

[Home](#)  
[Community](#)  
[Ask a Question](#)  
[Write a Blog Post](#)  
[Login / Sign-up](#)



Rana Brata De

May 21, 2013 22 minute read

# SAP PI for Beginners

151 362 639,985

## Objective

The objective of this tutorial is to make you understand – what is SAP Process Integration? We will not go into the nitty-gritty of the subject but we will discuss about the architecture and different features of SAP PI. We will cover the basic features only and will avoid discussing all features in this tutorial.

Next there are a set of case studies which will give you an idea about the industry level utilization of SAP PI. Once you get more acquainted with the subject, you should try to solve them. The test cases are prepared in a manner so that it will take you down into the subject from simple to more complexes with each lesson and will give you an overall idea of the subject.

## What is SAP ERP?

For any business – large or small, these are the standard business functionalities it must carry out i.e. Material Management, Sales and Distribution, Finance, Human Resources etc. There is much software in the market which is utilized by the industry. You will notice the simplest one – the teller machine generating sales invoice if you visit a small shop to a network of computers in a large retail store, hotel etc operating on an ERP.

Enterprise Resource Planning i.e. ERP is an effective approach that most businesses implement to enhance their productivity and performance. SAP ERP is SAP AG's Enterprise Resource Planning, an integrated software solution that incorporates the key business functions of the organization. The basic functionalities i.e. HR, MM, SD, FICO etc are called business modules in SAP. SAP builds them as products and sells them in the market. There are two more modules which do not support business functions directly but are utilized for presentation and integration. The former is called EP (Enterprise Portal) and the latter is called PI (Process Integration). All the business modules are developed in ABAP while EP and PI are developed mostly in Java. These modules are not executables but they need to be deployed in an Application Server i.e. ABAP Web Application Server for ABAP modules and Java Web Application Servers for Java modules.

There are few points we should know before we jump into the subject.

### **SAP stands for Systems, Applications, and Products in Data Processing.**

SAP AG is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. SAP ERP is the corporation's Enterprise Resource Planning, an integrated software solution that incorporates the key business functions of the organization.

SAP NetWeaver Process Integration (SAP PI) is SAP enterprise application integration (EAI) software, a component of the NetWeaver product group used to facilitate the exchange of information among a company's internal software and systems and those of external parties.

### **Legacy System**

While implementing the SAP ERP in a large business establishment, it is found that not all sections can be brought under the SAP ERP. Many of the business sections may have their own proprietary tools which are highly complex and may not be possible to be replaced. They run parallel to the SAP System. They are called the Legacy Systems. Then it becomes necessary to integrate between the SAP Systems and such pre-existing non-SAP System. This is where the SAP PI comes into play.

### **Why do we need SAP PI**

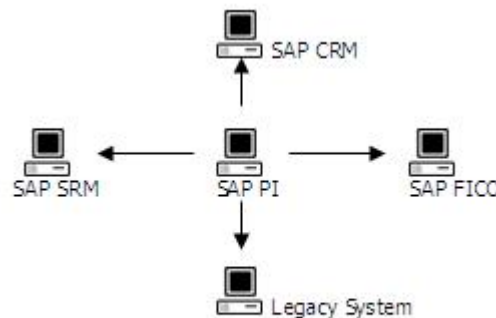


Fig 1 - Integration Landscape

Apart from Legacy Systems, in a large business establishment, SAP ERP does not consist of a single system but several integrated systems i.e. CRM, SRM and FICO etc. To handle with such complexities SAP introduced Process Integration a platform to provide a single point of integration for all systems without touching existing complex network of legacy systems. This is a powerful middleware by SAP to provide seamless end to end integration between SAP and non-SAP applications inside and outside the corporate boundary. SAP PI supports B2B as well as A2A exchanges, supports synchronous and asynchronous message exchange and includes built in engine for designing and executing Integration Processes.

### **Architecture of SAP PI**

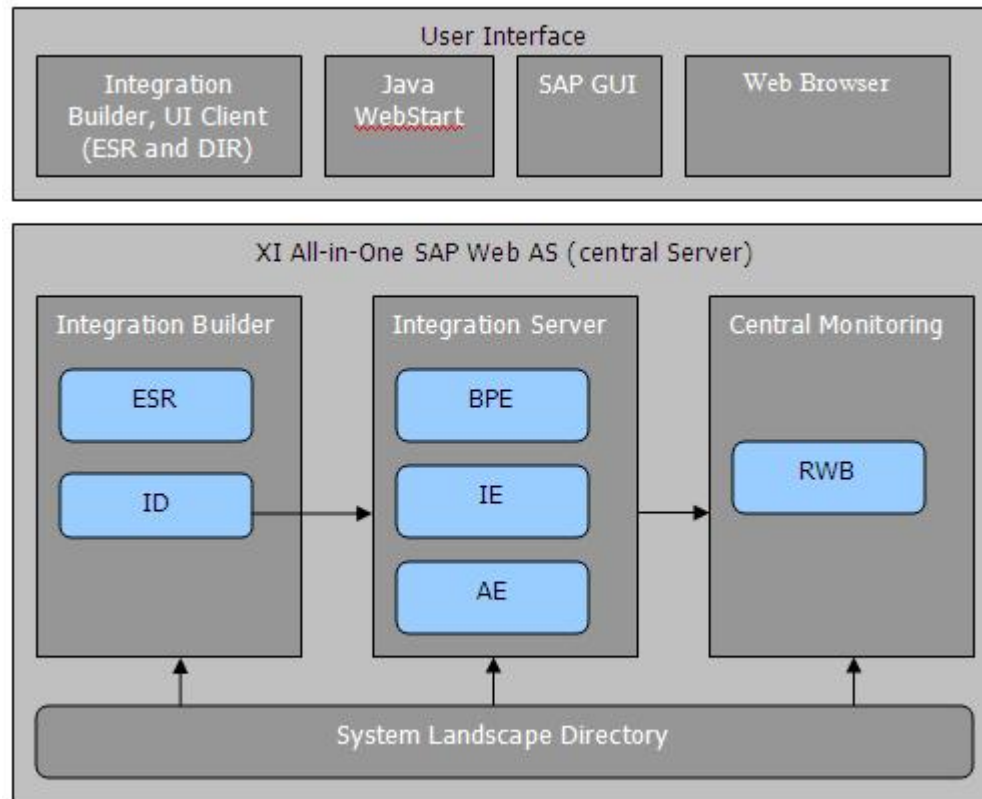


Fig 2 – For Dual-stack with Central Integration Server

The SAP PI consists of a hub and spoke structure; the spokes connect with external systems while the hub exchange messages between them. The source system is known as the sender system and the target system is known as the receiver system. The PI is not a single component, but rather a collection of components that work together flexibly to implement integration scenarios. The architecture includes components to be used at design time, at configuration time and at run time.

We can divide the SAP PI into several areas

Integration Server

Integration Builder

System Landscape

Configuration and Monitoring

Integration Server is the central processing engine of the SAP PI. All messages are processed here in a consistent way. It consists of three separate engines

Integration Engine

Adapter Engine

Business Process Engine

Integration engine can be considered to be the hub and the Adapter engine the spoke. Regarding the Business Process Engine, I will explain it later.

Integration Builder is a client-server framework for accessing and editing integration objects and it consists of two related tools:

Enterprise Service Repository – to design and develop objects to be used in scenarios

Integration Directory – to configure the ESR objects to develop scenarios

Two together, we built integration processes which are commonly called scenarios.

The System Landscape is a central repository of information about software and systems in data center and simplifies the administration of your system landscape.

In Configuration and Monitoring we can monitor the messages and adapters.

### Single stack and Dual stack

When PI was first released, not all components were built on the same platform. Integration Engine and Business Process Engine was built in ABAP while Adapter Engine, Integration Builder, SL, CM and Mapping Runtime were built in Java. So PI needs both the Java and the ABAP environment to run and is known as the dual stack.

ABAP Stack	Java Stack
<ul style="list-style-type: none"> <li>Integration Engine</li> <li>Business Process Engine</li> <li>Integration Builder</li> </ul>	<ul style="list-style-type: none"> <li>Enterprise Service Repository</li> <li>Integration Directory</li> <li>1. Runtime Workbench</li> <li>2. System Landscape Directory</li> <li>3. Adapter Engine</li> <li>4. Mapping Runtime</li> </ul>

But in the later version all the components are built in Java. Some of the dual-stack components are either dispensed off or modified to work on the Java stack. So PI needs only the Java environment to run and is known as the single stack.

There are pros and cons between the two stacks but they are not covered in this tutorial.

### Integration Engine

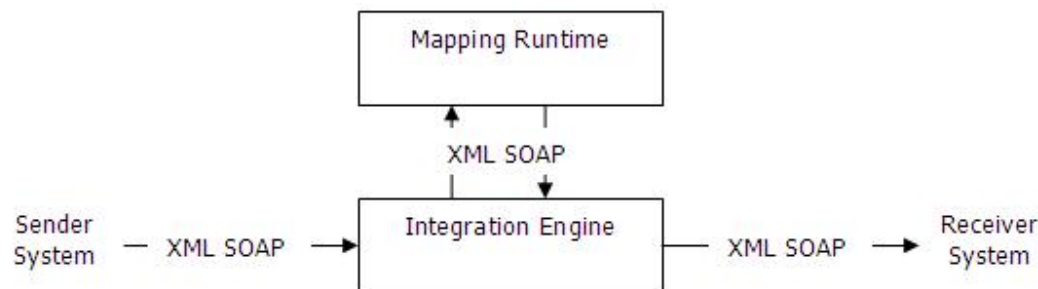


Fig 3 – Pipeline steps in an Integration Engine

The Integration Engine is responsible for central Integration Server services i.e. the pipe-line steps – routing and mapping. If the source message structure is different from the target message structure, then integration engine calls the Mapping Runtime, where source structure is converted to the target structure. The Mapping Runtime is based on the Java stack. The integration engine can also utilize an ABAP program for the conversion, which is based on the ABAP stack.

A message can be of two types

Synchronous – has both the request-response part

Asynchronous – has either the request or the response part only

In PI, message is represented by an interface.

Interface -> structure of the message in XML format + direction

Based on the above criteria, there are three types of interfaces

Outbound interface – connect to the sender system

Inbound interface – connect to the receiver system

Abstract interface – connect to the BPE

When we configure integration logic (scenario) in the SAP PI as per our business requirements, it is the integration engine which executes that configuration in a step-wise manner. Pipeline is the term used to refer to all steps that are performed during the processing of an XML message. The pipe-line steps consist of the following:

Receiver Identification – determines the system that participates in the exchange of the message.

Interface Determination – determine which interface will should receive the message.

Message Split – if more than one receiver are found, PI will instantiate new message for each receiver.

Message Mapping – mapping to transform the source message to destination message format.

Technical Routing – bind a specific destination and protocol to the message.

Call Adapter – send the transformed message to the adapter or a proxy.

### Adapter Engine

You must have noticed earlier that the integration engine handles messages in XML-SOAP protocol only. But what if we have a sender and a receiver business system where the data is not in the same format. We use the various adapters in the Adapter Engine to convert XML- and HTTP-based messages to the specific protocol and format required by these systems, and vice versa.

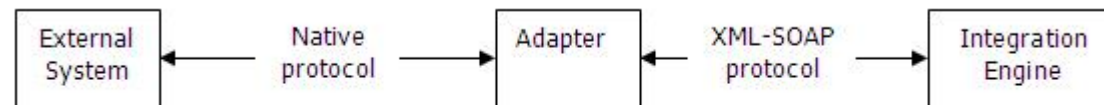


Fig 4 – Protocol conversion in Adapter

As we have discussed earlier, SAP PI is a hub and spoke structure where the Adapter Engine can be considered as spoke. We use the Adapter Engine to connect the Integration Engine (Hub) to the external systems. The Adapter Framework is the basis of the Adapter Engine. The Adapter Framework is based on the SAP J2EE Engine (as part of the SAP Web Application Server) and the J2EE Connector Architecture (JCA). The Adapter Framework provides interfaces for configuration, management, and monitoring of adapters.

In a dual stack system, most of the adapters were based on the Java stack barring two adapters which are based on the ABAP stack.

Java Stack	RFC adapter, SAP Business Connector adapter, file/FTP adapter, JDBC adapter, JMS adapter, SOAP adapter, Marketplace Adapter, Mail adapter, RNIF adapter, CIDX
------------	---

	adapter
ABAP stack	IDOC adapter and HTTP adapter

When SAP PI moved from dual stack to single stack then these two adapters became part of the Java stack. The modified adapter engine is known as the Advance Adapter Engine and the two adapters are called the IDOC\_AAE adapter and HTTP\_AAE adapter respectively.

### Business Process Engine

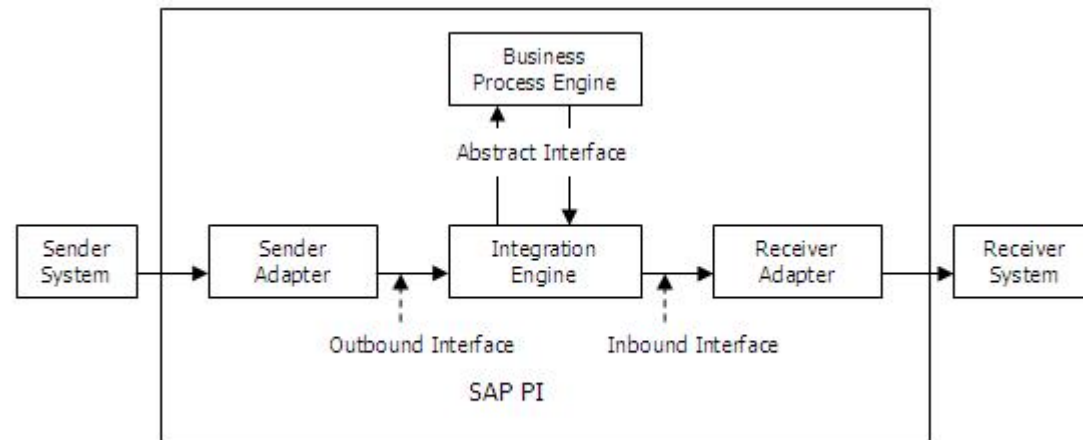


Figure 5 – Data Flow through BPE

The Business Process Engine is responsible for executing and persisting integration processes.

BPM stands for cross-component Business Process Management or ccBPM and is also called Integration process. An integration process is an executable, cross-system process for processing messages. In an integration process you define all the process steps that are to be executed and the parameters relevant for controlling the process. Business Process Management provides SAP Exchange Infrastructure with the following functions:

**State-full message processing:** The status of an integration process is persisted on the Integration Server.

You can also use correlations to establish semantic relationships between messages.

You implement integration processes when you want to define, control, and monitor complex integration processes that extend across enterprise and application boundaries i.e. collect/Merge, Split, Multicast

At runtime, the Business Process Engine executes the integration processes. The integration process can send and receive messages using abstract interfaces only.

### Build a scenario in SAP PI

We start from the Home page if we have to build a scenario in PI.

The home page will look similar to as given below:

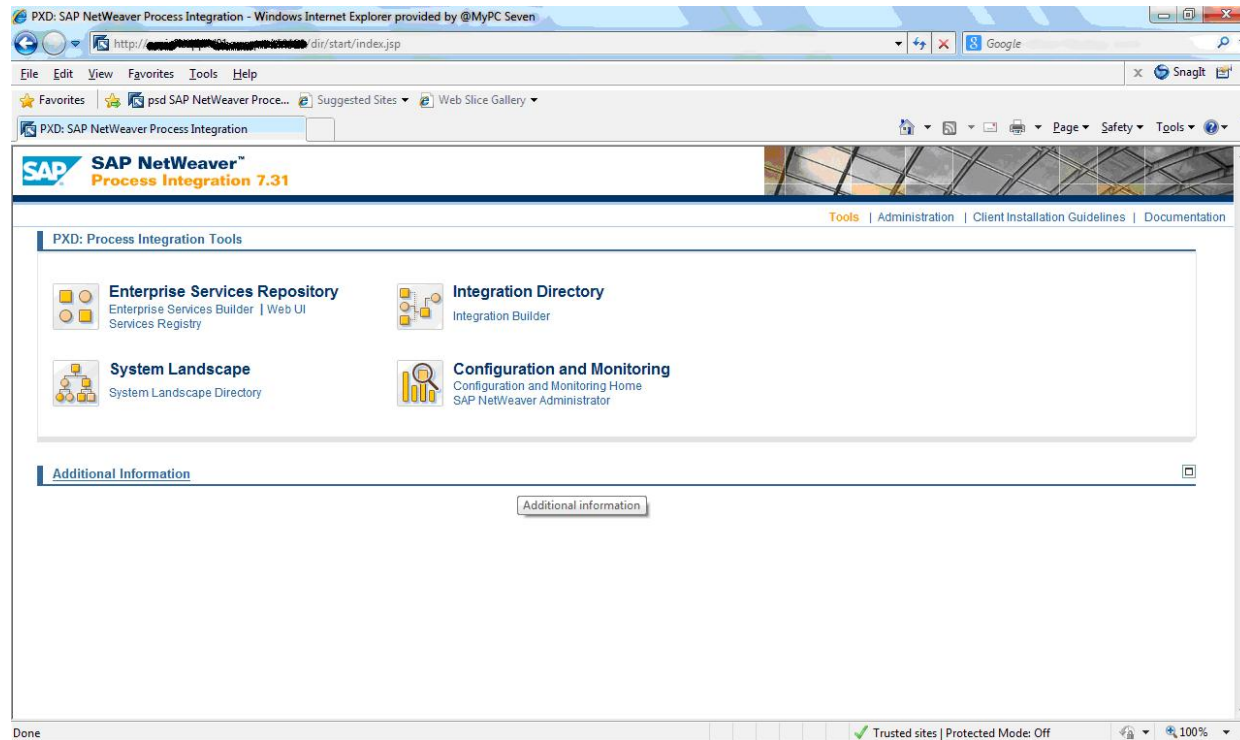


Figure 6 – Home Page for SAP PI Java Stack

The Home page has hyperlinks to the following 4 working areas

Enterprise Services Repository (ESR)

Integration Directory (ID)

System Landscape (SL)

Configuration and Monitoring (CM)

Each hyperlink will open one application. All these four are Java application. ESR and ID are swing applications. They are launched from the browser based on JNLP. So for the first time it takes more time as it downloads the entire library file. But from second time onwards, it takes less time to launch. SL and CM are pure web applications and run on the browser.

### Enterprise Services Repository

Here we design and create objects to be used in the making of an integration scenario. The data flow in PI will look similar to as shown below:

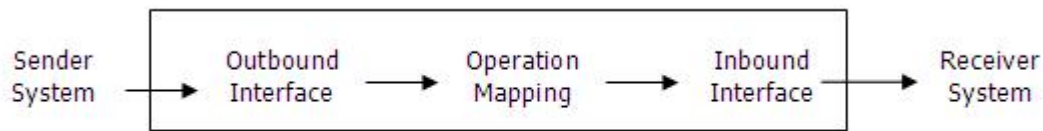


Fig 7 – Data flow: Interfaces and Mapping

We find the option to design the following

Interface objects – Service Interface, Message Type, Data Type

Mapping objects – Operation Mapping and Message Mapping

Integration Processes

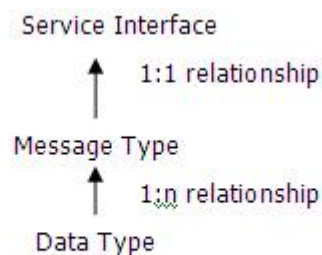


Fig 8 – Data Type, Message Type and Service Interface relationship

PI uses integration repository to design message structure for both sender and receiver systems and develop an interface message using corresponding message structures which act as a point of interaction to the outside world. Data type and Message type are used to simplify and modularize the design of a complex interface.

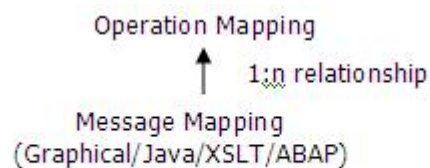


Fig 9 – Operation Mapping and Message Mapping relationship

Operation Mapping allows transformation of source structure to target structure when the two structures are different. But if the source and the target structure are same then the operation mapping may be dispensed off. Similar to service interface, message mapping is used to simplify and modularize the design of a complex operation mapping. Message mapping can be implemented in 4 ways

Graphical Mapping

Java Mapping

XSLT Mapping

ABAP Mapping

Graphical mapping is the most used as it allows developer to map attributes of both structures graphically to pass data using service interfaces. For the other three, we have to develop the mapping by writing code. If it is a single stack server, then the ABAP mapping will not be available.

There are other areas also, but they are not covered in this tutorial.

## Integration Directory

Here we make the pipe-line steps by configuring the ESR objects created earlier. These steps are executed by the integration engine during run-time.

Before we start the configuration we need to create/import the following objects in the DIR.

Service – Business System/ Business Service/ Integration Process



## Communication Channel

A service enables you to address a sender or receiver of messages. Depending on how you want to use the service, you can select from the following service types.

**Business System** – If you want to address a particular business system as the sender or receiver of messages, choose this service type. A business system is an actual application system in a system landscape.

**Business Service** – If you want to address an abstract business entity as the sender or receiver of messages, choose this service type. A business service is not defined in the system landscape.

**Integration Process Service** – If you want to address an integration process as the sender or receiver of messages, choose this service type. At runtime, these integration processes are controlled by messages and can themselves send messages.

Communication channel determines the inbound and outbound processing of messages. The messages are converted from native format to soap-xml specific message format and vice-versa through the adapter. Generally there are two types of communication channel in a scenario

Sender Communication channel

Receiver Communication channel

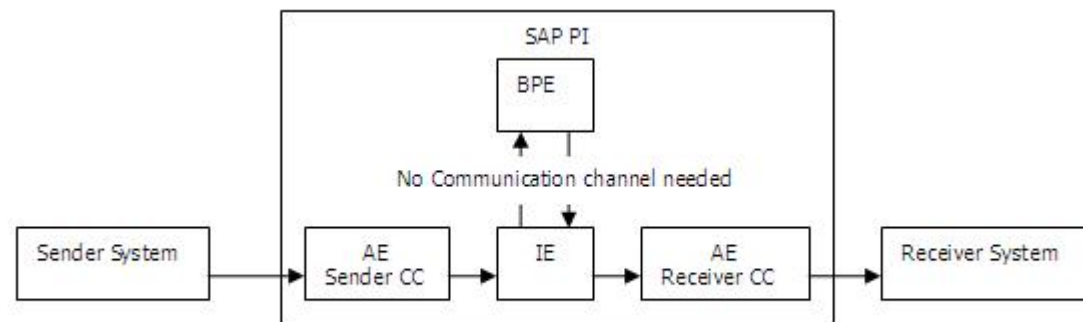


Fig 10 – Sender and Receiver Adapter

You must assign a communication channel to a service. Depending on whether the service is addressed as a sender or receiver of messages, the assigned communication channel has the role of either a sender or a receiver channel, and must be configured accordingly. You cannot assign a communication channel to an integration process service.

The pipe-line steps are created by creating the following 4 configuration in the DIR

We find the following options:

Sender Agreement

Receiver Determination

Interface Determination

Receiver Agreement

Sender agreement defines how the message of a sender is to be transformed so that it can be processed by the Integration Server. It consists of the following

Sender Component

Sender Interface

Sender Communication Channel

Sender Agreement is similar to primary key in table. There cannot be the two similar sender agreements in one landscape.

Receiver Agreement defines how the message is to be transformed so that it can be processed by a receiver. It consists of

Sender Component

Receiver Component

Receiver Interface

Receiver Communication channel

You use a receiver determination to specify which receivers a message is to be sent to. You have the option of defining conditions for forwarding the message to the receivers. It consists of

Sender Component

Sender Interface

Receiver Component

Receiver Determination is of two types – Standard or Extended, depending upon whether you want to specify the Receiver manually or dynamically by a mapping at runtime.

You use an interface determination to specify which inbound interface of a receiver; the message is to be forwarded to. You can also specify which interface mapping from the Integration Repository is to be used for processing the message i.e. if the sender and the receiver interface are not of the same format then there is an operational mapping to change the format. You define an interface determination for a sender, an outbound interface, and a receiver. It consists of

Sender Component

Sender Interface

Receiver Component

Receiver Interface

Interface Determination is of two types – Standard or Enhanced, depending upon whether you want to specify the receiver interface manually or through mapping-based message split.

Receiver Determination and Interface Determination – the two together are commonly known as the logical routing. Sender Agreement and Receiver Agreement – the two together are commonly known as the Collaboration Agreement.

## **System Landscape**

The SAP System Landscape Directory (SLD) is the central information provider in a system landscape. In the web page you will find the following links:

Technical System – Technical systems are application systems that are installed in your system landscape.

Business System – Business systems are logical systems, which function as senders or receivers within PI. Business Systems has one-to-one dependency with the associated technical system.

Products and Components – This is information about all available SAP products and components, including their versions. If there are any third-party products in the system landscape, they are also registered here.

The SLD will look similar to as given below:

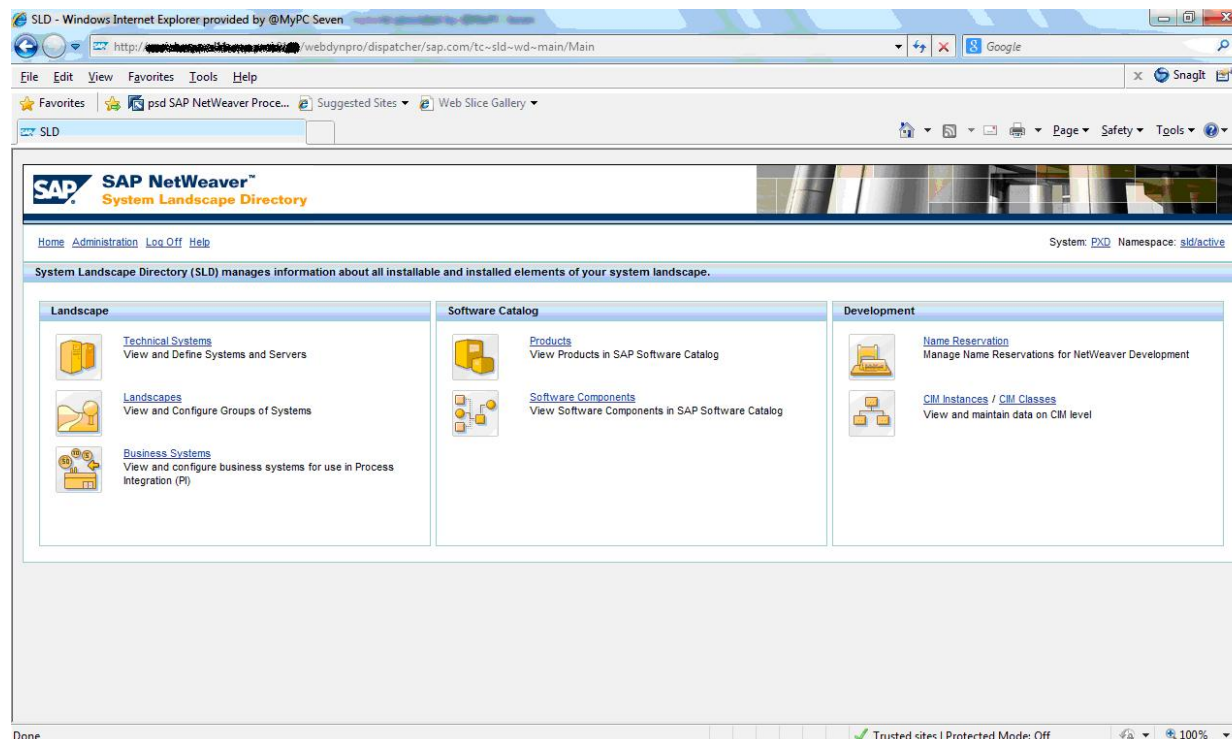


Figure 11 – System Landscape

Products and Components are commonly called the Component Information

Technical System and Business System are commonly called the Landscape Description.

A business system can be configured as an Integration server or Application system.

**Integration Server** – The Integration server executes only integration logic configured in the Integration Builder. They can also be identified as Pipe Line Steps. It receives XML message, determines the receiver, executes the mappings, and routes the XML message to the corresponding receiver systems. Thus configured Integration Engine is identified to be Central Configured Integration engine.

**Application system** – The Application system will not execute the integration logic. It in turn calls the integration server to execute the integration logic if required. It acts as sender or receiver of XML messages. So, the Application system with a local Integration Engine requires the Integration server to execute the integration logic.

Only one client of SAP system can be configured as Integration Server.

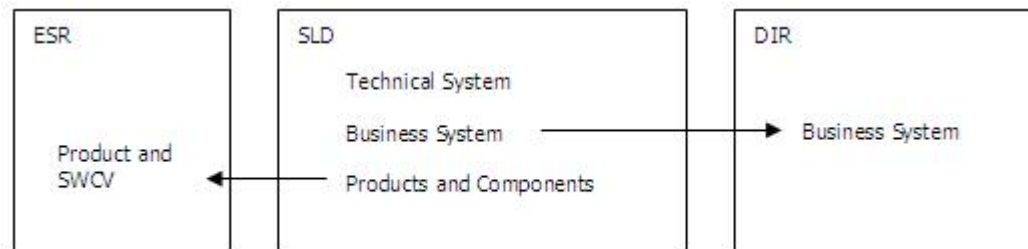


Fig 12 – SL relationship with ESR and DIR

The following information are extracted from the SLD into the ESR and DIR

Component Information are used in the ESR to define the Product and the SWCV

Business System are used in the Directory for defining the sender and receiver of messages

### Configuration and Monitoring

It is the central entry point for monitoring purposes. This gives you the option of navigating to the monitoring functions of the Integration Engine, as well as integration with the Computing Center Management System (CCMS), and the Process Monitoring Infrastructure (PMI) of SAP.

The Configuration and Monitoring will look similar to as given below:

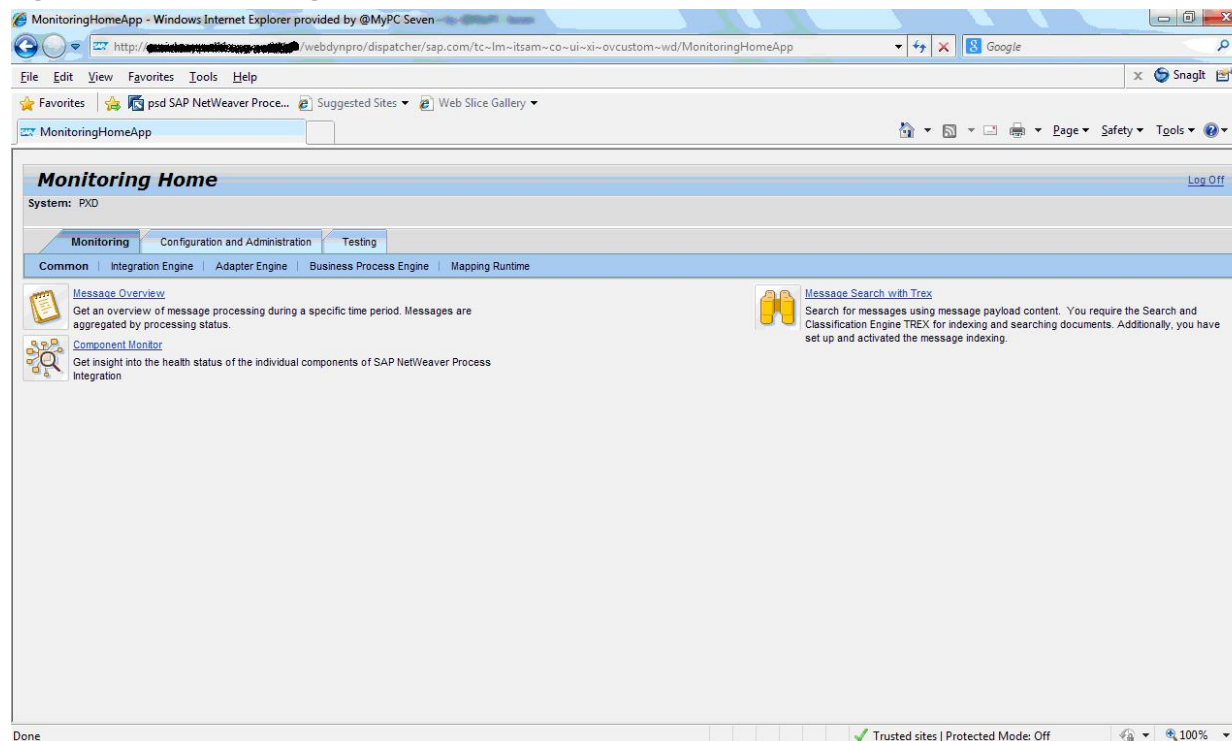


Figure 13 – Configuration and Monitoring

With the Configuration and Monitoring the following monitoring functions are supported:

Component monitoring – monitoring the different SAP PI components (Java and ABAP parts).

Message monitoring – tracking the message processing status within an SAP PI component and on error detection and analysis.

End-to-end monitoring – monitoring of a message lifecycle from the SAP PI point of view.

Performance monitoring – statistics about different performance aspects of SAP PI can be accessed through the RWB. Here, you can select and aggregate performance data, for example, by component, time range, or message attributes.

Index administration – by administering and monitoring the indexing of messages per SAP PI component, you enable an index-based message search that you can use in message monitoring. This kind of message search offers you enhanced selection criteria including adapter-specific message attributes and terms or phrases from the message payload.

Alert configuration – by using the Alert Framework, central monitoring in PI can be provided with all errors reported during message processing in ABAP and Java. This enables an improved reaction to such errors in both the ABAP runtime and the Java-based Adapter Engine. For this purpose, the Alert Framework is provided with rules based on certain events and on information from the header of the PI message protocol. These rules determine whether alerts are sent or not. If an alert is sent, it can be used for error analysis.

Alert inbox – the alert inbox is user-specific and displays all the alerts for each alert server that has been generated based on the alert configuration.

Cache monitoring – cache monitoring displays objects that are currently in the runtime cache. Different cache objects are monitored depending on the cache instance concerned.

### Synchronous vs. Asynchronous communication

A process can be defined as either synchronous or asynchronous.

A synchronous process is invoked by a request/response operation, and the result of the process is returned to the caller immediately via this operation.

An asynchronous process is invoked by a one-way operation and the result and any faults are returned by invoking other one-way operations. The result is returned to the caller via a callback operation.

In the computer world, there is no asynchronous communication. All communication between two systems is always via method call (request/response operation). So how do we make it asynchronous? The answer lies with the introduction of a third system in between the called and the caller function.

Suppose there are two systems – A and B. All communication between A and B is via a method call and thus they are synchronous. We introduce a third system between A and B and called it the Intermediate system – I. The communication between A and I is via method call and similarly between I and B is also via method call. But the communication between A and B can be called asynchronous as A does not have to wait for the response from B.

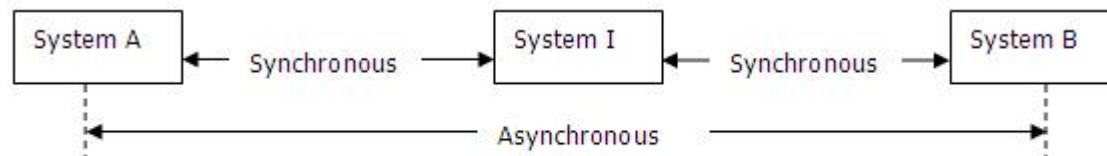


Figure 14 – Synchronous/Asynchronous

This is the basis of asynchronous communication and what is this intermediate system? That is the Queue. A is called the sender and B is called the receiver. Message from A is first added to the Queue and then it is again pulled from the Queue and sent to B. The response from B reaches A in a similar fashion. In certain situation, the business requirement needs the messages to be delivered to B in the same order as they are triggered from A. In such case we follow a first-in and first-out policy. If there are no such requirements then messages are sent from the queue to B in any order.

With asynchronous communication, we achieve guaranteed delivery i.e. System B is not available when System A sends the message. The message is added to the queue and remains there as long as B is not available. Once B is available, the message is pulled from the queue and sent to B.

So we can classify our message communication in three ways:

Synchronous

Asynchronous with order not maintained

Asynchronous with order maintained

In PI, we identify them as: Synchronous – BE (Best Effort), Asynchronous with order not maintained – EO (Exactly Once), Asynchronous with order maintained – EOIO (Exactly Once in Order).

### Acknowledgment

Acknowledgment is the root of asynchronous communication. Why?

For synchronous communication, System A calls system B and if B fails to send the response the process failed. But in an asynchronous communication, System A calls System I and System I calls System B. So suppose the communication between A and I is successful but between I and B, it fails. How should A realize that the delivery to B has failed? This is realized by an acknowledgment which is send back to A by B via the same route as the message from A took to B. If the acknowledgment from B fails to arrive to A then A consider that the process has failed and will send the message again.

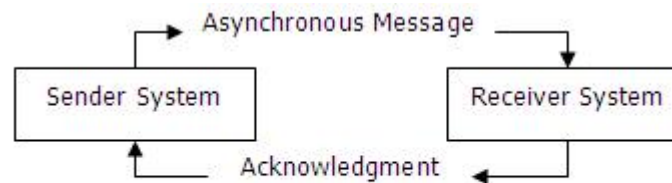


Fig 15 – Acknowledgment in Asynchronous communication

While we discussed about asynchronous communication in PI, we have used the term – 'Exactly Once' for both EO and EOIO. Exactly Once means a message delivered once cannot be delivered again. To achieve this, there is an acknowledgment for every message send from A to B. It is the adapters which lie at the end of the communication. So the adapters must support acknowledgment.

All adapters' provide system-acknowledgment i.e. delivery acknowledgment. Those adapters which support synchronous communication support application-acknowledgment in addition to the system acknowledgment.

So in PI, following are the type of acknowledgment

**System Acknowledgment** – System acknowledgments used by the runtime environment to confirm that an asynchronous message has reached the receiver.

**Application Acknowledgment** – Application acknowledgments used to confirm that the asynchronous message has been successfully processed at the receiver.

### Remote Function Call

While working in PI, you will come across the term – RFC. What are they? To establish communication between two SAP systems i.e. an R/3 and PI, we create the RFC Destination. It is configured by the following

Connection Type

IP Address and Port of the receiver

Connection Type tells the type of System Connection i.e. R/3, TCP/IP, Internal etc.

The RFC Destination we create is classified according to the mode of communication required i.e. whether it should support synchronous or asynchronous communication.

for synchronous communication – Synchronous RFC

for asynchronous communication with order not maintained – Transactional RFC

for asynchronous communication with order maintained – Queued RFC

They are identified by sRFC, tRFC and qRFC.

### Case Studies – 1

Assume that you are in a class room and there are 10 students in it. The instructor then asks each student to prepare his/her the following personal details and save them in an XML file. The details are as follows:

Student ID

Name

Mobile

Email

Gender

There will be 10 files and the files are named as cv\_1,2,3....10. The files are saved into the source directory. For test purposes following directories are created:

Source directory: c:\ibm\sap\training\input

Archive directory: c:\ibm\sap\training\archive

Error directory: c:\ibm\sap\training\error

Target directory: c:\ibm\sap\training\target

You are asked to develop scenarios in SAP PI which will read the source files from the source directory and write them to the target directory. Once a file is successfully read from the source directory, it should be moved to the archive directory and if the file cannot be read for some error i.e. xml format not maintained, it should be moved to the error directory. The files moved to archive, error or target directory should have a time-stamp append to the file-name.

i.e. filename+<time-stamp>.

#### Lesson-1

Prepare a scenario to read one single file i.e. file cv\_1.xml from the source directory and write it to the target directory. The target file name should also be cv\_1.xml with the time-stamp append to the name.

#### Lesson-2

Prepare a scenario to read all the files from the source directory and write them to the target directory. Similarly the target files should also be named as cv\_1, 2 ..xml with the time-stamp append to each of them.

#### Lesson-3

The instructor then asks you all to add the following validation to the data.

The mobile-number should have 10 numeric digits – if the mobile number is not of 10 digit then replace it with 'error'

The email should have one '@' character and one '.' character – if the email is not having the '@' or '.' character, then replace it with 'error'

Before you run the scenario, in some of the source files, modify the mobile and the email so that they are in error as per the logic given above.

**Lesson-4**

Prepare a scenario to read all the source files and classify them according to their gender. The files for the men will be written in one directory and for the ladies to another directory. Two directories are created for the above purpose:

Target directory for men: c:\ibm\sap\training\target\men

Target directory for women: c:\ibm\sap\training\target\women

Suppose there are 6 men and 4 women in the class, then if all the source files are read successfully then the target directory for men should have 6 files and the target directory for women should have 4 files.

**Case Studies – 2**

The instructor then asks you all to prepare one single file with the personal details of each student in separate segments.

**Lesson-5**

Write a scenario which will read this file and produces 10 target files where each file should correspond to the personal data of each employee. The target files should be named as cv\_<emp\_ID>\_<timestamp>

**Lesson-6**

Modify the above scenario so that it produces 2 target files instead of 10 where one target file for men and another target file for the ladies. The target file for men should have 6 segments for 6 men and the target file for ladies should have 4 segments for 4 women.

The target files should be named as

For men – men\_<time-stamp>

For Ladies – women\_<time\_stamp>

**Case Study -3**

Same as case study – 1, the instructor ask each student to prepare his/her the personal details and save them in an XML file. There will be 10 files. The files are saved in the source directory.

**Lesson-7**

Prepare a scenario to read all the source files from the source directory and to create one single file in the target directory. The name of the target file will be output.xml with the time stamp append to the file-name. The target file will have all the details of each source file as sub-segment.

**Lesson-8**

Prepare a scenario to read the entire source files from the source directory and create two files in the target directory – one for the men and the other for the ladies. For 6 men, the men file should have six segments having each man's details and for 4 women, similarly there should be 4 segments with each lady's details.

**Case Study – 4**

The instructor now asks each of the students to prepare another set of details which will consist of his/her the following academic details:

Student ID

School Name



College Name

Department Name

Admission Year

There will be 10 files and the files are named as ad\_1, 2, 3....10. The files are saved into the source directory. So each student will now have a pair of files – one for the personal details and the other for the academic details. Two files are co-related with the Student ID. The input directory now consists of 10 personal files and 10 academic files.

### Lesson – 9

You are asked to develop a scenario which will pick the source files and will process them in pair. The scenario will generate 10 target files. Each target file will consist of the personal and academic details of a student in separate segments. The target files will be named as res\_1, 2, 10.

The target files will look like:

### Lesson – 10

You are then asked to change the student ID in some of the files so that they do not have a matching academic or personal files and vice-versa. The scenario should run and if it found any files who does not have a matching corresponding file then the process should end after some period of time i.e. 2 min and those files will be moved to the error directory and there will be no corresponding target files for them.

---

\* To know more about Process Integration (PI 7.31), go thru the below document – <http://scn.sap.com/docs/DOC-38669>

---

---

Follow Like RSS Feed

Alert Moderator

Alerting is not available for unauthorized users

## Assigned Tags

[Cloud Integration](#)

[Integration and Certification Center](#)

[integration](#)

[integration architecture](#)

[SAP Integration And Certification Center](#)

Similar Blog Posts

[Transporting PI objects with NWDS \(using CTS+\) for Beginners](#)

By Former MemberOct 07, 2013

[SAP PI Graphical View For Beginners](#)

By Chinna Nagaseshi Reddy YaramalaSep 16, 2014

[OData API in SAP Cloud Integration for Beginners](#)

By [Saranya Baskaran](#) Aug 12, 2019

[Related Questions](#)

[CPI Tutorials for Beginners](#)

By [kishore sadhanala](#) Apr 15, 2020

[RFC in CPI](#)

By [Alessandro Pederiva](#) Feb 19, 2020

[NFS Location in PO 7.5](#)

By [Akash Chauhan](#) Dec 16, 2019

/

151 Comments

You must be [Logged on](#) to comment or reply to a post.



[Zhichao Chen](#)

January 19, 2015 at 4:36 pm

very clear and easy to understand. good job!

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

January 21, 2015 at 1:52 pm

Very good document for beginners!

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

February 20, 2015 at 7:03 am

A very good overview of SAP PI

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

March 3, 2015 at 9:49 am

Thanks for the sharing.

In Cloud and Big Data era, what integration and middleware expertises we should build?

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

March 4, 2015 at 9:44 pm

Very good. Thanks.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Pallavi Uppuleti](#)

April 6, 2015 at 10:30 am

Nice Explanation. Its really very helpful for PI beginners.

Thanks

Like 0

[Share](#)

Right click and copy the link to share this comment



[michael van](#)

April 28, 2015 at 8:49 am

Very good material for my study.

Thanks a lot.

Michael

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

May 12, 2015 at 3:32 pm

Very helpful for beginners. Thanks.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Daniel A. Egaña Rojas](#)

May 22, 2015 at 12:53 am

Nice document, thanks!!

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

June 1, 2015 at 7:58 pm

Rana Brata!,this is very good blogand i would also like you to please also share your views and information on basic scenario in this section so that it will help fresher to understand one flow and definitely it will help them to understand the end to end flow of PI.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Ajay Kumar](#)

June 10, 2015 at 9:26 pm

Hi Rana,

I am fresher to SAP Pi and this blog is very useful for me to understand and can you pls give some more material if available .

thanks rana for your help !! 😊

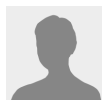
Like 0

[Share](#)

Right click and copy the link to share this comment

/





Megha Chatterjee

July 3, 2015 at 8:48 am

Thank you for introducing PI in such an understandable way. This was the first document I read 😊

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

August 5, 2015 at 10:57 am

Hi Rana,

Very nice blog, easy to understand all concepts at one place. Please share the document if you have for PO (PI 7.4) .

Thanks

Jeevitha N

Like 0

[Share](#)

Right click and copy the link to share this comment



[BVDVPrasad Prasad](#)

September 17, 2015 at 4:17 am

Appreciate your great work Rana.

Thanks for the blog.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Shailendra Karada](#)

September 22, 2015 at 11:58 am

Thanks .. nice document

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

September 23, 2015 at 5:31 am

Very useful First read document.

Just need some more diagrams in middle of theory.

Regards,

Bhupesh

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

October 12, 2015 at 2:55 pm

Very nice blog..Very helpful for PI beginners...

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

October 20, 2015 at 7:59 am

Rana, Excellent !!!, waiting for your post on PO.

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

October 21, 2015 at 3:12 pm

Thank you!!!! Great coverage for an SAP Newbie

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

November 18, 2015 at 10:01 am

very helpful, thanks and regards.

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

November 23, 2015 at 12:38 pm

Very detailed explanation Rana. It will help me a lot. People who are beginners they will know the basic concepts in detail.

May I know the difference between SAP BI & PI what was the link between the 2.

Thanks for sharing

Thanks in advance

Like 0

[Share](#)



Right click and copy the link to share this comment



Former Member

November 25, 2015 at 7:48 am

Hi Sree,

BI usually used for reporting purpose, PI is used as interface system.

For example, you have a legacy system(or any SAP/non SAP systems)... you can connect your legacy system and SAP system with an interface developed in PI.

Regards,

Leela.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Chetan Risbud](#)

November 25, 2015 at 8:31 am

Excellent work.

As a PI beginner it help me a lot to understand basic concepts of PI system.

Waiting for PO blog now.

Reagrds,

Chetan Risbud

Like 0

[Share](#)

Right click and copy the link to share this comment



[raju s](#)

December 2, 2015 at 5:53 am

Hi rana, very useful document, but am new to PI can you provid ethe scenario's like F2F, IDOC2File... etc...

Like 0

[Share](#)

Right click and copy the link to share this comment



[Raghu Vamseedhar Reddy KadipiReddy](#)

December 22, 2015 at 4:14 am

This document has outdated information and it is misleading.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Mattias Mirhagen](#)

April 28, 2016 at 6:55 pm

Excellent article! Especially the Lessons were much appreciated. Integrations are often complex but the author explains in an easy way.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Narasimha Velaga](#)

June 9, 2016 at 7:46 am

Nice Blog Rana da... 😊

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

February 14, 2017 at 5:44 pm

Thank you for the introduction it's very helpful, I appreciate it.

Best regards

Like 0

[Share](#)

Right click and copy the link to share this comment



[Asad S Zafer](#)

April 29, 2017 at 12:46 am

Thanks for a wonderful document!

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

May 19, 2017 at 8:49 pm

Thanks for the documento it is very useful.

But the link at the end id dead, do you have the new one ?

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

June 26, 2017 at 8:30 pm

Hello Ran!

This was a very useful blog! I am trying to develop myself on the integration world in SAP, I was wondering if you have any other resources or tips that might be useful for beginners like me, I would really appreciate any help from your part.

Thank you very much!

Like 0

[Share](#)

Right click and copy the link to share this comment



Former Member

August 10, 2017 at 6:28 pm

hiiii very clear and nice explanation.am new beginner for sap pi,can you provide the material if available. thanks.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Uchenna Umeh](#)

January 2, 2019 at 8:54 am

Hello

please did you get the help u requested?

If yes, can u please share the material you go with me?

thank you

Like 0

[Share](#)

Right click and copy the link to share this comment



[priyadarshini c](#)

October 27, 2017 at 4:26 pm

Helpful 😊

Thanks a lot 😊

Like 0

[Share](#)

Right click and copy the link to share this comment



[priyadarshini c](#)

October 27, 2017 at 4:37 pm

Like 0

[Share](#)

Right click and copy the link to share this comment



Anmol Gupta

June 20, 2018 at 9:19 am

The blog was really nice. I appreciate it.

Like 0

[Share](#)

Right click and copy the link to share this comment



chikkala sai trinadah

December 28, 2018 at 4:18 pm

Hi any will train me sap pi

Like 0

[Share](#)

Right click and copy the link to share this comment



Uchenna Umeh

January 2, 2019 at 8:53 am

Hello Guys

please im a .NET/SQL developer and im new to SAP. i want to have an integration between built .NET application and SAP using SAP PI. please i would need your help in knowing the step by step method of achieving this.

how do i have the SAP PI installed and ready for use?

how do i proceed with building the neccessary objects, scenarios, procedures etc?

step by step tutorial in PDF and or Videos to help and guide me

kindly help me

best regards to everyone

Like 0

[Share](#)

Right click and copy the link to share this comment



[artiben patel](#)

June 5, 2020 at 5:52 pm

i am fresher. i am looking a job in SAP PI but i have question do i need write a code any-kind of in SAP PI?

Like 0

[Share](#)

Right click and copy the link to share this comment



[Joel Langoyan](#)

June 17, 2020 at 1:42 am

It will depend on the requirement. Some may require coding for just custom functions in PI or even custom programs (mostly Java-based) that will be imported in order.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Pavankumar Joshi](#)

December 17, 2020 at 10:51 am

Very informative for all kind, beginners / intermediate.

Thanks !

Like 0

[Share](#)

Right click and copy the link to share this comment



[RAMASAMY C](#)

May 29, 2021 at 1:12 pm

This what I am looking for to understand what is PI/PO thanks for a such a informative blog. This blog was written on 2013, I could see the last comment is on Dec-2020.

Like 0

[Share](#)

Right click and copy the link to share this comment



[Bharath Paila](#)

July 10, 2022 at 1:26 pm

Can we integrate with servicenow using sap pi to update the asset details in sap?

Like 0

[Share](#)

Right click and copy the link to share this comment

[Previous](#)

3 of 3

[Next](#)

Find us on

[Privacy](#)

[Terms of Use](#)

[Legal Disclosure](#)

[Copyright](#)

[Trademark](#)

[Newsletter](#)

[Support](#)