
##          cipher-suites: ECDHE_RSA_WITH_3DES_EDE_CBC_SHA
```

Note: The above properties values will be provided by Sterling File Gateway CD Profile Onborder, if we do not have Sterling File Gateway CD, we can keep all the values as empty

```
ssp:
 active: true
 api:
  username: user
  cmks: password
  baseUrl: https://hostname:port/sspcmrest/sspcm/rest

adapters:
   ftpServerAdapterName: CM_FTPServerAdapter
  ftpsClientAdapterName: FTP Client Adapter
  ftpClientAdapterName: CDServrAdapter
  ftpsServerAdapterName: CM_FTPS_ServerAdapter
  sftpServerAdapterName: CM_SFTPServerAdapter
  sftpClientAdapterName: CM_SFTPClientAdapter
  as2ServerAdapterName: CM_AS2ServerAdapter
  as2ClientAdapterName: CM_AS2ClientAdapter
  as2HttpClientAdapter: HTTPClientAdapter
  cdClientAdapterName: CM_CDClientAdapter
  httpServerAdapterName: CM_HTTPServerSync
  httpsServerAdapterName: CM_HTTPSServerSync
  mqAdapterName: CM_MQAdapter
  wsServerAdapterName: CM_HTTPSServerSync
  fsAdapter: CMFileSystem
  sfgSftpClientAdapterName: CM_SFTPClientAdapter
  sfgSftpServerAdapterName: CM_SFTPServerAdapter
  sfgFtpClientAdapterName: CM_FTPClientAdapter
  sfgFtpServerAdapterName: CM_FTPServerAdapter
  sfgFtpsClientAdapterName: CM_FTPSClientAdapter
  sfgFtpsServerAdapterName: CM_FTPS_ServerAdapter
##  Adapter name can be updated to meet the needs, the below
adapters can be updated with any existing adapters by providing the
name of the IBM sterling B2B integrator adapter in the below section

alerts:
 email:
  enable:
    create: false
    update: false
   delete: false
    reports: false
##a. Currently this service on hold but we will release this soon.
We can keep them all as false as below
##       alerts:
##         email:
```

```
##           enable:
##             create: false
##             update: false
##             delete: false
##             reports: false


Workflow:
 duplicate:
  mft: true
docHandling: true

##a.If you want to allow Duplicate MFT Transactions within the flow
then update workFlow.duplicate.mft = true or else make it false.
##b.If you want to allow Duplicate DH Transactions within the
application then update workFlow.duplicate.docHandling = true or
else make it false.

file-transfer:
 search:
 time-range: 24 #Hours
##a.If you want to change the time range in tranferinfo search then
update file-transfer.search.time-range= 6 #hours

saml:
 jwt:
  secret-key:
  session-expire: 60 # Minutes
 idp:
  metadata: D:\jks\FederationMetadata.xml #Provide the IDP metadata
file location.
  entity-id: PcmEntityIdp
 scheme: https # Provide the PCM deployed protocol name.
 host:  #Provide the Application deployed host.
 url:
  client: https://host:port #Provide the Application Access URL
  entity: https://host:port #Provide the Application Access URL
 ssl:
  key-store: D:\jks\localhost-keystore.jks
  key-cmks: pass@localhost
  store-cmks: store@localhost
key-alias: pcm-localhost

##a.Provide the metadata file location
saml.idp.metadata=D:\FederationMetadata.xml
##b.Provide the Entity name whic we provide in IDP saml.idp.entity-
id=PcmEntityIdp
##c.Provide the Application deployed host Name saml.host=host
##d.Provide the Application access URL
##  i.saml.url.client= https://host:port
##  ii.saml.url.entity=https:// host:port
##e.Provide SSL information
```

```
## i.saml.ssl.key-store= D:/config/tls/saml/localhost-keystore.jks
#Absolute path of the JKS file
## ii.saml.ssl.saml.ssl.key-cmks=pass@localhost
## iii.saml.ssl.store-cmks=store@localhost
## iv.saml.ssl.key-alias=pcm-localhost
```

Note: Configure a custom table in the section below. A custom framework configuration requires a custom table, Configure this section with the IBM Sterling B2B Integrator database information when a custom table isn't required.

```
pem:
 remote:
  server:
   pem-key: #Provide the pemKey
    base-directory:
     path: #Provide the base directory path
     session-timeout: 5000 #Time in milliseconds
  datasource:
   url: jdbc:oracle:thin:@dbhostname:1521/DBNAME
   username: DB_USER
   cmks: Password
   driver-class-name: oracle.jdbc.driver.OracleDriver
  api-ws:
   active: true
   base-url: https://hostname:port/pemws/sponsors/company
   username: pemuser@company.com
 cmks: PEMpassword

##a.Remote server information for script run
##    i.Provide the key pem.remote.server.pem-key:
D:\test\eks_docker.pem
##    ii.Provide base directory pem.remote.server.base-
directory.path: D:/test/data/test/hh/
##b.Pem SQL operations on database, provide the Db details
##    i.pem.datasource.url: database url
##    ii.pem.datasource.username: db username Ex: dbuser1
##    iii.pem.datasource.cmks: db password Ex: dbPassword
##    iv.pem.datasource.driver-class-name: db driver class name Ex:
oracle.jdbc.driver.OracleDriver
##c.PEM Web Service API(s): if we have PEM webservice API(s) then
update the below properties, if we deploy application on PCM then we
can keep the below properties as empty
##    i.pem.api-ws.active: true
##    ii.pem.api-ws.base-url:
https://hostName:19443/pemws/sponsors/company
##    iii.pem.api-ws.base-username:
##    iv.pem.api-ws.base-cmks: pa@pemTes

file:
 archive:
  security:
```

```
   secret-key:
    salt:

##a.Provide the secret key file.archieve.security.secret-key
##b.Provide the salt information file.archieve.security.salt

logging:
  config: /src/logback-spring.xml
```

5. Deploying IBM PEM Community Manager (CM) on Docker

Install docker and its dependencies into your server using below commands

```
sudo yum install -y yum-utils device-mapper-persistent-data lvm2
yum-config-manager --add-
repo https://download.docker.com/linux/centos/docker-ce.repo
sudo yum install -y docker-ce
```

Note: To deploy the containers with a non-root user, add a user to create/start/stop the containers to the docker group and assign the required permissions to the directory that contains application.yml and other configuration CM files.

Download a docker image from the docker hub using the following commands

1. To start the docker services on the server

```
sudo systemctl start docker
```

2. To log in to your docker hub, use

```
sudo docker login
```

3. Pull your required image from the available images

```
sudo docker pull <image name>:<tag name>
```

Install Java in a subdirectory of the directory containing application.yml called Java. Use a command

Syntax:

```
docker run -it -v <path to application.yml>:/src -e
NODE_IP=localhost -e TZ= <TIMEZONE> -e NODE_PORT=<Port of CM
Application> -e APP= <Name of profile> -e DB_PASS=<DB Password> -p
<Port of CM Application:<Port of CM Application> REPOSITORY:TAG
```

For example:

application.yml file is saved in /opt/IBM. The Image name and Tag name are ibmpem/cm and latest, respectively. We want to run the application on port 9080.

To start Swagger, use the following command

```
docker run -it -v "$(pwd)":/src -e NODE_IP=localhost -e
NODE_PORT=7080 -e TZ= UTC -e APP=cm-api -e DB_PASS=IBMPEM05 --name
ibmpem -p 7080:7080 ibmpem_cm:6.1
```

To start the CM application, use the following command

```
docker run -it -v "$(pwd)":/src -e NODE_IP=localhost -e
NODE_PORT=9080 -e TZ= UTC -e APP=pcm -e DB_PASS=IBMPEM05 --name
ibmcm -p 9080:9080 ibmpem_cm:6.1
```

where TZ= UTC is the time zone of the docker

Archive the files in the Host System

Source Archive in the destination for PCM. (add more details here)

For Archiving the files in the host system, we need to follow the below steps

1. Create an Archive directory in the host directory that is mounted to Docker

For example: If the archive directory is /home/centos/IBM/CM/CMArc, the CM is the mounted directory

2. Log in to the docker For example:

```
docker exec –it <ContainerName> /bin/bash
```

3. Create the same folder structure as the mounted directory

For example: Creating the folder structure

```
mkdir /home/centos
mkdir /home/centos/IBM
mkdir /home/centos/IBM/CM
```

4. Create a softlink for that folder. For Example:

```
ln -s /src/CMArc/ /home/centos/IBM/CM/
```

5. Commit the changes done in the docker and images

```
docker commit <ContainerName>
```

6. Tag that docker to the image

```
docker tag <ContainerName> <ImageName>:<TAG>
```

Install OpenSSH* in Container

After the containers are created, go to the swagger container using command listed below and install openssh-clients in the docker

```
docker exec -it <containerName> /bin/bash
```

Use below command for installing OpenSSH*

```
yum install -y openssh-clients
```

Exit from the container, to save the changes in the container use below command

```
docker commit <containerName>
```

Unzip IBM PEM Docker Image and Configure IBM PEM

Configure the following API in IBM PEM API Configurations under setting

PR	PR API endpoint, on the IBM PEM host, Default port on 19453
PEM	PEM API endpoint, on the IBM PEM host, Default port on 19443
QA SI	IBM Sterling B2B Integrator Non prod, SI API endpoint
QA PCM	IBM PEM Community Manager, Non prod, API endpoint
PROD SI	IBM Sterling B2B Integrator prod, SI API endpoint
PROD PCM	IBM PEM Community Manager, prod, API endpoint

1. Log in to the IBM PEM with user ID and password
2. Go to settings --> API Configurations --> Create
3. Configure QA and Prod SI server with below protocols.
   - Sterling Integrator Protocol, Host and Port
   - Http Server Adapter configurations
   - Add below URI's in HTTP Server Adapter
     - URI: envelopeLoad
     - BP: CM_restAPI_EnvelopeLoad
     - URI: Connectivity
     - BP: CM_PEM_restAPI_ConnectivityTest
     - URI: /SSHKeyGrabber
     - Business Process: CM_PEM_restAPI_SSHKeyGrabber
   - Configure the B2BAPIs Host and Port
   - Configure the Community manager Host and Port

- Use login credential and save.

Note: In case, you have only one Environment, make sure to give the same details for both QA and Prod configurations.

Next step Configure IBMPEM_CM_Activities

- Go to Activities --> Definitions --> Import
- Import IBMPEM_CM_Activities and map the APIS to above protocols
- After importing click on the drop-down --> Edit
- You can see context data click on Edit and a window will get pop up
- Click on highlighted part you will navigate to the Context data mapping and map all protocols to contest data.
- Click on Save after click on Save as draft and click on mark as final.

In sponsor Configuration

- AS2, CD,SFTP,SFTP_UserKey,FTP,FTPS,FTPS_Cert,VAN create SG/SR/DG profile configurations and put it here this is a one-time activity.
- For Inbound_Envelope, Outbound_Envelope
- For Implementation Guides, you can zip all your implementation guides and upload it in PEM Library and use it.
- Update PGP_Cert, SSL_Cert
- Provide the Server details and Path for the KeyGrabber, FileDrop and PGP on the server(Server, User, Port,KeyGrabber(Path),FileDrop(Path),PGP(Path)).
- In case of Key based login for the Script Execution, provide pemKey as true and in case of Password, provide the password. Provide the localFile as true if the CM application is running as docker.
- In the case of Sterling File Gateway Activity, make sure to provide the Sterling File Gateway Community Name, Provisioning Fact Name.

Note: Currently, the Activity is set to create RC with 1 Provisioning Fact. Make sure to create a template in Sterling File Gateway to support this. If any other template formats are required, you can edit and customize your Activity.

- The code list would be the default (SFG_FileType), which comes out of the package. And make sure to update the version of that in the Context Data.

Note: Code List version should be entered in the below format and Code List should be created in PR

%7C{sender identity}%7C{receiver identity}%7C{version number}

- If there is any Application parameter, provide your back-end application name. make sure the application is available in CM.
- The Identity key parameter would be the name of the User Identity, which is used for the SFTP transactions.
- In the Partner Expiry Activity, you must update the Request of the Get Context Data API. Open the Activity and open the Select Operation Task and Edit Get Context Values API and in Request, update your API configuration IDs in it.

Creating Sponsor Profiles

In PEM, we need the Sponsor/Hub Connection Details in instances where the Partner connects to the Hub. Create a configuration in Partner Repository(PR) and use that Configuration Name in our Context Data. In flow, we would do a GET call and get the details.

> **Note: Shown below is the PR documentation URL for more details**
> **https://{ip}:{pr port}/mdrws/sponsors/{sponsorcontext}/doc**

1. **Create a Profile Config**

URI: mdrws/sponsors/{sponsorcontext}/profileconfigurations/
Sample Request:

```
{
  "description": null,
  "name": "TestSFTP1",
  "owningDivisions": null,
  "parentProfileKey": null,
  "partner": null,
  "protocolUserCredentials": null,
  "resourceType": "SFTP",
  "serverType": "SG",
  "subResourceType": "SFTP_INB_PUSH",
  "userCredSshKeys": null,
  "userCredentialProtocols": null
}
```

We need to make sure; we change the request based on the protocol; we are creating for.

2. **Reference it with Profile Type**

This must be created for every protocol Hub/Sponsor supports
We will be doing for SFTP alone

URI: mdrws/sponsors/{sponsorcontext}/sftpinboundpushs/
Sample Request:

```
<?xml version="1.0" encoding="UTF-8"?>
<create    name="testsftp1" configurationId="bfc90747-7a95-4c8c-9a44-68a288d3614b"
partner="">
</create>
```

The configurationId would be the response from first API call

3. **Create Connection Details**

This as well must be created for all protocols supported by Hub/Sponsor
/mdrws/sponsors/{sponsorcontext}/sftpinboundpushs/{responseof2nd api}/configurationTypes/

Sample Request

```
<?xml version="1.0" encoding="UTF-8"?>
<create characterEncoding="" compression="" connectionType="" directory="" extensions="" host="52.33.115.100" localPortRange="" noOfRetries="" port="10022" preferredAuthenticationType="PASSWORD" preferredCypher="" preferredMac="" profileName="" responseTimeout="" retryInterval="" sftpInboundPushKey="" sponsorKey="" sshKeys="" type="TEST" userCredential="">
    <extensions>
        <SftpInboundPushTypeExtn extensionName="ParticipantActivityKey" extensionValue="87653456785445"/>
    </extensions>
</create>
```

Create the connection details for both TEST and PROD.

Below, are the Configuration Types, which must be used for creation.

SFTP

Configure SFTP Inbound Push Type Configuration.
Create an Extension with name “IdentityKeyName” and provide the Sponsor Servers User Identity Key.

FTP

Configure SFTP Inbound Push Type Configuration.

FTPS

Configure FTPS Inbound Push Type Configuration.

Connect Direct

Configure CDSA Inbound Push Type Configuration
Create Extensions “NetmapName” and provide the Sponsor’s Netmap Name.

AS2

Configure AS2 OUTBOUND Type Configuration

Note: The above configuration types are common for both the directions of Partner connecting to Customer (Inbound Push and Outbound Pull)

Next step Configure IBMPEM_CM_Activities for PP

Go to Settings--> Applications--> Create
vi.Create B2BISFG, B2BISFGHTTP and CM.

Go to Settings--> Topology--> Create

vii. Create one topology for Test and one topology for Prod

viii. Edit the Test Topology and select the Applications created above and provide the server details

ix. Repeat the above steps for Prod Topology as well.

Go to Activities --> Definitions --> Import

x. Import IBMPEM_CM_Activities and map the PR API configuration.

xi. After importing click on the drop-down --> Edit

xii. You can see context data click on Edit and a window will get pop up

xiii. Click on highlighted part you will navigate to the Context data mapping and map the Sponsor Context and PR API Config.

xiv. Click on Save after click on Save as draft and click on mark as final.

xv. Make sure the API configuration inside Topology->Applications in context is not mapped. It gets fetched dynamically.

Go to Activities --> Rules

Create a Provisioning Rule, with Sub Resource Type as System and then configure resources and add the resources for the protocols and select the Activity as below. The below is a reference for SFTP

1) Partner_SFTP_Prov_V601_1
2) Partner_FileType_V1
3) Partner_Envelope_V1

In the similar way, add for other protocol resources. Only the 1st Activity from the above three will change as per protocol. The other two are common for all resources.

xvii. Create a Provisioning Rule, with Sub Resource Type as System and note that configure sub resource is not required, as all the sub resources will use the common activity. Select the Activity provided below for System level.

1) Partner_Test_V1

End of installation

3. Administering PEM Community Manager (PCM)

Start and Stop PCM

Use the following commands to start Docker for the first time to initialize the docker container.

To bring up Swagger use below command
docker run -it -v "$(pwd)":/src -e NODE_IP=localhost -e NODE_PORT=7080 -e TZ= UTC -e APP=cm-api -e DB_PASS=IBMPEM05 --name ibmpem -p 7080:7080 ibmpem_cm:6.1

To bring up CM application use below command
docker run -it -v "$(pwd)":/src -e NODE_IP=localhost -e NODE_PORT=9080 -e TZ= UTC -e APP=pcm -e DB_PASS=IBMPEM05 --name ibmcm -p 9080:9080 ibmpem_cm:6.1

Use the below command to bring up the application
docker start <Container Name>
Use the below command to stop Docker PEMCM
docker container stops <CONTAINER ID>

Start and Stop PEM Community Manager API with a REST call

A. Execute the below command from CLI to shut down the Application (update user your pcm host and port)
Syntax: curl -X POST -u pemuser: password "http://10.1.1.1:<Port>/pcm/app/shutdown-context?keyPhrase=<password>&shutdownUser=cmsysadmin" -H "accept: application/json"

Example: curl -X POST -u pemuser:password "http://10.1.1.1:7080/pcm/app/shutdown-context?keyPhrase=password&shutdownUser=cmsysadmin" -H "accept: application/json"

4. IBM PEM Standard Activities

There are two editions of the IBM PEM Standard Activities, Community Manager Activities are integrated to partner and workflow of IBM Sterling B2B Integrator. Sterling File Gateway Activities are integrated to IBM Sterling File Gateway. The Activities provides the generic step to onboard and manage trading partners communication and document processing. IBM PEM provides the ability to customize the default shipped. Activities to fit to the requirements.

IBM PEM Standard with Community Manager

Onboarding / Maintenance	Activity Name	Description
Onboarding	Partner_Onboard_V1	The campaign roll-out is created and the client's information added. The communication protocol is

Onboarding / Maintenance	Activity Name	Description
		selected. Helps in adding the workflows, file types and MFT. The test file is sent to ensure connectivity is working. Self-certification allows for the file to be tested and see the status of the file. Once all tests are successful the partner is moved to production. *Note: For AS2 Protocol, only Doc-Handling is supported.*
Maintenance	Partner_Maintain_V1	Performs maintenance on the Partner Profiles/Connections, allows for changes to the partners details, such as remote host or remote port details, password, and certificates. This occurs for both production and non-production environments
Maintenance	Hub_Maintain_V1	Performs Maintenance on the Customer Profiles/Connection this is for the client's environment. This allows the notification for all trading partners to update information easily, user account updates SSH and PGP key notifications.
Maintenance	FileType_Maintain_V1	Ability to add/update or remove workflows in PCM. This allows updates by adding new transactions remove a file type or update an existing file type.
Maintenance	Partner_Expiry_V1	Bulk Roll out for Expiry cases (Password, Certificate, SSH/PGP Update) Helps in finding user account SSH PGP certificates that are going to expire and sends an automatic

Onboarding / Maintenance	Activity Name	Description
		maintenance campaign to the trading partner
Maintenance	System_Notification_V1	Sends Bulk Email Notifications (Server/Adapter Maintenance) This is a notification feature that sends information to a group of partners for all communication protocols. This also can be used for regular maintenance intervals that require customer notifications.
Maintenance	Contact_Verify_V1	Verify and Update the Partner Contacts. This allows the business to verify the clients email and contact information is accurate and allows for periodic updates.
Maintenance	Partner_Decomission_V1	Delete or deactivate Partner Profiles that are no longer trading partners or clients that need to be deactivated.

Partner_Onboard_V1

Sign into PEM Portal as a Sponsor Administrator.

- Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
- For more information about rolling out the activity, see Rolling out an activity.
- After rolling out the activity to the required trading partner, click **Directory**.
- For the partner to whom you have rolled out the activity, from the Actions column, click **View** to view the information.
- Sign out of PEM Portal as a Sponsor Administrator.
- Sign into PEM Portal as a Partner Administrator.
- You can view the activity that is rolled out for which the status is Not Started.
- From the Actions column, click **Start activity**. The Task Execution window opens.
- You can view the list of partner tasks that needs to be started. Start the following open tasks in the sequential order as follows:

Note: *To view all tasks, select the **Show all Tasks** check box. Based on the values configured by the Sponsor Administrator, you can view tasks that are opened for completion and tasks that are skipped. For example, if the Sponsor Administrator enables PGP, the corresponding PGP screen with SFTP, FTPS, FTP with PGP* *tasks such as I/B PGP Test, O/B PGP Test are opened for completion. Otherwise, they are skipped.*

Partner Information (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- If follow Master and Sub Account strategy, Select **Yes** if not Select **No**
- Click **Next.**

Connection Setup (Partner)

- In the Status/Action column, click **Start task**. The Protocol and Direction Info wizard opens.
- In **Protocol**, Select the prefer protocol from the drop-down
- In **Direction,** Select the kind of direction whether it should be Inbound or Outbound or else Both
- In **Transfer Type**, Select the transfer type as MFT or B2B or else both
- For **Environment**, select Non-production and production as required.

Connection setup (Outbound to customer),

- Pull-Customer will connect to Trading Partner and Pull the file.
- **Connection setup (Inbound from Customer)**
- Push-Customer will connect to Trading Partner and drop the file.

Note: From Trading Partner perspective.

Partner Protocol Info Test (Partner)

- In Preferred Authentication Type, select **PASSWORD or Authentication Key,** Password need to be given, comes to key authentication it is done from Backend.
- Click **Next.**
- In **Remote Host Name/IP Address**, enter the host name or IP address of the server.
  - In **Remote Port**, enter the port number.
- In **Remote Username**, enter the username.
- In **SSH Password**, enter the password.
- In **Directory**, specify the path.
- In **Out Directory**, specify the path.
- In **No of Retries**, enter the maximum number of retries that can be attempted after repeated send failures.
- In **Retry Interval (minutes)**, enter the time interval, in minutes after which the messages are re-queued and an attempt is made to resend them, after a send failure.

- Click **Finish**.

Partner Protocol Info Production (Partner)

- In Preferred Authentication Type, select **PASSWORD or Authentication Key,** Password need to be given, comes to key authentication it is done from Backend.
- Click **Next.**
- In **Remote Host Name/IP Address**, enter the host name or IP address of the server.
- In **Remote Port**, enter the port number.
- In **Remote Username**, enter the username.
- In **SSH Password**, enter the password.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.
- In **No of Retries**, enter the maximum number of retries that can be attempted after repeated send failures.
- In **Retry Interval (minutes)**, enter the time interval, in minutes after which the messages are re-queued and an attempt is made to resend them, after a send failure.
- Click **Finish**.

KeyGrabber,PGP,IP Whitelist (Sponsor)

- In status/ Actions column, click **Start task**. The KeyGrabber,PGP,IP Whitelist window opens.
- In KeyGrabber,PGP,IP Whitelist, select the adapter name from the drop-down menu, in this example, an SFTP host key is selected for *CM_SFTPServerAdapter*
- Select the polling interval select from drop-down menu
- Select the correct application from the drop-down menu in this instance it is Template_Application.
- Select **Next** to continue
- Click on IPWhitelist check box
- The Upload Host Key screen should appear
- Click on **Known Host Key** (Known Host Key will be enabled in case of invalid connectivity details)
- In this instance select the *hostkey_nobase* and select **OK**
- Select **Next** to continue
- Confirmation screen should appear and select **Yes** to finish

Assign Workflow for producer (Sponsor)

- In status/ Actions column, click **Start task**. The Set-up workflow window opens
- From **Select workflow,** Template will be selected which we have already set up those in setup Template.
- Click **Next**.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- Click **Next**.
- **Doc Type**, Select the required doc type.
- In File Name, Provide the proper file name

- For **Select rules**, change the values if needed and select the required rules.
- Click **Next.**
  Wait for Provisioning- Partner, this will be a system task**.**
- **Connectivity Test and wait for Testing,** these are also system tasks. In case of invalid details wait for testing step rejects connection setup.

Sponsor Self-Certification (Sponsor)

- In Connectivity test, Connectivity test status from customer to system.
- If the connection is successful it will be showing status as success.
- If the connection is unsuccessful it will be showing status as failed.
- Click **Next**.

Promote (Sponsor)

- IP Whitelisting is required at this point, click on the check box to continue.

Move to Prod (Sponsor)

- From **Select workflow,** Template will be selected which we have already set up those in setup Template
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type**, Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.
- Click on **Finish.**
- **Wait for Prod Provisioning,** this is a system task. system task until we get success or fail status from PP

Note: The status of the activity is green, which indicates that the onboarding of partners is successfully completed.

Partner_Onboarding for Partner initiates the connection.

Partner Information (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- If follow Master and Sub Account strategy, Select **Yes** if not Select **No**
- Click **Next.**

Connection Setup (Partner)

- In the Status/Action column, click **Start task**. The Protocol and Direction Info wizard opens.
- In **Protocol**, Select the prefer protocol from the drop-down
- In **Direction,** Select the kind of direction whether it should be Inbound or Outbound or else Both
- In **Transfer Type**, Select the transfer type as MFT or B2B or else both
- For **Environment**, select Non-production and production as required.
- In **Notifications**, Provide Email for both Success and Fail case.
- For **Environment**, select Non \-production and production as required.
- In **Notifications**, Provide Email for both Success and Fail case.
- **Connection setup (Outbound to customer),**
- Push-Customer will connect to Trading Partner and Pull the file.
- **Connection setup (Inbound from Customer)**
- Pull-Customer will connect to Trading Partner and drop the file.

Note: From Trading Partner perspective.

Partner Protocol Info Test and Production (Partner)

- In Preferred Authentication Type, select **PASSWORD and Public key**
- In **Public Keys**, upload the authorized key.
- Click **Next.**

KeyGrabber,PGP,IP Whitelist (Sponsor, SFTP connectivity only)

- In status/ Actions column, click **Start task**. The KeyGrabber,PGP,IP Whitelist window opens.
- Select CM_SFTP Server Adapter from the drop-down menu
- Select the polling interval select from drop-down menu
- Select the correct application from the drop-down menu in this instance it is *Template_Application*.
- Select **Next** to continue
- Select IP whitelist check box
- Confirmation screen should appear and select **Yes** to finish

User Account Set up Test (Sponsor)

- In **User Id,** provide user Id that is used to connect the server.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.
- For **Transfer Type**, to select binary or ASCII.

Assign Workflow for Consumer (Sponsor)

- In status/ Actions column, click **Start task**. The Set-up workflow window opens
- From **Select workflow,** Template will be selected which we have already set up those in setup Template.

- Click **Next**.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- Click **Next**.
- **Doc Type** Select the required doc type.
- In File Name, Provide the appropriate file name
- For **Select rules**, modify the values if needed and select the required rules.
- Click **Next.**

Note: Wait provisioning hub is a system test auto-approval process and must be allowed to run. Click refresh until the process is approved or fails.

Partner Connectivity

- An email is sent with customer connection details. The credentials are used to the mailbox.

Partner connectivity approval

- Verify and approve the connectivity details
- Connectivity test, Connection with customer establishment successful test.
- Click Next.
- Click refresh

Note: Wait for testing is a system task process and must be allowed to run. Click refresh until the process is approved or fails.

Self-Certification Test (Partner)

- Self-Intimation, regarding file drop.
- Click Next.
- Self-certification status to find the success or failed status of the file.
- Click on Next

Self-Certification Approval (Sponsor)

- In **Comments**, give comments in comments box.
- To **Task Reopen**, can approve if everything is good or else reject to previous steps.
- Click **Approve**.

Promote (Sponsor)

- Click on IP Whitelist check box
- In **User Id,** provide user Id that is used to connect the server.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.

- For **Transfer Type**, to select binary or ASCII.

Move to Prod (Sponsor)

- From **Select workflow,** Template will be selected which we have already set up those in setup Template
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type** Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.
- Click **Finish.**

The status of the activity is green, which shows that the onboarding of partners is successfully completed.

Partner_Maintain_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Update Connectivity Details

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- In **confirm the partner,** select the producer to update the details.
- In **IP White Listing**, provide the IP of service ticket.
- **Environment selects** Nonproduction and production as required.
- Click **next.**
- Select **Host Update**, check box to update host details
- Select **Password Update**, check box to update password details.
- Select **PGP Update**, check box to update password details
- In **Host Name/IP Address**, enter the host name or IP address of the server.
- In **Port**, enter the port number.
- In **Username**, enter the username.
- In **Password**, enter the password.
- In **Pick-up Directory**, specify the path.

Update Connectivity details Production

- In **Host Name/IP Address**, enter the host name or IP address of the server.
- In **Port**, enter the port number.
- In **Username**, enter the username.
- In **Password**, enter the password.
- In **Pick-up Directory**, specify the path.
- Add **PGP Keys** and **KeyGrabber** for SFTP trading partners
- **Wait provisioning** - automated task that must run, refresh until it is pass/fail.
- **Wait for Testing**- automated process that will run. If the connectivity details are provided are valid then it will pass, if not it will reject to update connectivity details.
- **Promote-click** on start task, This step will close with successful response.

- **Wait Prod Provisioning-system** task that will run, click refresh until success or Failure.

The status of the activity is green, which indicates that the Partner Maintenance is successfully completed.

Hub_Maintain_V1

- Sign into PEM Portal as a Sponsor Administrator.
- Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
- For more information about rolling out the activity, see Rolling out an activity.
- You can view the activity that is rolled out for which the status is Not Started.
- From the Actions column, click **Start activity**. The Task Execution window opens.

Select Consumer

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In **Select the Partner,** select the required partner to update consumer details from drop-down**.**
- Select the environment**, Production or Non-production**
- Click on **Next**
- **Select the required operation as user account, PGP, SSH key update**
- **Click on next**

User Account Update Non-Production

- In password Update, give the password to update
- We will be able to see the PGP Information and Status
- **Wait for Provisioning-system** task that must run. Refresh until pass or fail.
- **Testing-obtain** customer connection details.
- **Wait for testing-system** task that must run, click refresh until pass or fail
- **Promote**
- In password Update, give the password to updated
- **Wait for Prod Provisioning (which is a system task)**
- **Prod Details**
    - Customer Prod Connection Details
- We will be able to see the PGP Information and Status

The status of the activity is green, which indicates that the Hub Maintenance is successfully completed.

FileType_Maintain_V1

Sign into PEM Portal as a Sponsor Administrator.

Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.

For more information about rolling out the activity, see Rolling out an activity.

You can view the activity that is rolled out for which the status is Not Started.

From the Actions column, click **Start activity**. The Task Execution window opens.

Select Customer (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact.
- In **Address Line,** Enter address in address line
- In **confirm the account,** select the partner to update the details.
- Select the application, select the application to update the details.
- In **Select the action to perform**, select Add, Update, Remove.
- Select the environment type as Nonproduction and Production.

Add/Modify/Remove/File type (Sponsor)

- In **Template,** Select the required template to update/ add the new file types.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type**, Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.

Test Provisioning and Wait for Provisioning Promote, this will be a system task

Prod Add/Modify/Remove/File type (Sponsor)

- In **Template,** Select the required template to update/ add the new file types.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type**, Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.

Prod Provision and Wait for Prod Provision. These two are system tasks.
It will be system task we need to click on system task until we get success or fail status from PP.

The status of the activity is green, which indicates that the Add Files Maintenance is successfully completed.

Partner_Expiry_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Note: The Hub and Partner Maintenance Context Data details has to be provided for rolling out under their respective sections.

Selection Operation (Sponsor)

- Select **Password Expiry,** if required to send alert information for password Expiry.
- Select **SSH Update,** if required to send alert information for SSH Expiry.
- Select **PGP Update**, if required to send alert information for PGP Expiry.
- Select **Certificate Expiry**, if required to send alert information for PGP Expiry.
- Click **Next**.
- **Environment**, select Nonproduction and production as required.

Verify and Rollout (Sponsor)

- In **Rollout Name,** give the valid rollout Name.
- In **Alert Start Date**, give the alert start date.
- In **Due Date**, give the due date.
- In **Alert Interval**, give the alert interval.
- Select the partners from the list and click finish.

Navigate to monitoring

- **Name** is present with Roll-out Name and Partner user Account.
- In Actions column, click on **view details** to **Start Activity** and proceed to maintenance flow.

Note: Partner expiry Activity:

- Partner connecting to hub passwords expiry age of the password is from IBM sterling B2B integrator database.
- The activity (onboarding Maintenance) does not set any Password policy by default. If you need to have a policy please customize this segment to add.
- Hub connecting to partner profile for the first time, password expiry campaign should be sent to trading partner to rest the password and the age of the passwords starts from the time password was reset by the trading partner

System_Notification_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Select customer group (Sponsor)

- Select the **partner group,** from drop-down for example SFTP Push, SFTP Pull, All, etc.
- Click **Next**.

Notification Message build (Sponsor)

- In **Notification message,** give the message for example “server Maintenance, you may see delay in processing.”
- Click **next**.
- In **Email list,** select the partners from notification list to send notification message.
- Click **Finish**.

The status of the activity is green, which indicates that the System Notification is successfully completed.

Contact_Verify_V1

Sign into PEM Portal as a Sponsor Administrator.

Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.

For more information about rolling out the activity, see Rolling out an activity.

You can view the activity that is rolled out for which the status is Not Started.

From the Actions column, click **Start activity**. The Task Execution window opens.

Select Partner (Sponsor)

- Select **Partner Name,** from the drop-down as required.
- **Environment**, select Nonproduction and production as required.
- Click **Next**

Partner Information (Partner)

- If **Any changes in contact information,** select **YES** to do any changes in contact information
- If **No,** do not change contact information.
- Click **Next**.

Partner Update Test

- In **Partner Name**, Confirm the trading partner name
- In **Partner Id**, Confirm the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line**, Enter address in address line

Partner Update Production

- In **Partner Name**, Confirm the trading partner name
- In **Partner Id**, Confirm the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line**, Enter address in address line
- Click **Next**.

Wait for provisioning, wait for testing promote and Prod Provisioning Wait, these are all system provisioning tasks. It will be system task we need to click on system task until we get success or fail status from PP.

The status of the activity is green, which indicates that the Contact_Verification is successfully completed.

Partner_Decomission_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Partner Details (Sponsor)

- Select **partners,** from partner dropdown to perform decommission.
- Select **Deactivate**, check box to deactivate partner (Make sure to verify partner before deactivating)
- Select **Delete**, check box to delete partner (Make sure to verify partner details and workflow before delete)
- Click **Next,**

Wait for Provisioning, wait for Testing promote wait for prod provisioning, these are all system tasks. It will be system task we need to click on system task until we get success or fail status from PP.

The status of the activity is green, which indicates that the Partner Decommission is successfully completed.

5. IBM PEM Standard: IBM Sterling File Gateway Activities

Onboarding / Maintenance	Activity Name	Description
Onboarding	Partner_SFG_Onboard_V1	The campaign rollout is created, and the client's information added. The ability to update the partners information is provided in the Partner information screen. The communication protocol is selected, and the connection set up created in both directions, in production and nonproduction. Helps in adding the routing channels for file types and MFT. Creates an entry in the code list. The test file is sent to ensure connectivity is working. Self-certification allows for the file to be tested and see the status of the file. Once all tests are successful the partner is moved to production.
Maintenance	Partner_SFG_Maintain_V1	Performs maintenance on the Partner Profiles/Connections, allows for changes to the partners details, such as remote host or remote port details, password, and certificates. This occurs for both production and non-production environments
Maintenance	Hub_SFG_Maintain_V1	Performs Maintenance on the Customer Profiles/Connection this is for the client’s environment. This allows the notification for all trading partners to update information easily, user account updates SSH and PGP key notifications.
Maintenance	FileType_SFG_Maintain_V1	Abilities to add/update add or update routing channels in Sterling File Gateway and custom code list in SI. This allows updates by adding new transactions remove a file type or update an existing file type.

Onboarding / Maintenance	Activity Name	Description
Maintenance	Partner_Expiry_V1	Bulk Roll out for Expiry cases (Password, Certificate, SSH/PGP Update) Helps in finding user account SSH PGP certificates that are going to expire and sends an automatic maintenance campaign to the trading partner
Maintenance	System_Notification_V1	Sends Bulk Email Notifications (Server/Adapter Maintenance) This a notification feature that sends information to a group of partners for all communication protocols. This also can be used for regular maintenance intervals that require customer notifications.
Maintenance	Contact_SFG_Verify_V1	Verify and Update the Partner Contacts. This allows the business to verify the clients email and contact information is accurate and allows for periodic updates.
Maintenance	Partner_SFG_Decomission_V1	Delete Partner Profiles that are no longer trading partners. Once you select a partner to be decommissioned the details are displayed and once confirmed the final removal occurs.

Partner_SFG_Onboard_V1

- Sign into PEM Portal as a Sponsor Administrator.
- Click Activities. In the Actions column, click Rollout. The Activity Rollout window opens.
- For more information about rolling out the activity, see Rolling out an activity.
- After rolling out the activity to the required trading partner, click Directory.
- For the partner to whom you have rolled out the activity, from the Actions column, click View to view the information.
- Sign out of PEM Portal as a Sponsor Administrator.
- Sign into PEM Portal as a Partner Administrator.
- You can view the activity that is rolled out for which the status is Not Started.
- From the Actions column, click Start activity. The Task Execution window opens.
- You can view the list of partner tasks that needs to be started. Start the following open tasks in the sequential order as follows:

Note: To view all tasks, select the **Show all Tasks** check box. Based on the values configured by the Sponsor Administrator, you can view tasks that are opened for completion and tasks that are skipped. For example, if the Sponsor Administrator enables PGP, the corresponding PGP screen with SFTP, FTPS, FTP with PGP tasks such as I/B PGP Test, O/B PGP Test are opened for completion. Otherwise, they are skipped.

Note: When deploying the IBM PEM STD for Sterling File Gateway, PETPE_Transferinfo tables must be updated to insert the file transfer information to enable the self-testing

Note: In case of AS2 protocol, the file routing from B2Bi to SFG has to be configured manually. As part of Activity, it creates the AS2 relationship mailboxes and SFG Routing Channel mailboxes. The link between these two has to be configured through a Routing Rule or custom process.

Partner Information (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- If follow Master and Sub Account strategy, Select **Yes** if not Select **No**
- Click **Next.**

Connection Setup (Partner)

- In the Status/Action column, click **Start task**. The Protocol and Direction Info wizard opens.
- In **Protocol**, Select the prefer protocol from the drop-down
- In **Direction,** Select the kind of direction whether it should be Inbound or Outbound or else Both
- In **Transfer Type**, Select the transfer type as MFT or B2B or else both
- For **Environment**, select Non-production and production as required.
- **Connection setup (Outbound to customer),**
- Pull-Customer will connect to Trading Partner and Pull the file.
- **Connection setup (Inbound from Customer)**
- Push-Customer will connect to Trading Partner and drop the file.

Note: from Trading Partner Perspective.

Partner Protocol Info Test (Partner)

- In Preferred Authentication Type, select **PASSWORD**, if necessary. By default, PASSWORD is selected.
- In **SSH Keys**, select the SSH key.
- Click **Next.**
- In **Remote Host Name/IP Address**, enter the host name or IP address of the server.
- In **Remote Port**, enter the port number.
- In **Remote Username**, enter the username.

- In **SSH Password**, enter the password.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.
- In **No of Retries**, enter the maximum number of retries that can be attempted after repeated send failures.
- In **Retry Interval (minutes)**, enter the time interval, in minutes after which the messages are re-queued and an attempt is made to resend them, after a send failure.
- Click **Finish**.

Partner Protocol Info Production (Partner)

- In Preferred Authentication Type, select **PASSWORD**, if necessary. By default, PASSWORD is selected.
- In **SSH Keys**, select the SSH key.
- Click **Next.**
- In **Remote Host Name/IP Address**, enter the host name or IP address of the server.
- In **Remote Port**, enter the port number.
- In **Remote Username**, enter the username.
- In **SSH Password**, enter the password.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.
- In **No of Retries**, enter the maximum number of retries that can be attempted after repeated send failures.
- In **Retry Interval (minutes)**, enter the time interval, in minutes after which the messages are re-queued and an attempt is made to resend them, after a send failure.
- Click **Finish**.

KeyGrabber,PGP,IP Whitelist (Sponsor)

- In status/ Actions column, click **Start task**. The KeyGrabber,PGP,IP Whitelist window opens.
- Click on IPWhitelist check box
- In KeyGrabber,PGP,IP Whitelist Enter the User Account Name
- Select the preferred Adapter
- Enter the Application in this instance in SFG it is the App_SFGFTP
- Select Next
- Click on the Known host Key (The Known host Key will be enabled in case of invalid connectivity details)
- In the Available files window select the hostkey_nobase
- Select OK
- Select Next
- Select Yes to confirm
- **Select RCTs (Sponsor)**

Envelop Details

- We will be able to see B2B add-on page in case of transfer type as B2B
- We will download the templates and fill the envelop details and upload it back.

Select RCTs:

Inbound Flow1 (Inbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Outbound flow1(Outbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Note: The code list has the Sender Code as Partner Name, Receiver Code as Transaction Set ID, Description as SFG Template Name, Text1 as Flow Type, Text2 as Application, Text3 as Map Name, Text4 as Sender ID, Text5 as Receiver ID, Text 6 as Archive Format and Text7 as Archive Location.

Wait for Provisioning- Partner, connectivity Test and Wait for Testing this is a system task.

Promote (Sponsor)

- In connectivity test, Connectivity test status to production verified.
- Select the check box, Connectivity Test is **successful** and **Failed.**
- Click on IPWhitelist check box

Envelop Details

- We will be able to see B2B add-on page in case of transfer type as B2B
- We will download the templates and fill the envelop details and upload it back.

Inbound Flow1 (Inbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Outbound flow1 (Outbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.
- Click **Finish.**

  Prod Provision and Wait Provision, these are system tasks.

The status of the activity is green, which indicates that the onboarding of partners is successfully completed.

Partner_Onboarding for Partner initiated connection.

Partner Information (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- If follow Master and Sub Account strategy, Select **Yes** if not Select **No**
- Click **Next.**

Connection Setup (Partner)

- In the Status/Action column, click **Start task**. The Protocol and Direction Info wizard opens.
- In **Protocol**, Select the prefer protocol from the drop-down
- In **Direction,** Select the kind of direction whether it should be Inbound or Outbound or else Both
- In **Transfer Type**, Select the transfer type as MFT or B2B or else both
- For **Environment**, select Nonproduction and production as required.
- In **Notifications**, Provide Email for both Success and Fail case.
- **Connection setup (Outbound to customer),**
- Push-Customer will connect to Trading Partner and Pull the file.
- **Connection setup (Inbound from Customer)**
- Pull-Customer will connect to Trading Partner and drop the file.
- **Note**: From Trading Partner perspective.

Partner Protocol Info Test and Production (Partner)

- In Preferred Authentication Type, select **PASSWORD and Public key**
- In **Public Keys**, upload the authorized key.
- Click **Next.**

User Account Set up Test (Sponsor)

- In **User Id,** provide user Id that is used to connect the server.
- In **In Directory**, specify the path.
- In **Out Directory**, specify the path.
- For **Transfer Type**, to select binary or ASCII.

KeyGrabber,PGP,IP Whitelist (Sponsor)

- In status/ Actions column, click **Start task**. The KeyGrabber,PGP,IP Whitelist window opens.
- Click on IPWhitelist check box
- In KeyGrabber,PGP,IP Whitelist Enter the User Account Name
- Select the preferred Adapter
- Enter the Application in this instance in SFG it is the App_SFGFTP
- Select Next
- Click on the Known host Key (The Known host Key will be enabled in case of invalid connectivity details)
- In the Available files window select the hostkey_nobase
- Select OK
- Select Next
- Select Yes to confirm

Envelop Details

- We will be able to see B2B add-on page in case of transfer type as B2B
- We will download the templates and fill the envelop details and upload it back.

Select RCTs (Sponsor)

Inbound Flow1 (Inbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Outbound flow1 (Outbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.

- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Wait Provisioning-Hub, this is a system Task.

Production Connectivity test ()

- Customer connection details are being shown in this screen.
- Password to connect the server details is sent to Email provided.
- Click Next.
- Connectivity test, Connection with customer establishment successful test.
- Click Next.

Prod Connectivity Approval

- Mentioned in the comments and approve the Partner Connectivity Details.

Connectivity Test and Wait for Testing these are system tasks.

Promote (Sponsor)

- Click on IPWhitelist check box

Envelop Details

- We will be able to see B2B add-on page in case of transfer type as B2B
- We will download the templates and fill the envelop details and upload it back.

Inbound Flow1 (Inbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.

Outbound flow1 (Outbound Flow will be enabled in case the transfer type is B2B)

- **Select Template,** select the template from the from down**.**
- **Select flow Type,** select the type of flow MFT and Doc handling.
- In **Transaction**, provide the transaction to identify the transaction type.
- In **Sender Id**, provide sender Id.
- In **Receiver Id,** Provide receiver Id.
- In **Map Name**, give map Name.
- In **Archive Format,** give the proper archive format.
- In **Archive Location**, give the proper location.
- Click **Finish.**

Prod Provision and Wait Provisioning these are System Tasks

Production Connectivity Check

- Customer production connection details are being shown in this screen.
- Password to connect the server details is sent to Email provided.
- Click Next.
- Connectivity test, Connection with customer establishment successful test.

- Click Next.

The status of the activity is green, which indicates that the onboarding of partners is successfully completed

Partner_SFG_Maintain_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Update Connectivity Details

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line,** Enter address in address line
- In **confirm the partner,** select the producer to update the details.
- In **IP White Listing**, provide the IP of service ticket.
- **Environment**, select Nonproduction and production as required.
- Click **next.**
- Select **Host Update**, check box to update host details
- Select **Password Update**, check box to update password details.
- Select **PGP Update**, check box to update password details
- In **Host Name/IP Address**, enter the host name or IP address of the server.
- In **Port**, enter the port number.
- In **Username**, enter the username.
- In **Password**, enter the password.
- In **Pick-up Directory**, specify the path.

Update Connectivity details Production

- Select **Host Update**, check box to update host details
- Select **Password update**, check box to update password details.
- In **Host Name/IP Address**, enter the host name or IP address of the server.
- In **Port**, enter the port number.
- In **Username**, enter the username.
- In **Password**, enter the password.

- In **Pick-up Directory**, specify the path.
  Add PGP Keys and KeyGrabber for SFTP trading partners
- Wait provisioning - automated task that must run, refresh until it is pass/fail.
- Wait for Testing- automated process that will run. If the connectivity details are provided are valid then it will pass, if not it will reject to update connectivity details.
- Promote-click on start task, This step will close with successful response.
- Wait Prod Provisioning-system task that will run, click refresh until success or Failure.

○

The status of the activity is green, which indicates that the Partner Maintenance is successfully completed.

Hub_SFG_Maintain_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Select Consumer

- In the Status/Action column, click Start task. The Partner Information window opens.
- In Select the Partner, select the required partner to update consumer details from drop-down.

User Account Update Test

- In **password Update**, give the password to update
- In **PGP, SSH information**, give the PGP key, SSH Key Expiry information.
- In **Connection details,** it will have the hub details to confirm.
- Click next.
- In next page, PGP and SSH key provided details are confirmed.
- Click on finish

User Account Update Production

- In **password Update**, give the password to update
- In **PGP, SSH information**, give the PGP key, SSH Key Expiry information.
- In **Connection details,** it will have the hub details to confirm.
- Click next.
- In next page, PGP and SSH key provided details are confirmed.
- Click on finish

The status of the activity is green, which indicates that the Hub Maintenance is successfully completed.

FileType_SFG_Maintain_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Select Customer (Sponsor)

- In the Status/Action column, click **Start task**. The Partner Information window opens.
- In, Rollout partner details are displayed.
- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact.
- In **Address Line,** Enter address in address line
- In **confirm the partner,** select the partner to update the details.
- In **Select the action to perform**, select Add, Update, Remove.
- Select the environment as non Production and Production.

Add/Modify/Remove/File type (Sponsor)

- In **Template,** Select the required template to update/ add the new file types.
- Select **Update,** check box to update the Template for the Partner.
- Select **Remove**, check box to delete the Template for the Partner.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type**, Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.

Test Provision Wait for Provisioning this is a system task.
Click on Promote Start Task
Prod/Add/Modify/Remove/File type (Sponsor)

- In **Template,** Select the required template to update/ add the new file types.
- Select **Update,** check box to update the Template for the Partner.
- Select **Remove**, check box to delete the Template for the Partner.
- In **select Filetype,** select the type of file, whether it is Inbound or outbound.
- **Doc Type**, Select the required doc type.
- In **File Name**, Provide the appropriate file name
- For **Select rules,** modify the values if needed and select the required rules.

Prod Provision Wait for Prod Provisioning, these are the system tasks.
Activity is green, which indicates that the Add Files Maintenance is successfully completed

Partner_Expiry_V1

- Sign into PEM Portal as a Sponsor Administrator.
- Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
- For more information about rolling out the activity, see Rolling out an activity.
- You can view the activity that is rolled out for which the status is Not Started.
- From the Actions column, click **Start activity**. The Task Execution window opens.

Selection Operation (Sponsor)

- Select **Password Expiry,** if required to send alert information for password Expiry.
- Select **SSH Expiry,** if required to send alert information for SSH Expiry.
- Select **PGP Expiry**, if required to send alert information for PGP Expiry.
- Select **Certificate Expiry**, if required to send alert information for PGP Expiry.
- Click **Next**.
- **Environment selects** Nonproduction and production as required.

Verify and Rollout (Sponsor)

- In **Rollout Name,** give the valid rollout Name.
- In **Alert Start Date**, give the alert start date.
- In **Due Date**, give the due date.
- In **Alert Interval**, give the alert interval.
- Select the partners from the list and click finish.

Navigate to monitoring

- **Name** is appeared with Roll-out Name along with Partner user Account.
- In Actions column, click on **view details** to **Start Activity** and proceed to maintenance flow.

Note: Partner expiry Activity:

Partner connecting to hub passwords expiry age of the password is from IBM sterling B2B integrator database.
Hub connecting to partner profile for the first time, password expiry camping should be sent to trading partner to rest the password and the age of the passwords starts from the time password was reset by the trading partner

System_Notification_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.

From the Actions column, click **Start activity**. The Task Execution window opens.

Select customer group (Sponsor)

- Select the **partner group,** from drop-down for example SFTP Push, SFTP Pull, All, etc.
- Click **Next**.

Notification Message build (Sponsor)

- In **Notification message,** give the message for example “server Maintenance, you may see delay in processing.”
- Click **next**.
- In **Email list,** select the partners from notification list to send notification message.
- Click **Finish**.

The status of the activity is green, which indicates that the System Notification is successfully completed.

Contact_SFG_Verify_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Select Partner (Sponsor)

- Select **Partner Name,** from the drop-down as required.
- **Environment selects** Nonproduction and production as required.
- Click **Next**

Partner Information (Partner)

- If **Any changes in contact information,** select **YES** to do any changes in contact information
- If **No,** do not change contact information.
- Click **Next**.

Partner Update Test

- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line**, Enter address in address line

Partner Update Production

- In **Partner Name**, Provide the trading partner name
- In **Partner Id**, Provide the trading partner Id to identify the partner.
- In **Email**, Provide the email ID of the trading partner contact for the reference
- In **Phone**, Provide the Phone number of the Trading Partner Contact
- In **Address Line**, Enter address in address line
- Click **Next**.

Partner Approval (Sponsor)

- In **Comments**, give comments in comments box.
- To **Task Reopen**, can approve if everything is good or else reject to previous steps.
- Click **Approve**.

Wait for provisioning, wait for testing promote and Prod Provisioning Wait, these are all system provisioning tasks. It will be system task we need to click on system task until we get success or fail status from PP.

The status of the activity is green, which indicates that the Contact_Verification is successfully completed.

Partner_SFG_Decomission_V1

Sign into PEM Portal as a Sponsor Administrator.
Click **Activities**. In the Actions column, click **Rollout**. The Activity Rollout window opens.
For more information about rolling out the activity, see Rolling out an activity.
You can view the activity that is rolled out for which the status is Not Started.
From the Actions column, click **Start activity**. The Task Execution window opens.

Partner Details (Sponsor)

- Select **partners,** from partner dropdown to perform decommission.
- Select **Delete**, check box to delete partner (Make sure to verify partner details and workflow before delete)
- Click **Next,**

Wait for Provisioning, wait for Testing promote wait for prod provisioning, these are all system tasks. It will be system task we need to click on system task until we get success or fail status from PP.

The status of the activity is green, which indicates that the Partner Decommission is successfully completed.

6. IBM PEM Community Manager workflow template creation

IBM PEM community manager workflow provides the ability to create the file process workflows for either MFT or Doc Handling (EDI, Flat files, XML, etc.).
When a trading partner is created with the name with Template_, and workflows are created. These workflows are available in IBM PEM by default that can be applied for trading partners.

Setting up Templates

- Log in to IBM PEM Community manager.
- Navigate to Partner-> Create Partner and fill in the required details (Make sure the Partner name/Id is prefixed with Template_). Any partner that is created with the name Template_ are used for creating base workflow Templates that can be leveraged by other trading partners
- Navigate to Application-> Create Application and fill in the required details (Make sure the Partner name/Id is prefixed with Template_). Any Application that is created with the name Template_ are used for creating base workflow Templates that can be leveraged by other trading partners
- Navigate to Data Flows-> Build Data Flow
- Select the Template_(partner) and the Template_(Application)
- Select Setup Workflows
- You can configure Inbound File Handling / Outbound File Handling tabs to configure the required Data Flows
- You have the option to create
- MFT: When file routing is handled through regular expression
- Doc Handling: when file routing is handled though typing service, reading the content of the file
- Click Add Flow
- For MFT provide a regular expression
- For Doc Handling provide the Doc Type, Transaction, Sender ID, and Receiver ID
- Click rules to set up the Data Flow steps, based the requirements you can select the processing rules to process the files

    - Example:
        - Add SourceFileArchive to archive the rule and provide the name of the SourceFileArchive in the dashboard search
        - Add Translation to use the IBM Sterling Integrator map to translate the file
        - Add Drop Process to send the file to the destination location based on the protocol
        - Add additional inbound and outbound flows as required
        - Once the completed click on Save Workflow

Note: Ensure the Template_ Partner names, Application Names, are consistent between the non-production and production environments.

CM business rules

Below is the list of pre-installed business rules in community manager.

CM Rules in Package	Rule Definition
Append_CRLF	Adds linefeed at end of each line.
CHAR_REPLACE	Replaces a character with some other character specified in the BP.
Compression	
DeEnvelope	Validates the envelopes for inbound EDI files.
DeferredEnvelope	Envelopes the files in batches at particular intervals.
DestFileArchive	archives destination file (Output file).
DocPriority	Sets document priority.
DocumentationExtraction	Splits batched files
DocumentationExtraction_MQ	Splits MQ files and sends to MQ.
Drop Process	Drops the output file in a designated location.
EdifactEnvelope	Adds envelopes and sends to partner.
Edifact_Deenvelope	Validates the envelopes for inbound EDIFACT files.
EmailDocSend	Sends an email with the document attached
Email Notification	Sends email alerts to designated parties
Encode	Converts a file from one-character encoding to another.
EncodeSJIS	Provides information about the primary document such as document ID, document name, etc.
Encrypt	Runs Java code and eliminates the need to create a custom service

Envelope	Adds envelopes to the translated files (EDI)
FileRename	Renames the file based on a name set up in PCM
File_Archive	Archives files in file system location
GregRules	
Http_Send	Sends the files to Trading Partner's HTTP server.
ITXADeEnvelope	Validates the inbound envelopes and translates the EDI file.
IXTADeenvAndTranslate	Validates the inbound envelopes.
ITXADeferredEnvelope	Envelopes the files In batches at particular intervals.
ITXAEnvelopeCreate	Creates the envelopes using ITX map.
ITXAImmediateEnvelope	Adds envelopes immediately after translation.
ITXATranslate	Translates the file using ITX map
InboundEDISplit	Splits EDI files
Lock Service	Checks the lock and applies the lock on the process/mailbox/filesystem
MultiSAPALEDelivery	Delivers the idocs to SAP
PGPDecrypt	Decrypts the files
ReleaseObjects	Releases the specified values
RemoveCRLF	Converts unstreamed file to streamed file by removing line feed at end of each line
S3Rule	
SAPALEDelivery	Receives files from sap
SAPInboundDOC	
SAPOutboundALE	Uses the commandline adapter2 and collects information from the document.
SAPOutboundDoc	Splits every document and envelopes.

SAPTranslation_Envelope_mode	Translates an EDI file and add envelopes. This process also sends status codes to sap for outbound idocs
SAPIinbDelivery	Delivers the idoc status to SAP
SourceFileArchive	Archives the input file
Transaction_flow	Used to add the direction(inbound/outbound) to process data.
TranslationWithUOM	Translation with encoding UOM
Translation	Used to translate the files
Translation_ACKTieBack	Translates and sends status to sap, adds envelopes.
Unlock Service	Used for unlocking a business process
Wait Service	Allows the system to wait for a period of time before it moves on to next step in the process.
testrule	Creates a rule with a test name to check if it works as expected. This rule can be renamed once successful.

API

Following are the API that is available in IBM PEM Community Manager, Refer to the swagger UI to see updated list of API.

ex: http://hostname:port/swagger-ui.html

Note: to enable Base Authentication the username and password provided in YML must be used for accessing swagger.

Name = Prod_Swagger

Protocol = http

Host = hostname

Port = Ports

Ensure that Preemptive authentication is selected, enter the YML username and password

Select verify host and then proceed.

Following are some of the one comely used API packaged, check the swagger to review additional API's

	APIs Name	API Descriptions
1.	/pem/b2b/si/get-ca-cert-id/by-name	API to get CA Cert List
	/pem/b2b/si/get-cd-nodes	API to get CD Nodes
	/pem/b2b/si/get-expiry-cert-list	API to get Expiry Cert List
	/pem/b2b/si/get-rct-by-facts/by-value	This is used to Search RCT using provisional facts
	/pem/b2b/si/get-sfg-profiles/by-name	This is used to Search Remote FTP/FTPS/SFTP Profiles
	/pem/b2b/si/get-ssh-khost-key/by-name	API to get Ssh K Host Key List
	/pem/b2b/si/get-ssh-user-key/by-name	API to get Ssh User Key
	/pem/b2b/si/get-system-cert-id/by-name	API to get System Cert Id
	/pem/b2b/si/get-trusted-cert-id/by-name	API to get Trusted Cert Id
	/pem/b2b/si/get-user-accounts	API to Get B2B User Accounts
	/pem/b2b/si/pem/b2b/si/get-sfg-sftp-profiles/by-name	API to reset Users
2.	/pcm/sql-service/create	API to perform SQL Insert Operation
	/pcm/sql-service/delete	API to perform Delete Db Object
	/pcm/sql-service/search	API to perform SQL Select Operation
	/pcm/sql-service/update	API to perform SQL Update Operation
3.	/pem/sql-service/config	API to Create Db Object
	/pem/sql-service/config	API to Update Db Object
	/pem/sql-service/config/{seqId}	API to Get Db Object
	/pem/sql-service/config/{seqId}	API to Delete Db Object
	/pem/sql-service/config/search	API to perform Search Db Objects
4.	/pem/utility/convert-base64-string-apache	API used to convert string to base 64 (Apache)
	/pem/utility/convert-base64-string-java	API to convert string to base 64 (Java)
	/pem/utility/file-drop	API to Drop the file in SI
	/pem/utility/find-index-value	API to Find Index Value in each string

	APIs Name	API Descriptions
	/pem/utility/find-null	API to Find Null Object from Array
	/pem/utility/generate-password	API to Generate Password
	/pem/utility/get-current-date	API to Get Current Date
	/pem/utility/get-expiry-users	API to Get Expiry Users
	/pem/utility/get-expiry-users-by-updated-time	API to Get Expiry Users by Updated Time
	/pem/utility/get-first-value	API to Get First Value
	/pem/utility/get-sub-string	API Get Sub String from a given string
	/pem/utility/list-to-String	API to convert List To String
	/pem/utility/partner/delete-codes	API to Delete on partner Codes
	/pem/utility/partner/getcode/{partnerName}	API to Search By partner Name
	/pem/utility/partner/save-codes	API to Save the partner Codes
	/pem/utility/remote-server/script-run	API to Run the Remote location script file
	/pem/utility/si/template-names	API to Fetch the Template Names
	/pem/utility/string-remove-special-characters	API to removes string special characters.
	/pem/utility/string-replacer	API to replace the string
	/pem/utility/string-to-list	API converts String To List
5.	/pem/ws/roll-out	API to roll out the pem WS partners
6.	/pem/application/{applicationName}	API to Delete the Application Profile
	/pem/application/getnameslist	API to Get Application Names List(Template)
	/pem/application/status	API to Update Application Profile status
	/pem/code-list-profile	API to Create Code List
	/pem/code-list-profile	API to Create Code List
	/pem/code-list/{pkId}	API to Get Code List
	/pem/code-list/{pkId}	API to Delete Code list Profile
	/pem/dataStorageForPem	API to Data Storage For Pem
	/pem/generate-unique-key	API to Generate Unique Key
	/pem/import-as-string	API to Import workflow as a string
	/pem/mathematicalCalculator	API to Get calculator
	/pem/partner/{partnerName}	API to Delete Partner Profile
	/pem/partner/getnameslist	API to Get Partners Names List (Template)

	APIs Name	API Descriptions
	/pem/partner/search	API to Get Partner Profile Search (Template)
	/pem/partner/search-code-list	API to Get Pem Code list Profiles
	/pem/partner/status	API to Update Partner Profile status
	/pem/pem-adapter-names	API to Get PEM Adapter Names
	/pem/pooling/{pInterval}	API to Get Pooling Intervals
	/pem/profiles/search-all-contacts	API to Get Partner Contact Details
	/pem/profiles/search-remote-profiles-by-auth-hub	API to Get All Profiles Based on Is Hub Info and Profile Auth Type
	/pem/reports/search-by-pattern	API to Get File Types with status
	/pem/routing-channels/{templateName}	API to Get Code List
	/pem/routing-rules	API to Update Routing Rule
	/pem/send-email	API to send an email
	/pem/string-concatenation	API to String Concatenation in each string
	/pem/string-length	API to get the given string length
	/pem/string-lower-upper	API to convert any string to the lower-case string API to convert any string to the upper-case string
	/pem/workflow/add-fileTypes	API to add file type to WorkFlow
	/pem/workflow/create	API to Create the WorkFlow
	/pem/workflow/edit-flows	Get Workflow (Profiles + Flows + Rules) along with updated Flows
	/pem/workflow/edit-flows2	API to store trans value and return the available rule
	/pem/workflow/export-enc	API to Export only WorkFlow
	/pem/workflow/export-with-profile	API to Export WorkFlow with Profile
	/pem/workflow/flows-list	API to Get Template Flow Types
	/pem/workflow/import-with-profile	API to Import WorkFlow with Profile
	/pem/workflow/remove-fileTypes	API to Remove File Type
	/pem/workflow/update-file-types	API to Update WorkFlow(FileTypes)
7.	/pcm/partner/as2	API to Save AS2 Trading Partner
	/pcm/partner/as2	API to Update AS2 Trading Partner
	/pcm/partner/as2/{pkId}	API to Get AS2 Trading Partner

	APIs Name	API Descriptions
	/pcm/partner/as2/{pkId}	API to Delete AS2 Trading Partner
	/pcm/partner/as2/org-profile/mapping	AS2 Org Profile And Partner Profile Mapping
8.	/pcm/partner/aws-s3	API to Create AWS S3 Partner Profile
	/pcm/partner/aws-s3	API to Update AWS S3 Partner Profile
	/pcm/partner/aws-s3/{pkId}	API to Get AWS S3 Partner Profile
	/pcm/partner/aws-s3/{pkId}	API to Delete AWS S3 Partner Profile
9.	/pcm/partner/connectdirect	API to Create ConnectDirect Profile
	/pcm/partner/connectdirect	API to Update ConnectDirect Profile
	/pcm/partner/connectdirect/{pkId}	API to Get ConnectDirect Profile
	/pcm/partner/connectdirect/{pkId}	API to Delete ConnectDirect Profile
10.	/pcm/partner/ec	API to Create EC Partner Profile
	/pcm/partner/ec	API to Update EC Partner Profile
	/pcm/partner/ec/{pkId}	API to Get EC Partner Profile
	/pcm/partner/ec/{pkId}	API to Delete EC Partner Profile
11.	/pcm/partner/filesystem	API to Create FileSystem Profile
	/pcm/partner/filesystem	API to Update FileSystem Profile
	/pcm/partner/filesystem/{pkId}	API to Get FileSystem Profile
	/pcm/partner/filesystem/{pkId}	API to Delete FileSystem Profile
12.	/pcm/partner/ftp	API to Create Ftp/Ftps/Sftp Profile
	/pcm/partner/ftp	API to Update Ftp/Ftps/Sftp Profile
	/pcm/partner/ftp/{pkId}	API to Get Ftp/Ftps/Sftp Profile
	/pcm/partner/ftp/{pkId}	API to Delete Ftp/Ftps/Sftp Profile
13.	/pcm/partner/http	API to Create Http/Https Partner Profile
	/pcm/partner/http	API to Update Http/Https Partner Profile

	APIs Name	API Descriptions
	/pcm/partner/http/{pkId}	API to Get Http/Https Partner Profile
	/pcm/partner/http/{pkId}	API to Delete Http/Https Partner Profile
14.	/pcm/partner/mq	API to Create MQ Profile
	/pcm/partner/mq	API to Update MQ Profile
	/pcm/partner/mq/{pkId}	API to Get MQ Profile
	/pcm/partner/mq/{pkId}	API to Delete MQ Profile
15.	/pcm/partner/mailbox	API to Create MailBox Profile
	/pcm/partner/mailbox	API to Update MailBox Profile
	/pcm/partner/mailbox/{pkId}	API to Get MailBox Profile
	/pcm/partner/mailbox/{pkId}	API to Delete MailBox Profile
16	/pem/proxy/partner	API to Create Proxy Ftp/Ftps/Sftp Partner Profile
17.	/pcm/partner/sap	API to Create SAP Profile
	/pcm/partner/sap	API to Update SAP Profile
	/pcm/partner/sap/{pkId}	API to Get SAP Profile
	/pcm/partner/sap/{pkId}	API to Delete SAP Profile
	/pcm/partner/remoteftp	API to Create SFGFTP/SFGFTPS/SFGSFTP Partner Profile
	/pcm/partner/remoteftp	API to Update SFGFTP/SFGFTPS/SFGSFTP Partner Profile
	/pcm/partner/remoteftp/{pkId}	API to Get SFGFTP/SFGFTPS/SFGSFTP Partner Profile
	/pcm/partner/remoteftp	API to Delete SFGFTP/SFGFTPS/SFGSFTP Partner Profile
18.	/pcm/partner/remote-connect-direct	API to Create ConnectDirect Profile
	/pcm/partner/remote-connect-direct	API to Update ConnectDirect Profile

	APIs Name	API Descriptions
	/pcm/partner/remote-connect-direct	API to Delete ConnectDirect Profile
	/pcm/partner/remote-connect-direct/{pkId}	API to Get ConnectDirect Profile
19.	/pcm/partner/webservice	API to Create WebService Profile
	/pcm/partner/webservice	API to Update WebService Profile
	/pcm/partner/webservice/{pkId}	API to Get WebService Profile
	/pcm/partner/webservice/{pkId}	API to Delete Http/Https Profile
20.	/pcm/partner/activity/{pkId}	API to Get Partner Activity History
21.	/pcm/partner/find-by-protocol	API to Get Partner Profiles by Protocol
22.	/pcm/partner/org-profile/partners-list	API to Get As2 Org Profiles List
	/pcm/partner/partner-profile/partners-list	API to Get As2 Partners Profiles List
	/pcm/partner/partners-by-protocol	API to Get Partner Profiles by Protocol
	/pcm/partner/partners-list	API to Get Partners List
	/pcm/partner/partners-map	API to Get Partners Map
	/pcm/partner/search	API to Get Partner Profiles
	/pcm/partner/status	API to Update Profile status
23.	/pcm/pooling-interval	API to Get Pooling Intervals
	/pcm/pooling-interval	API to Create/Update Pooling Intervals
	/pcm/pooling-interval/list	API to Get Pooling Intervals list
24.	/pcm/bulk-remote-profiles-active	API to bulk Remote Profiles Active
25.	/pcm/rule	API to Get Rules
	/pcm/rule	API to Create Rule
	/pcm/rule	API to Update Rule
	/pcm/rule/{ruleId}	API to Get Rule
	/pcm/rule/{ruleId}	API to Delete Rule
	/pcm/rule/ruleslist	API to Get Rules List
	/pcm/rule/search	API to Search Rule
26	/auth/token	API to generate Token

	APIs Name	API Descriptions
27.	/pcm/user	API to Create User
	/pcm/user	API to Update User
	/pcm/user/{userId}	API to Get User
	/pcm/user/{userId}	API to Delete User
	/pcm/user/change-password	API to Change Password
	/pcm/user/search	API to Search User
	/pcm/user/status	API to Update User status
28.	/pcm/workflow	API to Get workflow
	/pcm/workflow	API to Delete workflow
	/pcm/workflow/activity/{processRefId}	API to Get Workflow Activity History
	/pcm/workflow/create	API to Create workflow
	/pcm/workflow/export	API to Export workflow
	/pcm/workflow/export-all	API to Export workflow
	/pcm/workflow/export-with-profile	API to Export With Profile
	/pcm/workflow/import	API to Import Workflow
	/pcm/workflow/import-with-profile	API to Import With Profile
	/pcm/workflow/search	API to Search workflow
	/pcm/workflow/search-applied-rules	API to Search workflow rules
	/pcm/workflow/search-transactions	API to Search workflow transactions
29.	/activate/account	API to Activate account
	/pcm/general/forgot-password/{email}	API to Get User ID By Email
	/pcm/general/forgot/update-password	API to Update Password From Forgot
30.	/pcm/app/shutdown-context	API to We can use this API to Shutdown Context
31.	/swagger	API to Home
32.	/pcm/utility/active-profile	API to Get Active Profile
	/pcm/utility/adapter-names	API to Get Adapter Names
	/pcm/utility/auth-xref-ssh-list	API to Get Auth Xref Ssh List
	/pcm/utility/ca-cert-list	API to Get CA Cert Info List
	/pcm/utility/ca-cert-map	API to Get CA Cert Info Map

	APIs Name	API Descriptions
	/pcm/utility/cd/get-cipher-suites	API to Get Cipher Suites
	/pcm/utility/envelop-terminators-map-list	API to Get Terminators Map List
	/pcm/utility/get-logo	API to Get Logo Data
	/pcm/utility/get-ssh-user-key	API to Get Ssh User Key
	/pcm/utility/get-ssh-user-key-list	API to Get Ssh User Key List
	/pcm/utility/get-system-cert-id	API to Get System Cert Id
	/pcm/utility/get-trusted-cert-id	API to Get Trusted Cert Info Id
	/pcm/utility/is-b2b-active	API to Get B2b Status
	/pcm/utility/is-mft-duplicate	API to Get Is MFT Duplicate
	/pcm/utility/is-valid	API to Is Valid Resource
	/pcm/utility/protocols-list	API to Get Protocol List
	/pcm/utility/search-date-range	API to Get Transfer Info Date Range
	/pcm/utility/si-bp-list	API to Get Bp List
	/pcm/utility/si-map-list	API to Get Map List
	/pcm/utility/ssh-key-pair	API to Get Ssh Key Pair List
33.	/pcm/utility/ssh-khost-key-cert-list	API to Get Ssh K Host Key List
	/pcm/utility/system-cert-map	API to Get System Cert Map
	/pcm/utility/trusted-cert-list	API to Get Trusted Cert Info List
	/pcm/utility/trusted-cert-map	API to Get Trusted Cert Info Map
34.	/pcm/application/aws-s3	API to Create ASW-S3 Application Profile
	/pcm/application/aws-s3	API to Update ASW-S3 Application Profile
	/pcm/application/aws-s3/{pkId}	API to Get ASW-S3 Application Profile
	/pcm/application/aws-s3/{pkId}	API to Delete ASW-S3 Application Profile
35.	/pcm/application/remote-connect-direct	API to Create ConnectDirect Profile
	/pcm/application/remote-connect-direct	API to Update ConnectDirect Profile
	/pcm/application/remote-connect-direct	API to Delete ConnectDirect Profile
	/pcm/application/remote-connect-direct/{pkId}	API to Get ConnectDirect Profile

SQL Operations API

Introduction: The following API is available to integrate into existing custom table or framework leverage. Out of box activities can be modified to interact with the existing table.
SQL operations API is used to perform operations like Create, Update, Delete, Get on custom database tables.
We can find this API's in swagger under **"PEM SQL Operations Resource."**
We must configure the custom tables information like schema for API reference.
We can find the configure API's in swagger under **"PEM SQL Service Config Resource."**
How to Use:
First, we must configure the custom table schema for API reference to perform SQL operations.
For this we use the following API's.
PEM SQL Service Config Resource:
"POST --- /pem/sql-service/config" To create custom table schema for API reference
Example:
We have a custom table like:

Customer (Table Name)			
CUSTOMER_ID (1st column name)	CUSTOMER_NAME (2nd column name)	CUSTOMER_ADDRESS (3rd column name)	CUSTOMER_PHN (4th column name)

Sample JSON Input: {
"columnName1": " CUSTOMER_ID**",**

"columnName2": "CUSTOMER_NAME**",**
columnName3": " CUSTOMER_ADDRESS**",**
"columnName4": " CUSTOMER_PHN**",**
"distinctColumnName":" CUSTOMER_NAME**", (To perform distinct or Unique operations on CUSTOMER_NAME column)**
seqId": 1, (To match the table config for API reference)
tableName": "CUSTOMER",
"whereColumnName1": "any column name from the table", (To perform Filter operations)
"whereColumnName2": "any column name from the table",
"whereColumnName3": "any column name from the table"
}

"PUT --- **/pem/sql-service/config" To update added custom table schema in the configuration, anything altered/added in main custom table.**
Example:
We have a custom table modified like:

Customer (Table Name)				
CUSTOMER_ID (1st column name)	CUSTOMER_NAME (2nd column name)	CUSTOMER_ADD (3rd column name)	CUSTOMER_NUMBER (4th column name)	CUSTOMER_ZIP (5th column name)

Sample JSON Input: {

"columnName1": " CUSTOMER_ID**",**

"columnName2": "CUSTOMER_NAME**",**
"columnName3": "CUSTOMER_ADD",
"columnName4": "CUSTOMER_NUMBER",
"columnName5": "CUSTOMER_ZIP",
"distinctColumnName":" CUSTOMER_NAME**", (To perform distinct or Unique operations on CUSTOMER_NAME column)**
"seqId": 1, (To match the table config for API reference)
"tableName": "CUSTOMER",
"whereColumnName1": "any column name from the table", (To perform Filter operations)
"whereColumnName2": "any column name from the table",
"whereColumnName3": "any column name from the table"
}

"GET --- /pem/sql-service/config/{seqId}" To get the particular table configuration information.

Parameter

Pass query parameter SEQ ID to get the particular table info.

"DELETE --- /pem/sql-service/config/{seqId}" To Delete particular table configuration information.

Parameter

Pass query parameter SEQ ID to Delete the particular table info.

"GET --- /pem/sql-service/config/search" To Get all tables information, which is configured.

Simply click on Execute to fetch all records.

"POST --- /pem/sql-service/config/create-object-dataypes" To assign Datatypes to the columns in the configured Table.

Example:

We have a custom table like:

Customer (Table Name)				
CUSTOMER_ID Char (2) (datatype) (1st column name)	CUSTOMER_NAME VARCHAR2(50) (2nd column name)	CUSTOMER_ADD VARCHAR (100) (3rd column name)	CUSTOMER_NUMBER NUMBER (15) (4th column name)	CUSTOMER_ZIP (5th column name)

Sample JSON Input: {

"columnName1DataType": "CHAR**",**

"columnName2DataType": "VARCHAR2",
"columnName3DataType": "VARCHAR",
"columnName4DataType": "NUMBER",
"seqId": 1, (Should be same as table config seq Id to match)
"whereColumnName1": "Same as column name",
"whereColumnName2": "Same as column name",
"whereColumnName3": "Same as column name"
}

To perform SQL operations like **INSERT, UPDATE, GET, DELETE,** following are the API's to perform these operations.

PEM SQL Operations Resource:

"POST -- /pcm/sql-service/create" To insert a data into the configured custom table (Without checking Datatype).

Example:

Sample JSON Input: {
"columnValue1": "12",

"columnValue2": "Sample name",
"columnValue1": "Sample Address",
"columnValue1": "123456789",
"columnValue5": "500018",
"seqId": 1 (Should be same as table config seq Id to match)

}

Data Inserted table view like:

Customer (Table Name)				
CUSTOMER_ID Char (2) (datatype) (1st column name)	CUSTOMER_NAME VARCHAR2(50) (2nd column name)	CUSTOMER_ADD VARCHAR (100) (3rd column name)	CUSTOMER_NUMBER NUMBER (15) (4th column name)	CUSTOMER_ZIP (5th column name)
12	Sample name	Sample Address	123456789	500018

"POST --- /pcm/sql-service/create-datatype" To Insert Data according to the Datatype of the particular column into the configured custom table (Check for the datatype internally matches with seqid).

Example:

Sample JSON Input: {
"columnValue1": "12", (12 will be inserted as char)

"columnValue2": "Sample name", (Sample name inserted as varchar2)
"columnValue1": "Sample Address",
"columnValue1": "123456789",
"columnValue5": "500018",
"seqId": 1 (Should be same as table config seq Id to match)

}

Data Inserted table view like:

Customer (Table Name)				
CUSTOMER_ ID Char (2) (datatype) (1st column name)	CUSTOMER_NA ME VARCHAR2(50) (2nd column name)	CUSTOMER_ ADD VARCHAR (100) (3rd column name)	CUSTOMER_NU MBER NUMBER (15) (4th column name)	CUSTOMER _ZIP (5th column name)
12	Sample name	Sample Address	123456789	500018

"PUT --- /pcm/sql-service/update" To Update inserted data in the table.
Example:
Sample JSON Input: {
"columnValue1": "12**",**

"columnValue2": "Sample name updated",
"columnValue1": "Sample Address updated**",**
"columnValue1": "123456789",
"columnValue5": "500018",
"seqId": 1, (Should be same as table config seq Id to match)
"whereColumnValue1":"12"

}

Data Updated table view like:

Customer (Table Name)				
CUSTOMER_I D Char (2) (datatype) (1st column name)	CUSTOMER_NAME VARCHAR2(50) (2nd column name)	CUSTOMER_ADD VARCHAR (100) (3rd column name)	CUSTOM ER_NUM BER NUMBER (15) (4th column name)	CUSTOME R_ZIP (5th column name)
12	Sample name updated	Sample Address updated	123456 789	500018

"PUT --- /pcm/sql-service/update-dataType" To Update Data according to the Datatype of the particular column into the configured custom table (Check for the datatype internally matches with seqid).
Example:
Sample JSON Input: {
"columnValue1": "12**",**

"columnValue2": "Sample name Updated", (Sample name Updated as varchar2)
"columnValue1": "Sample Address Updated**", (Sample Address Updated as varchar)**
"columnValue1": "123456789",

“columnValue5”: “500018”,
"seqId": 1, (Should be same as table config seq Id to match)
“whereColumnValue1”:”12”

}

Data Updated table view like:

Customer (Table Name)				
CUSTOMER_ID Char (2) (datatype) (1st column name)	CUSTOMER_NAME VARCHAR2(50) (2nd column name)	CUSTOMER_ADD VARCHAR (100) (3rd column name)	CUSTOMER_NUMBER NUMBER (15) (4th column name)	CUSTOMER_ZIP (5th column name)
12	Sample name Updated	Sample Address Updated	123456789	500018

“DELETE -- /pcm/sql-service/delete" To Delete the data in the table configured.

Example:

Sample JSON Input:

{
"seqId": 1, (Should be same as table config seq Id to match)
“whereColumnValue1”:”12”
}

“POST --- /pcm/sql-service/search" To Fetch Data from the table configured.

Sample JSON Input - 1:

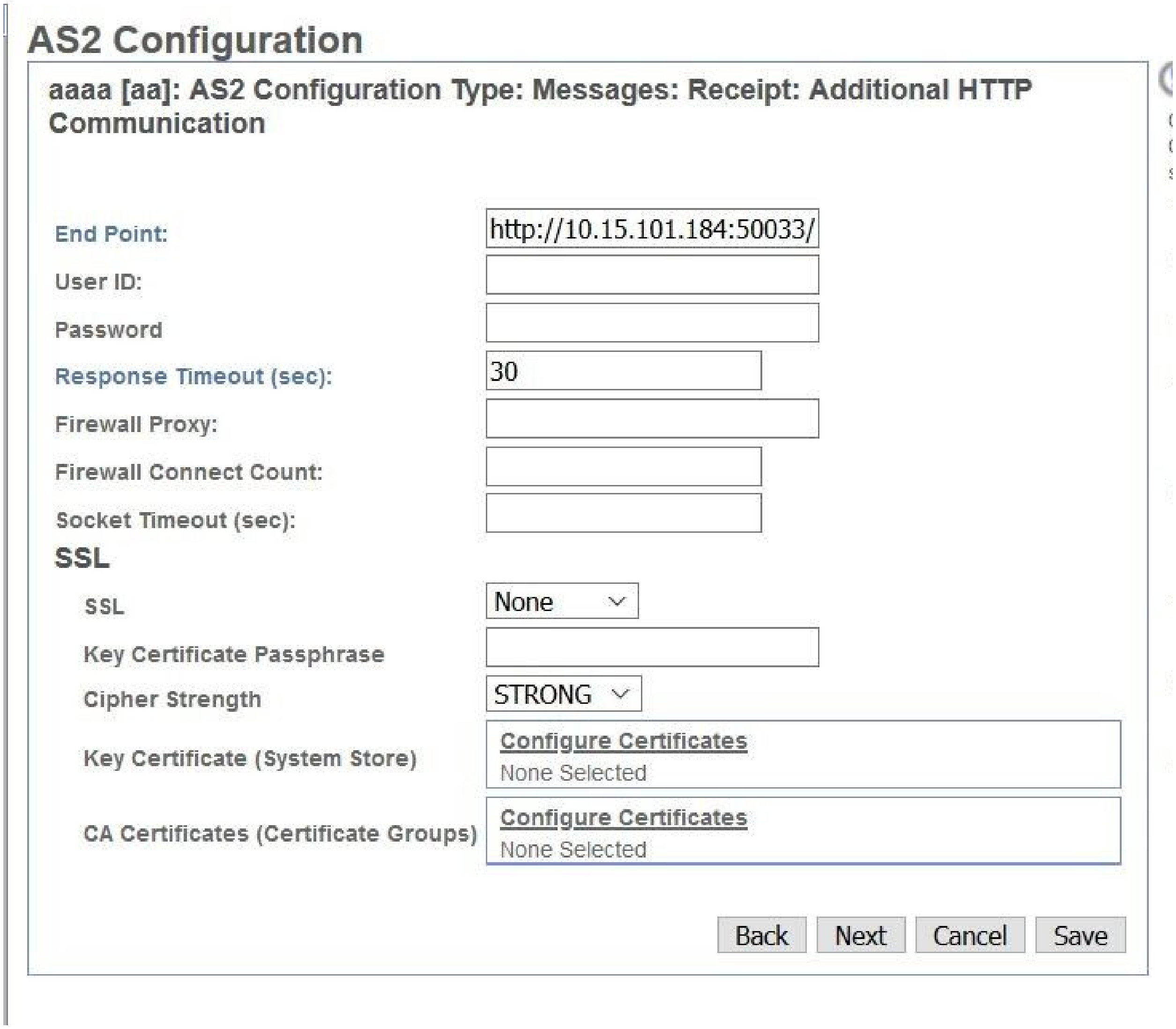
{
"seqId": 1, (Should be same as table config seq Id to match)
“whereColumnValue1”:”12”
}

Sample JSON Input - 2:

{
"seqId": 1, (Should be same as table config seq Id to match)
“whereColumnValue1”: “Sample name Updated”,
“like”: true
}

Troubleshooting and Known issues.

The Partner Protocol Info task-
Currently there is no option to provide Additional Server details
In comparison to AS2 Partner in B2B there is no option to provide Additional Server details as part of the Partner Protocol Info page when MDN is selected as True
The Additional Server Configuration is not supported in the current version.



Glossary

A

activity

A unit of work or a building block that completes a specific and discrete set of tasks. See also task.

API

See application programming interface. Application programming interface (API)
An interface that allows an application program that is written in a high-level language to use specific data or functions of the operating system or another program. See also REST API.

B

business partner

A company that has a partnership with a sponsor company. See also sponsor.

C

CA

See certificate authority.

CA certificate

See certificate authority certificate.

certificate

In computer security, a digital document that binds a public key to the identity of the certificate owner, thereby enabling the certificate owner to be authenticated. A certificate is issued by a certificate authority and is digitally signed by that authority. See also certificate authority.

Certificate authority (CA)

A trusted third-party organization or company that issues the digital certificates. The certificate authority typically verifies the identity of the individuals who are granted the unique certificate. See also certificate.

Certificate authority certificate (CA certificate)

A digital certificate that is issued by a certificate authority. The CA verifies trusted certificates for trusted roots.

O

onboarding

In Cloud/SaaS offerings, the process during which a user is set up to use the application or service.

P

private key

In computer security, the secret half of a cryptographic keypair that is used with a public key algorithm. The private key is known only to its owner. Private keys are typically used to digitally sign data and to decrypt data that has been encrypted with the corresponding public key. See also public key.

public key

The non-secret half of a cryptographic keypair that is used with a public key algorithm. The public key is made available to everyone. Public keys are typically used to verify digital signatures and to encrypt data that can be decrypted only with the corresponding private key. See also private key.

R

Registration
In Cloud/SaaS offerings, the process during which a user signs up for an account on an application or service.

REST API
An application programming interface that defines the architectural design principals used to create web services.

roll out
In Cloud/SaaS offerings, to release an activity to be completed by another user.

S

sponsor
In Cloud/SaaS offerings, a company that purchases a subscription to an application or service on behalf of another company. See also business partner.

T

task
A sub-division or portion of an activity. See also activity.

U

user role
An identifier that is assigned to a user that defines the set of permissions that are granted to that user.