SAP-BTP Internship

An Internship Report Submitted

in Partial Fulfillment

for award of Bachelor of Technology

in

School Of Computer Science in Emerging Technology

By

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Affiliated to

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW

May, 2025

DECLARATION

I hereby declare that the work presented in this report entitled "**SAP-BTP Internship**", was carried out by me. I have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

I affirm that no portion of our work is plagiarized, and the internship activities and outcomes reported in the report are not manipulated. In the event of a complaint of plagiarism and the manipulation of the experiments and results, I will be fully responsible and answerable.

Name : Achal Pratap Singh

Roll No : 2101330120003

Candidate Signature : …….

CERTIFICATE

Certified that **Achal Pratap Singh (2101330120003)** has/ have completed the internship work in Session **2024-25** as "**SAP-Consultant**" for **B.Tech in Computer Science** from Dr. A.P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU), Lucknow under my supervision. The internship report reflects the genuine work done, and studies are carried out by the student himself and the contents of the internship report do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Date:

Name of Supervisor : Mr Ajay Kumar

Designation : Assistant Professor

Department : Department of Computer Science
NIET, Greater Noida

Signature : ……

ACKNOWLEDGEMENT

Success in life is never attained single-handedly. I would like to express my heartfelt gratitude to **COGNIZANT** for providing me the opportunity to undertake my internship and gain valuable industry experience.

My deepest appreciation goes to my **internship supervisor, Mr. Ajay Kumar**, for their continuous guidance, support, and encouragement throughout my internship duration. Their valuable insights and mentorship have contributed immensely to my professional development.

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Lastly, my deepest gratitude goes to my family members and everyone who directly or indirectly contributed to the successful completion of this internship. Their love, encouragement, and belief in me have been my greatest strength.

Achal Pratap Singh

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ABSTRACT

This report documents the internship work completed by **Achal Pratap Singh** as part of the course *Industry Internship* during the academic year 2024–2025. The internship was undertaken at **Cognizant Technology Solutions**. The internship spanned a duration of four months, from **March 2025 to June 2025 (Ongoing)**, and was carried out under the academic supervision of **Mr. Ajay Kumar**, Assistant Professor, Department of Computer Science, **Noida Institute of Engineering &Technology**.

The internship's primary goal was SAP Business Technology Platform (SAP BTP) is a unified platform that enables businesses to develop, integrate, and extend applications while harnessing the power of data and analytics. It combines key technologies such as application development, integration, data management, analytics, artificial intelligence, and automation into a single, cohesive environment. With support for multiple programming languages and low-code tools, SAP BTP allows developers to create and enhance applications that work seamlessly with both SAP and third-party systems. It also provides powerful integration capabilities through the SAP Integration Suite, enabling smooth data and process flow across various platforms. Additionally, SAP BTP supports real-time data processing and advanced analytics using services like SAP HANA Cloud and SAP Analytics Cloud. The platform is designed with built-in security and offers flexible deployment options across major cloud providers. Overall, SAP BTP empowers organizations to innovate faster, gain deeper insights, and adapt more easily to changing business needs. Expanding further, SAP BTP plays a central role in digital transformation by providing the tools and services needed to modernize legacy systems, automate processes, and unlock the value of enterprise data. One of its key strengths is the ability to extend core SAP applications like SAP S/4HANA, SAP SuccessFactors, and SAP Customer Experience without modifying their standard code. This allows organizations to tailor their systems to specific business needs while staying up to date with SAP's upgrades.

The platform's open architecture supports multi-cloud and hybrid deployments, allowing customers to run their workloads on hyperscalers like AWS, Microsoft Azure, Google Cloud Platform, and Alibaba Cloud. SAP BTP's AI and machine learning services help businesses intelligently process documents, predict trends, and personalize customer experiences. Moreover, with the SAP Build suite, even business users (citizen developers) can create apps, automate workflows, and design dashboards with little or no coding.

SAP BTP also emphasizes data connectivity and governance. With tools like SAP Data Intelligence and SAP Datasphere, organizations can unify distributed data into a trusted layer for analytics and decision-making. Through its comprehensive set of services and tools, SAP BTP enables organizations to become more agile, data-driven, and responsive to market demands—all while maintaining enterprise-grade security and compliance standards.

SAP BTP offers a hands-on approach for developers, IT teams, and even business users to innovate quickly using real-world tools and environments. Through its intuitive development tools, such as SAP Business Application Studio and SAP Build, users can create, test, and deploy applications with ease. For example, a developer can build an extension to SAP S/4HANA that automates invoice approvals using low-code tools, while integrating AI services for document recognition. Meanwhile, integration flows can be created using visual drag-and-drop interfaces in the SAP Integration Suite, connecting SAP and third-party systems without deep coding expertise. SAP BTP also supports sandbox environments and trial accounts, enabling users to experiment and prototype solutions before moving to production. This hands-on flexibility makes SAP BTP not just a technical backend, but a practical, everyday toolkit for driving business transformation.

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CHAPTER 1

ABOUT THE COMPANY

1.1 Introduction

Cognizant Technology Solutions Corporation is a leading American multinational company specializing in information technology (IT) services and consulting. Headquartered in Teaneck, New Jersey, Cognizant has established itself as a key player in the global IT landscape, offering a wide range of services including digital transformation, cloud computing, artificial intelligence (AI), and business process outsourcing (BPO). The company's commitment to innovation and client-centric solutions has enabled it to serve a diverse clientele across various industries worldwide.

Fig 1.1 Logo of the company

1.2 History and Evolution

Founded on January 26, 1994, in Chennai, Tamil Nadu, India, Cognizant began as an in-house technology unit of Dun & Bradstreet, known as Dun & Bradstreet Satyam Software (DBSS). Initially focused on implementing large-scale IT projects for Dun & Bradstreet businesses, the company started serving external clients in 1996. In 1997, DBSS was renamed Cognizant Technology Solutions, and by 1998, it had moved its headquarters to the United States and launched an initial public offering (IPO). Over the years, Cognizant has expanded its global footprint and service offerings through strategic acquisitions and organic growth.

1.3 Global Presence and Workforce

As of 2024, Cognizant employs approximately 336,800 individuals worldwide, with a significant presence in India, where about 75% of its workforce is based across 11 cities, including Chennai, Bangalore, and Hyderabad. The company also operates delivery centers in

various countries, including the United Kingdom, Australia, Hungary, the Netherlands, Spain, China, the Philippines, Canada, Brazil, Argentina, Mexico, and Costa Rica.

1.4 Service Offerings

Cognizant provides a comprehensive suite of services tailored to meet the evolving needs of its clients. These services encompass:

1. **Digital Transformation**: Helping businesses modernize their operations through digital technologies.
2. **Cloud Services**: Offering cloud strategy, migration, and management solutions.
3. **Artificial Intelligence and Analytics**: Leveraging AI and data analytics to drive business insights and automation.
4. **Business Process Outsourcing (BPO)**: Providing end-to-end BPO services to enhance operational efficiency.
5. **Enterprise Application Services**: Implementing and managing enterprise software solutions.
6. **Consulting Services**: Delivering strategic consulting to address complex business challenges.

These services are delivered across various industry verticals, including banking and financial services, healthcare, manufacturing, retail, and more.

1.5 Strategic Acquisitions and Growth

Cognizant has pursued an aggressive acquisition strategy to enhance its capabilities and market reach. Notably, in 2024, the company acquired Belcan, an engineering research and development services provider serving clients like the U.S. Navy and NASA, for $1.2 billion. This acquisition aimed to diversify Cognizant's business, particularly in the aerospace and defense sectors.

Other significant acquisitions include Thirdera, a ServiceNow consultancy, and Mobica, to expand IoT capabilities. These strategic moves have allowed Cognizant to broaden its service offerings and enter new markets.

1.6 Leadership and Governance

As of January 2023, Ravi Kumar Singisetti serves as the Chief Executive Officer (CEO) of Cognizant, succeeding Brian Humphries. Under his leadership, the company continues to focus on innovation, client satisfaction, and sustainable growth. The executive team comprises experienced professionals dedicated to steering Cognizant towards achieving its strategic objectives.

1.7 Corporate Social Responsibility

Cognizant is committed to making a positive impact on society through various corporate social responsibility (CSR) initiatives. The company focuses on education, community development, and environmental sustainability. Its efforts include supporting STEM education, promoting digital inclusion, and reducing its environmental footprint through sustainable practices.

1.8 Conclusion

Cognizant Technology Solutions has evolved from a regional IT unit to a global leader in technology services and consulting. With a strong emphasis on innovation, strategic growth, and social responsibility, the company is well-positioned to navigate the dynamic landscape of the IT industry and continue delivering value to its clients worldwide.

CHAPTER 2

ABOUT THE DEPARTMENT

1.1 Introduction

Enterprise Platform Services (EPS) is a key division within Cognizant Technology Solutions, responsible for delivering large-scale enterprise transformation initiatives through the implementation and optimization of best-in-class platform solutions. This department plays a critical role in helping organizations reimagine business processes, reduce operational complexity, and accelerate innovation using digital platforms.

1.2 Vision & Mission

The vision of EPS is to enable clients to become intelligent, agile, and resilient enterprises by integrating core business functions through powerful technology platforms. The mission is to provide tailored, outcome-based platform services that align with strategic goals and deliver tangible business value.

1.3 Core Service Offerings

EPS delivers value through several targeted service areas:

- **Digital Process Orchestration**: Facilitates automation and integration of workflows using AI and machine learning, improving process agility and reducing costs.
- **Human Capital Management (HCM):** Drives end-to-end HR digital transformation using platforms like Workday and Oracle HCM Cloud, enhancing workforce experiences.
- **Finance/ERP/EPM Services:** Offers financial and operational excellence by transforming ERP landscapes using SAP, Oracle, and other leading enterprise tools.
- **Digital Supply Chain Transformation:** Enables supply chain optimization through smart, connected platforms that enhance responsiveness and reduce disruption risks.

- **Enterprise AI:** Embeds AI solutions across platforms to drive predictive analytics and business intelligence.
- **Enterprise Platform Integration:** Designs integration architectures using APIs, ensuring smooth data flow between legacy systems and modern applications.

1.4 Subdomains within EPS

EPS houses several specialized subdomains based on technology stacks and platform vendors. Some of the major subdomains include:

- SAP Services
- Oracle Services
- Salesforce Services
- Workday Services
- Pega Platform Services
- ServiceNow Services
- Oracle APEX (Application Express)

These services are delivered across various industry verticals, including banking and financial services, healthcare, manufacturing, retail, and more.

1.5 Focus on SAP BTP

SAP was introduced in the year 1972. SAP=System Application Product is defined as integration and segregation of a plan into a single unit.

1.5.1 Key Features and Use in Cognizant EPS:

- **Low-Code/No-Code Development**: SAP BTP offers tools like SAP Build, which allows users to create applications with minimal coding. This empowers business users to develop applications quickly without extensive programming knowledge

- **Flexibility and Extensibility**: The platform supports various programming languages and development models, providing developers with the flexibility to choose the best tools for their needs. It also allows businesses to extend existing applications rapidly to adapt to changing conditions
- **Automation:**: SAP BTP supports automation of routine tasks and business processes, reducing manual effort and speeding up development. Tools like SAP Build Process Automation help automate workflows efficiently

- **Use Cases in EPS Projects:**
  Cognizant EPS uses SAP BTP for:
  - S/4HANA Transformation:
  - Integration and Automation
  - Innovative Solutions
  - Enhanced User Experience

- **Security and Performance** : The platform facilitates secure integration between various systems, ensuring that data exchange is protected from unauthorized access.

1.6 Strategic Partnerships

EPS collaborates with top enterprise software providers to bring the best solutions to clients:

- SAP – Intelligent ERP and business process solutions
- Oracle – Full-stack services including Oracle Cloud, Oracle Fusion, and Oracle APEX
- Pega – Workflow automation and case management
- Salesforce – Customer engagement and CRM platforms
- Workday – Cloud-native finance and HR solutions

CHAPTER 3

TASKS PERFORMED

3.1 Introduction

The internship was divided into 2 phases one was interim phase in which me majorly leant about SAP PI/PO Basics , the second phase is final in which is comprised of learning about technologies and the project

3.2 Interim Phase

In this phase, I was engaged in comprehensive training across a diverse set of technologies integral to modern software development and system integration. This immersive experience encompassed both front-end and back-end development, as well as foundational knowledge in operating systems and data exchange formats.

3.2.1 SAP NetWeaver Basics

SAP NetWeaver is a comprehensive technology stack designed to support the development, integration, and management of business applications. It enables the integration of people, information, and processes across diverse systems

Home Page:

It has 5 section :

1) ESR
2) ID
3) SLD
4) Configuration and Monitoring
5)Testing

Fig 3.1: Home Page of SAP NetWeaver

ESR(Enterprise Service Repository:

It is a Central Repository in which we define data type, message type, service interface and the mapping process will be done here.

1) **Data Type**: Data type is defined as such in which we define the structure of data.We create data type for both Source and Target

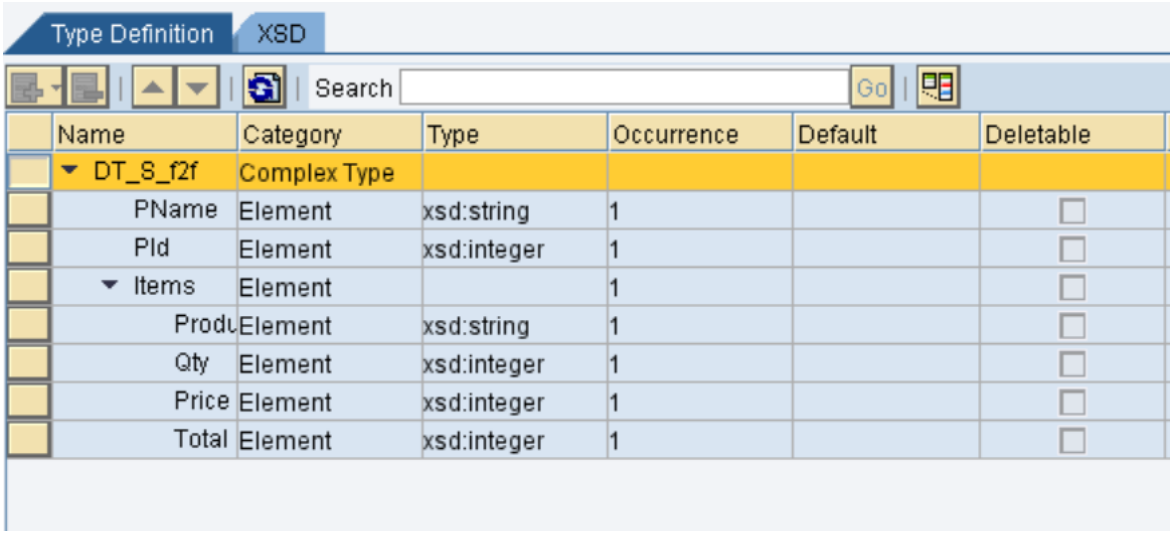


Fig 3.2: Data type creation

2) **Message Type:** : Data type is defined as such in which we define the structure of message.We create data type for both Source and Target

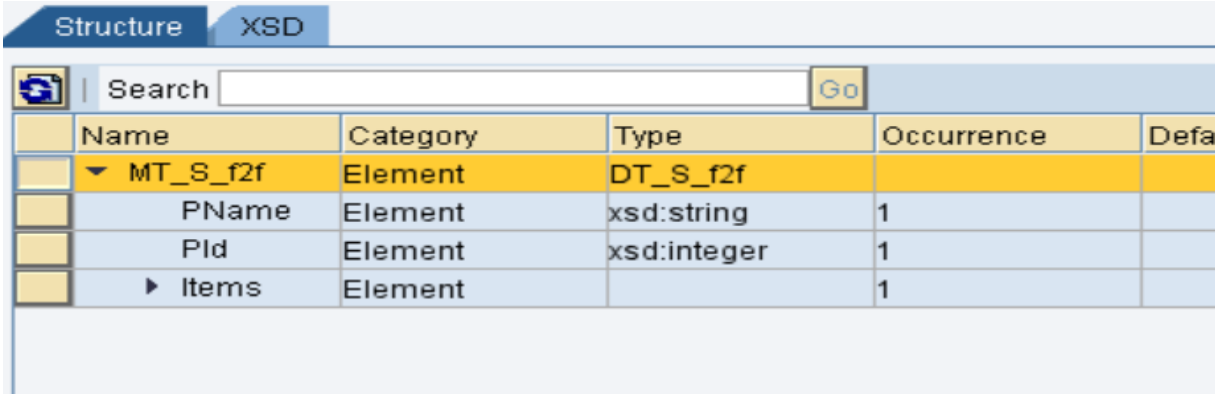


Fig 3.3: Message type creation

3) **Creation a Service Interface**:In this we will drag and drop the message type which we have created before.

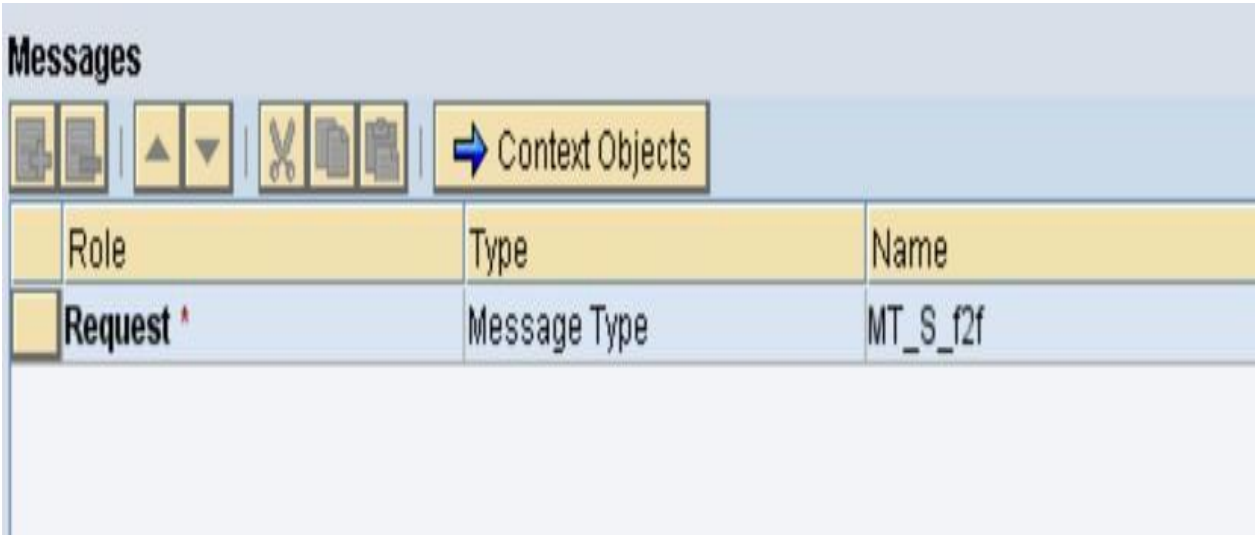


Fig 3.4: Service Interface

4) Mapping :It is created for transferring the data between SAP and Non SAP System Systems There are 3 types of mapping

1) Graphical Mapping

2) Java Mapping

3) XSLT Mapping

Now let's focus on Graphical mapping ,I graphical mapping again it includes two types

1) Message Mapping

Message Mapping is a design time object which uses the technique of graphical mapping to drag and drop the objects between the systems

2) Operation Mapping

Operation Mapping is a run time object which uses the technique of graphical mapping to drag

And also uses the message mapping properly and drop the objects between the systems

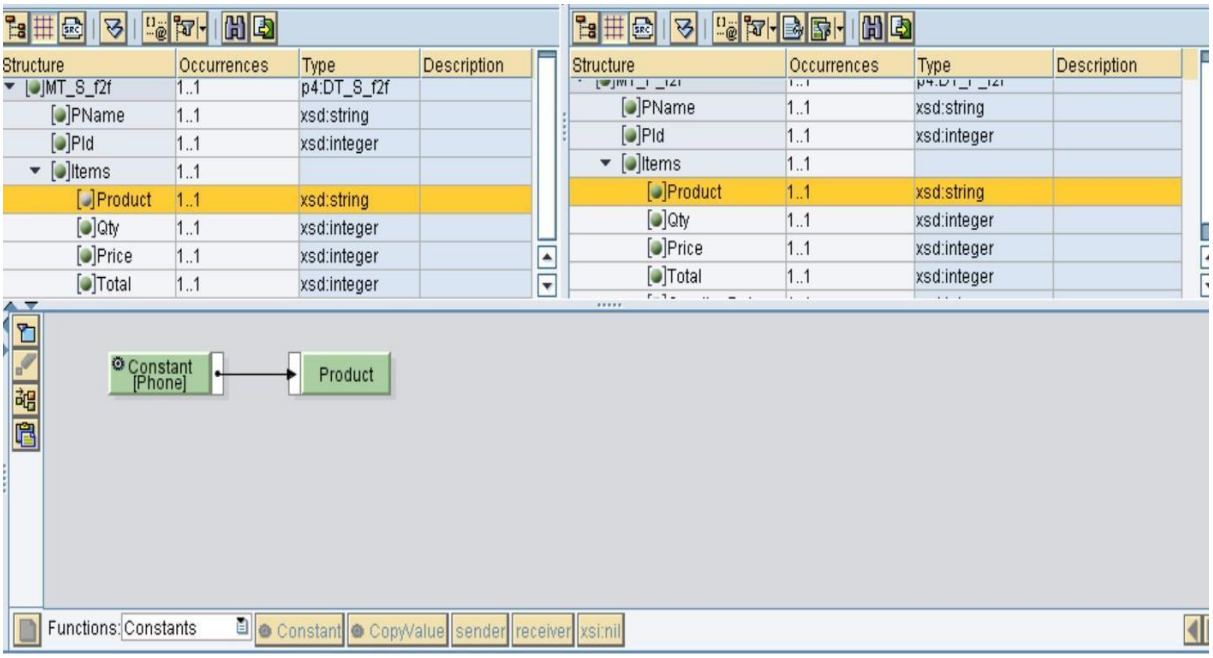


Fig 3.5 : Message Mapping

ID (Integration Directory):

ID defines how the message flow in the system , in ID we have:

1)Business Components

2)Communication Channel

3)Integration Scenario

In ID we have focus on the pipeline steps: The process begins with retrieving the latest source code from a version control system like GitHub or GitLab. This ensures that the most recent changes are included in the build. The next step involves compiling the source code and resolving dependencies. This creates executable files or packages that are ready for deployment. Automated tests are run to verify the functionality and stability of the code. This includes unit tests, integration tests, and end-to-end tests to ensure the code meets quality standards. The application is deployed to a staging or production environment. This step may involve provisioning infrastructure, configuring services, and ensuring that the deployment is successful

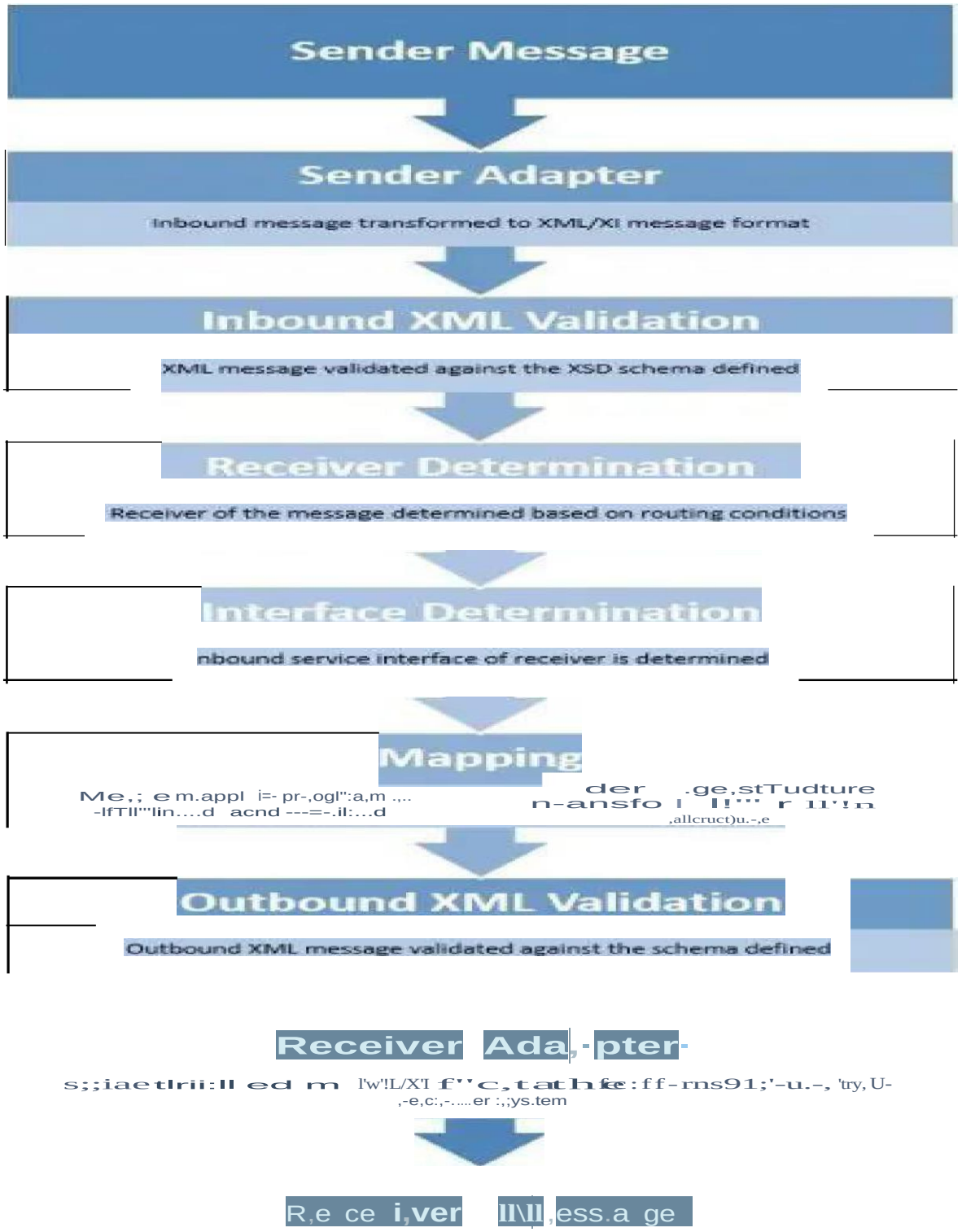


Fig 3.6:Pipeline Steps

3) SLD

System Landscape Directory

SLD stands for **System Landscape Directory**. It's a central repository that contains information about all the software components and systems in your SAP landscape. Here are some key points about SLD:

1. **Central Repository**: SLD acts as a central repository for all system-related information, including software components, systems, and their relationships.
2. **Integration**: It plays a crucial role in the integration of different SAP systems by providing necessary information to various SAP tools and applications.
3. **Landscape Management**: SLD helps in managing the system landscape by keeping track of all the systems and their configurations.
4. **Data Consistency**: It ensures data consistency across the landscape by synchronizing information between different systems.

Key Features and Functions

1. **Central Information Provider**: SLD serves as the central information provider in a system landscape. It stores data about software components, systems, and their relationships.

2. **Java EE Application**: SLD is a Java Platform, Enterprise Edition (Java EE) application, utilizing the Common Information Model (CIM) for data management

3. **Web-Based Enterprise Management (WBEM)**: It implements WBEM standards for client/server communication, ensuring efficient data exchange

.**Categories of SLD Data**

1. **Software Component Information**: This includes details about all available SAP software modules, their versions, dependencies, and support packages
2. **System Landscape Description**: It describes the individual system landscape, including network addresses and links, providing reliable data for system management

.**Integration and Usage**

1. **SAP Process Integration**: SLD is crucial for applications like SAP Process Integration, providing runtime information necessary for integration tasks

2. **Lifecycle Management**: It supports application lifecycle management by offering up-to-date data about installed systems and software

Planning and Configuration

1. **SLD Topology**: Proper planning of SLD topology is essential. This involves deciding how many SLDs are needed and where to run them in your landscape
2. **Data Suppliers**: Configured data suppliers in relevant systems provide SLD with regular updates, ensuring data accuracy

Practical Scenarios

1. **Creating Technical and Business Systems**: Detailed steps for creating technical and business systems in SAP NetWeaver Process Integration are available, ensuring smooth configuration
2. .**Changing Topology**: Procedures for changing SLD topology with minimal disruption are described for evolving landscapes

4) Configuration and Monitoring:

Configuration and monitoring in SAP are essential for ensuring the smooth operation and security of your SAP systems. Here are some key aspects:

Configuration

1. System Configuration: This involves setting up various parameters and options to tailor the SAP system to meet specific business requirements. It includes configuring modules like SAP ERP, SAP S/4HANA, and others.
2. Configuration Validation: SAP Solution Manager provides tools to validate configurations across different systems, ensuring consistency and compliance
3. .Template-Based Configuration: Using predefined templates, you can streamline the configuration process, making it easier to apply consistent settings across multiple systems

4) Monitoring

1.System Monitoring: SAP Solution Manager offers comprehensive system monitoring capabilities. It provides an overview of the current status of technical systems, including instances, databases, and hosts Monitoring is based on automated checks in categories like availability, performance, exceptions, and configuration

.2. **SAP EarlyWatch Alert (EWA)**: This is an automatic service that analyzes critical areas of an SAP system and alerts administrators about potential issues. It helps improve performance, stability, and security by providing detailed reports and recommendations .

3. Alert Management: Alerts generated from monitoring activities are managed through the Alert Inbox in SAP Solution Manager. This helps in proactively addressing issues before they become critical

Tools and Applications

1. **SAP Solution Manager**: Central tool for configuration and monitoring, offering features like system monitoring, configuration validation, and alert management
2. **SAP Fiori**: Mobile-friendly applications for monitoring systems, providing real-time insights and alerts on the go

Practical Steps

1. **Initial Setup**: Navigate to the Guided Procedure for configuration of System Monitoring in SAP Solution Manager and execute the setup activities
2. **Using EWA**: Access SAP EarlyWatch Alert Workspace for convenient access to alerts and reports

5) Testing

Testing in SAP is crucial to ensure that the system functions correctly and meets business requirements. Here are the main types of testing involved in SAP:

Types of SAP Testing

1. **Unit Testing**: This is the initial level of testing where individual components or modules are tested in isolation to ensure they function correctly. Developers typically perform this testing during the development phase

.

2. **Integration Testing**: This testing phase ensures that different modules or systems work together as expected. It checks the data flow and interaction between integrated components

3.2.2 Adapters:

- These adapter we can differentiate with SAP connected adapter and Non-SAP connected adapter.
- SAP Connected adapter are IDOC,PROXY,RFC.
    - IDOC
    - PROXY
    - RFC
- Rest of there adapter connect with Non-SAP system(3rd Party System).
- Each adapter has its individual key feature and functionality.
- Let's see few Adapter like
    - SFTP
    - SOAP
    - JDBC
    - REST
    - Email
- **IDOC**:
    - The IDoc adapter (Intermediate Documents) enables you to process IDOC's from SAP to PO.
    - IDOC adapter converts the incoming IDoc from SAP to XML and XML messages to outgoing IDoc in case if SAP is the receiver.
    - You need the IDoc adapter if you want to use the process IDOC's SAP PO.
    - You have created an RFC destination with the name XI_IDOC_DEFAULT_DESTINATION, and you have configured it on the adapter engine using the NWA
- **RFC :**
    - RFC Adapter converts the incoming RFC calls to XML and XML messages to outgoing RFC calls.
    - We can have both synchronous (sRFC) and asynchronous (tRFC) communication with SAP systems.
    - The former works with Best Effort QoS (Quality of Service) while the later by Exactly Once (EO).
    - You configure the sender RFC adapter to convert RFC calls from a sender to XML messages. These XML messages are then sent to the Integration Server

or the AAE.

- You configure the receiver RFC adapter to convert XML messages from the Integration Server or the AAE to RFC calls and send them to the corresponding receivers.

- **File/FTP:**
  - The file/FTP adapter enables you to exchange data with the Integration Server or the PCK by means of a file interface or an FTP (File Transfer Protocol) server.
  - You can send the file content unchanged to the Integration Server or PCK. If the file contains comma-separated values, you can convert it to a simple XML message first.
  - Conversely, file content coming from the Integration Server or the PCK can be put unaltered into a file or converted from XML to CSV format.
  - Create a communication channel in the Integration Directory.
  - To configure the adapter, select the Parameters tab page.
  - Select FILE as the Adapter Type.
- **SOAP**
  - The SOAP adapter enables you to exchange SOAP messages between remote clients or Web service servers and the Integration Server.
  - The receiver SOAP adapter also allows you to send SOAP messages using the SMTP protocol.
  - You can specify security settings to be used to sign/verify the SOAP body. In addition, you can specify the standard to be used for signing/verifying the SOAP message.
  - The Uniform Resource Locator (URL) is important for you, as the sender, because you use the URL for the HyperText Transfer Protocol (HTTP) request.
  - The URL also contains the name of the communication channel as well as the sender communication component (and possibly the sender party).
- **SFTP**:

- Consider a business scenario where a 3rd party application hosts a SFTP Server communicates to external world via files.
- SFTP(Secure file Transport Protocol) is a network protocol that provides file access, file transfer, and file management functionalities over any reliable data stream.

- **REST**:
  - The Representational State Transfer (REST) adapter enables you to exchange messages between remote clients or web service servers and the Integration Server.
  - It supports dynamic URLs, REST API polling, multiple operations per channel as well as XML and JSON data formats.
  - Configure the sender REST adapter to poll remote REST APIs and send the result to the Integration Server.

- **JDBC:**
  - The JDBC (Java Database Connectivity) adapter enables you to connect database systems to the Integration Server. The adapter converts database content to XML messages and the other way around.
  - You can read database content with any SQL statement, even stored procedures.
  - You define a special XML format for content from the Integration Server.
  - This format enables SQL INSERT, UPDATE, SELECT, DELETE, or stored procedure statements to be processed.
  - A message is always processed in exactly one database transaction.

- **JMS:**
  - The JMS adapter (Java Message Service) enables you to connect messaging systems to the Integration Engine.
  - The adapter supports the JMS specifications 1.02b and 1.1.
  - If you want to use the SAP JMS provider, you can either use system-defined JMS topics/queues, or create JMS topics/queues.

- **HTTP:**
  - You use the Java HTTP adapter to exchange messages between the Advanced Adapter Engine (AAE) and an application, using HTTP protocol.
  - Applications can send messages to the integration server by issuing HTTP POST or HTTP GET requests to a specified HTTP URL.
  - The HTTP adapter consists of two elements - a sender adapter and a receive adapter.
  - In the inbound processing, the HTTP sender adapter converts the HTTP request to an XI message and then forwards it to the AAE for processing.
  - In the outbound processing, the HTTP receiver adapter converts the XI message to

an HTTP message and transmits the message to a remote application by sending HTTP POST/GET requests to a specified HTTP URL.

- SAP PI/PO provides out-of-the-box functionality to handle file content conversion from different format of file to XML and vice versa in File/SFTP Adapter.
- These are the File conversion SAP PO can handle to convert to XML.
- Flat File
- CSV(comma separated File)
- PSV(Pipe Separated File)

3.2.2 NWDS:

SAP NetWeaver Developer Studio (NWDS) is an Eclipse-based tool used for developing and deploying various applications from various SAP technologies, including SAP Process Orchestration (PO), allowing you to design and configure integration flows (iFlows), service interfaces, and mappings in the Enterprise Service Repository (ESR).

What is NWDS?

SAP NWDS is a comprehensive Integrated Development Environment (IDE) that provides a platform for developing and deploying applications based on SAP technologies, particularly those running on the SAP NetWeaver platform.

How does it relate to PO?

- NWDS is a crucial tool for developing and deploying integration scenarios within SAP PO, allowing you to create and manage iFlows, which are the core building blocks for integration processes.

Key functionalities in PO development:

- **iFlow Design:** NWDS allows you to visually design and configure iFlows, which represent the integration processes between different systems.
- **ESR Management:** You can design and manage data structures, service interfaces, and mappings within the Enterprise Service Repository (ESR) using NWDS.
- **Integration Directory:** NWDS facilitates the creation and management of

Communication Components and iFlows within the Integration Directory.

- **Business Process Modeling:** You can model business processes and business rules using NWDS, leveraging perspectives like the Process Development perspective and the Rules Composer.

Other SAP Technologies:

- Besides PO, NWDS is used for developing other SAP technologies, such as SAP Business Process Management (BPM), SAP Business Rules Management (BRM), and Enterprise Portal and JavaBeans (EJBs).

Deployment:

- NWDS is used to deploy applications to the SAP PO server, including iFlows and related artifacts.

Getting Started:

- **Download and Install:** Download NWDS from the SAP Marketplace using an S-user and follow the installation instructions.
- **Configure NWDS:** Configure NWDS to connect to your PO server and the ESR.
- **Connect to PO Server:** Establish a connection to your PO server within NWDS.
- **Set up Web Service Connection:** Configure the web service connection to the Enterprise Services Repository (ESR).

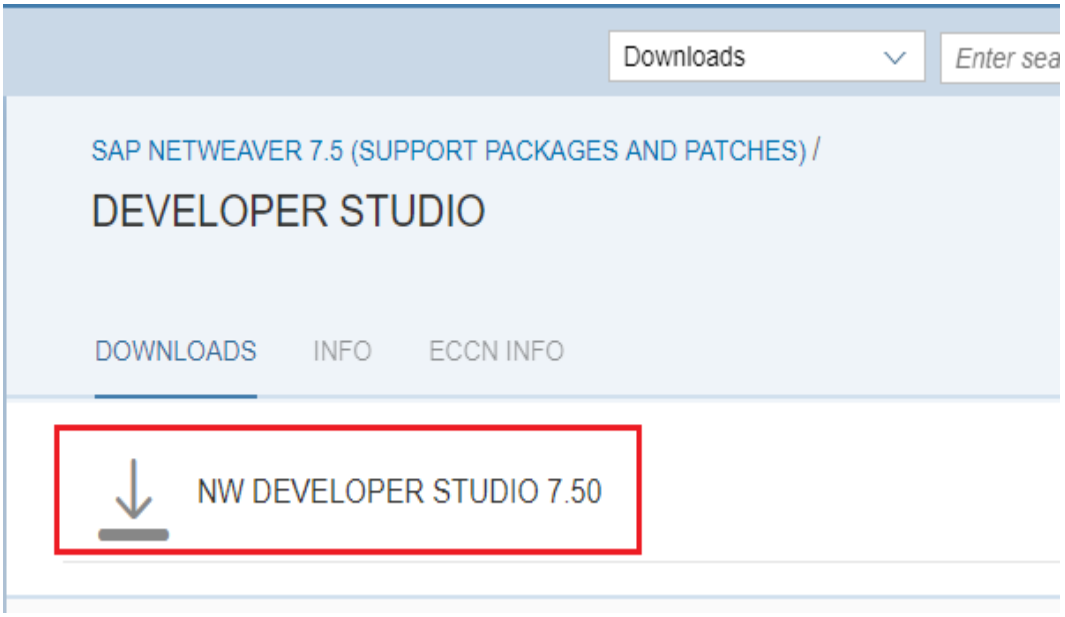


Fig: 3.7 Installation

SAP BPM:

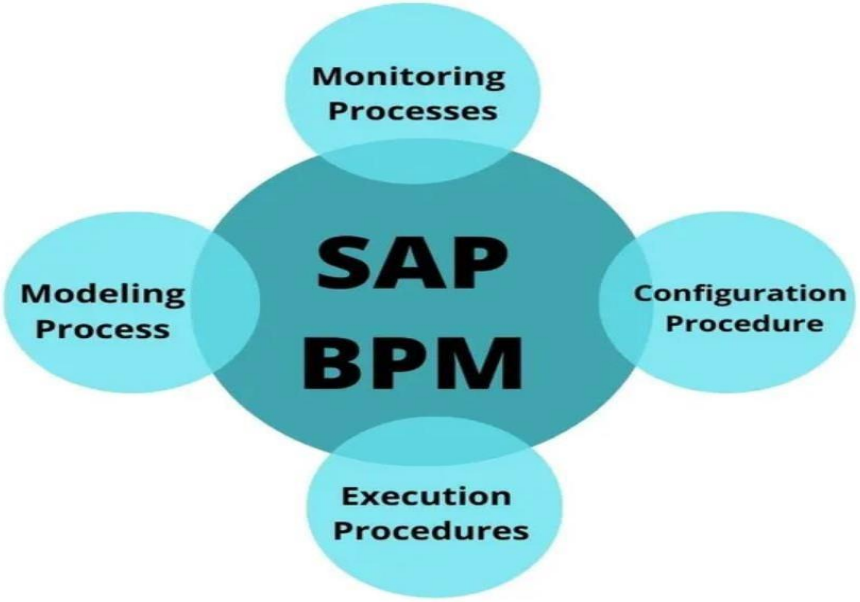
- SAP NetWeaver Business Process Management is a tool that allows companies to model business processes and integrate business rules into existing processes. Using a standardized notation, SAP BPM lets any business and IT professionals create executable processes. The software has a Java-based engine for executing these processes. The user-friendly interfaces help them to do so.
- The software offers tools, models, and reference content for developing business processes. These tools also help in ensuring flexibility in the business process lifecycle. Moreover, these tools are efficient in meeting the changing business needs. The software has a common platform that can be used by any department for business process management. And, users can easily embed new business processes into the existing ones.
- This helps firms to maintain business compliance. The process is very organized and managed at 3 levels, namely - enterprise-level, process level, and technical level. When the processes are carried out successfully, better business solutions can be developed. And with enhanced solutions, companies can reduce technical and process development costs
- All this saves a lot of time and money for the companies. So, they can invest this money and time in developing better business strategies. And with tailor-made business solutions and processes, any company will fetch a lot of clients.
- 

Fig: 3.8 SAP BPM

1) **Modelling Process:**

- In this stage, SAP BPM defines all the processes and steps that will be taken. This will help you in creating, compiling, connecting, and deploying processes in the future. This stage includes the following constituents –
- **Activities**– These are steps included within the business processes
- **Roles**– These are the systems and users that execute the processes
- **Artifacts**- These are objects like business documents related to the business processes. Artifacts also show how these objects are to be handled
- Another important component is the process composer. This enables you to create process models. Furthermore, it follows 2 approaches – process modeling and process development. In process modeling, the processes are sketched and addressed to business analysts. And in process development, processes are made executable and addressed to the developers

2) **Configuration Procedure:**

- As the name suggests, in this stage, processes are modified and configured. This is done before they are adopted or put to use. All the configurations are properly documented so that they can be easily traced back when required.
- **The following configurations are performed:**
- To allows users to utilize process desk tools, you need to add a link to the process visualization
- For enabling users to access their tasks using a universal worklist, you have to register the provider systems. Additionally, you have to map the portal and system users
- To let users work with BPM tools, you have to give permissions in the **User Management Engine (UME)**
- To allow notification messages, you need to enter some notification information and configure the mail server

3) **Execution Procedures:**

In this stage, SAP BPM integrates various processes. In any business environment, this is very important. **Process Integration** saves a lot of development and maintenance time.

4) **Monitoring Processes**

The monitoring and management of all the business processes take place in this stage. This also helps in the proper execution of the business processes.

SAP BPM Features:

- Some of the salient features of SAP NetWeaver BPM are –
- An interactive user interface for employees to handle all types of processes
- IT professionals and business analysts can model processes together
- A Java-based process server integrates all processes
- As business rules are embedded within the processes using SAP BPM, the process experts can use tools to model these processes as per business needs
- Processes developed through SAP BPM can quickly adapt to changing business environments
- Offers useful features such as automatic mail notifications, service consumption, task delegation, and process monitoring

Functionalities:

- The core functionalities of SAP BPM include:
- Comprehensive Business Process Management: Right from the determination of processes to their final execution, SAP BPM offers a comprehensive platform for all activities.
- Modeling of Processes in a Notation of BPMN: Business Process Model and Notation is a graphical notation used for modeling a variety of business processes. From automated processes to advanced workflows, you can design and visualize all of them.
- The User Tasks (Human activities): All the tasks intended for users can be easily initiated
- The Automated Tasks (Automated activities): Tasks can be automated which includes web services

1. Choose *File* › *New* › *Project*.
2. In the dialog box that appears, expand *Process Composer* and select *Process Composer Development Component*. Choose the *Next* pushbutton.
3. Expand the development configuration in which you want to create the development component (DC).
4. Choose the software component in which you want to create the DC and choose the *Next* pushbutton.
5. Specify a vendor name.
6. Specify a name prefix, if applicable. Specify a name for the new DC and complete the dialog.

   The new project is created.

   You may have to open the *Process Development* perspective. To do that, choose *Window* › *Open Perspective* › *Other* › *Process Development* and choose the *OK* pushbutton.

Fig :3.9 Steps to create BPM component

1. Choose *Window* › *Open Perspective* › *Other...* › *Process Development* and choose the *OK* pushbutton.
2. In *Project Explorer* view, select the DC in which you have created your project.
3. In the context menu of the DC, choose *Development Component* › *Build...*.
4. In the dialog that appears, select the DC you want to build and choose the *OK* pushbutton.

The DC is built successfully if there are no errors. You can check the DC state under *DC State* on the *Overview* tab page in *the Component Properties* view.

Fig : 3.10 Steps to build BPM component

1. Open the *Process Development* perspective.
2. In the *Project Explorer* view, select the DC you have built.
3. In the context menu of the DC, choose *Development Component* > *Deploy...*.
4. In the dialog that appears, select the DC you want to deploy and choose the *OK* pushbutton.
5. Log on to the AS Java server with your credentials, if prompted, to start deploying.
6. Choose *Configuration Management* > *Processes and Tasks* > *Process Repository*.
   The system displays the development components of the deployed processes and their details.

Fig :3.11 Steps to deploy BPM component

1. Open the SAP NetWeaver Administrator in a browser using the path **http://<host>:<httpport>/nwa** and log on with administrator rights.
2. Choose *Configuration* > *Infrastructure* > *Java System Properties*.
3. Choose the *Services* tab, and select *Java Mail Client*
4. Set the following properties:
   - *mail.smtp.host*: Enter the host of the smtp server
   - *mail.smtp.port*: Enter the port of the smtp mail server such as **<25>**
   - *sslCertificate*: Specifies the SSL certificate to be used for authentication if the connection is secure.
5. Set the values for the properties of the account from which all mails and notification messages are sent:
   - *mail.smtp.user*: Enter the username of the sender.
   - *mail.smtp.password*: Enter the password of the sender.
   - *mail.from*: Enter the E-mail address of the sender.
6. Define time outs to prevent resources from being consumed in the event when the SMTP server is unavailable:
   - *mail.smtp.timeout*: Enter a time interval in milliseconds for a time out in case the SMTP server is not available, for example, 60000 (one minute).
   - *mail.smtp.connectiontimeout*: Enter a time interval in milliseconds for a time out in case there is no connection to the SMTP server, for example, 60000 (one minute).
7. Save the JavaMail Client Service properties.

Fig: 3.12 Configure java Mail Client

3.3 Final Phase

3.3.1 SAP BTP

SAP Business Technology Platform (SAP BTP) is a comprehensive suite designed to help organizations integrate, extend, and innovate their SAP and non-SAP applications. Here are some key aspects:

Key Features

1. Integration: SAP BTP provides tools to seamlessly integrate various systems and applications, reducing development effort and accelerating time to value
2. It offers robust data management capabilities, enabling businesses to leverage their data for smarter decision-making and AI-driven insights
3. Data Management: It offers robust data management capabilities, enabling businesses to leverage their data for smarter decision-making and AI-driven insights
4. Application Development: With SAP BTP, developers can build business-relevant applications using low-code, pro-code, and generative AI tools
5. Automation: The platform includes automation features to streamline complex workflows and enhance productivity

Practical Use Cases

1. **Building Cloud Solutions**: Organizations can create cloud-based applications that integrate multiple systems and automate business processes
2. **Extending SAP Systems**: Existing SAP customers can extend their systems (e.g., SAP S/4HANA, SuccessFactors) with minimal effort and cost

.

SAP BTP is designed to unlock the full potential of AI, data, and applications, making it a powerful tool for enterprise mission-critical business processes

The SAP Integration Suite is an integration platform-as-a-service (iPaaS) that helps you connect and automate business processes across on-premise and cloud environments. Here are some key aspects:

Key Features

1. Prebuilt Integrations: SAP Integration Suite offers a variety of prebuilt integrations, APIs, and connectors, which simplify the integration process and reduce development time
2. Real-Time Integration: It supports real-time integration scenarios, ensuring timely data exchange and process synchronization across different systems
3. API Management: The suite includes tools for designing, publishing, and managing APIs, enabling secure and scalable API-based integrations

Components

1. SAP Cloud Integration: Facilitates the integration of cloud and on-premise applications, supporting both application-to-application (A2A) and business-to-business (B2B) scenarios
2. SAP API Management: Allows you to manage the entire lifecycle of APIs, from creation to retirement, ensuring secure and efficient API usage
3. SAP Open Connectors: Provides prebuilt connectors to integrate with third-party applications, enhancing the flexibility and reach of your integrations

Benefits

1. Accelerated Innovation: By leveraging prebuilt content and tools, businesses can accelerate their innovation cycles and bring newsolutions to market faster

2. Enhanced Efficiency: Automation of business processes and seamless

integration of systems lead to improved operational efficiency

3. Scalability: The platform supports scalable integration solutions, allowing businesses to grow and adapt their integration landscape as needed

Practical Use Cases

1. Connecting Cloud and On-Premise Systems: Easily integrate SAP and non-SAP applications across different environments to ensure smooth data flow and process automation .
2. API-Based Integrations: Use API management tools to create, publish, and manage APIs, enabling secure and efficient data exchange between systems

Home Page of Integration Suite:

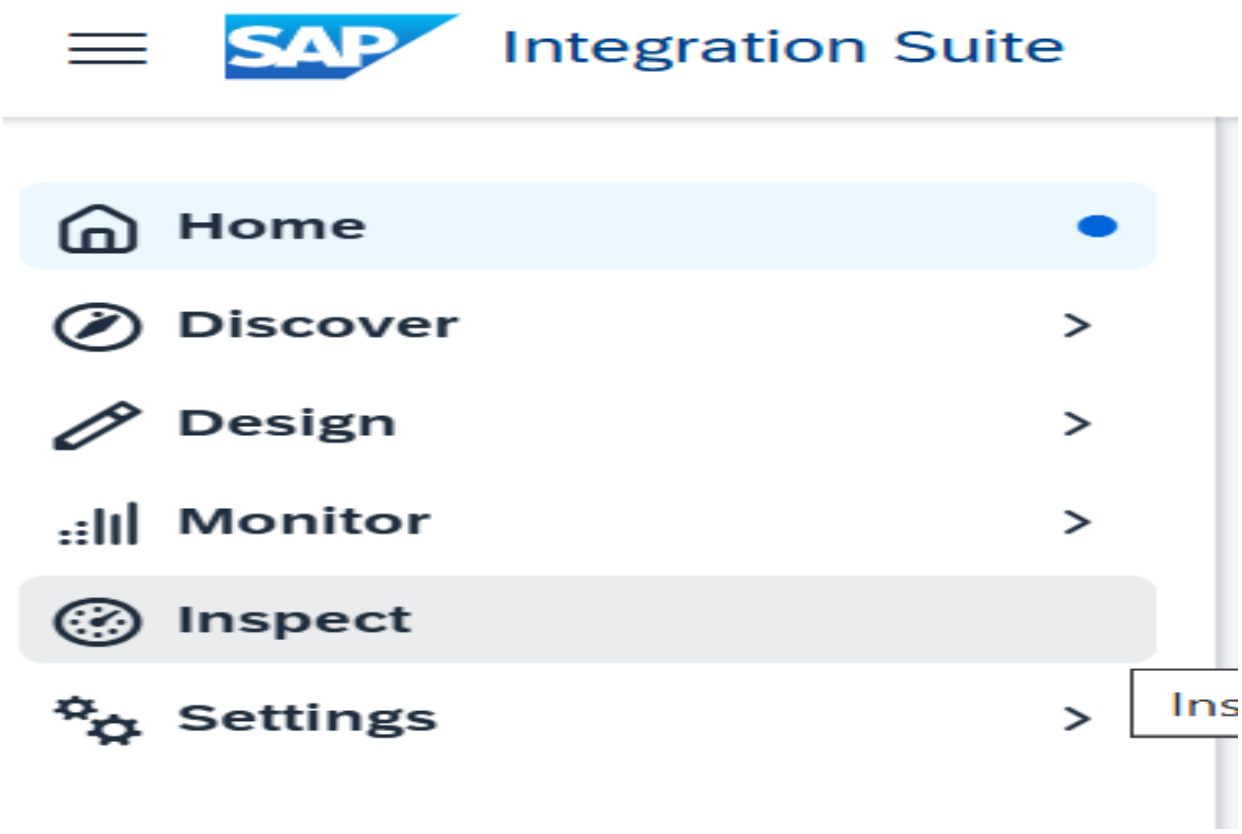


Fig: 3.13 Home Page of Integration Suite

Pallete Functions:

1. Participants
    - Sender: Defines the starting point of an integration flow, specifying the source system from which the data originates. This could be an SAP system, a third-party application, or a file system
    - Receiver: Specifies the target system where the data will be sent, defining the endpoint for the integration flow. This could be another SAP system, a web service, or a database
2. Process
    - Integration Process: The main process that handles the integration logic, containing the sequence of steps and activities that define the integration flow. It includes message transformations, routing, and connectivity steps
    - Local Integration Process: Used to break down complex integration processes into smaller, manageable parts, helping in organizing and modularizing the integration flow. It can be called from the main integration process to perform specific tasks
3. Events
    - Start Event: Marks the beginning of an integration process, triggering the start of the integration flow when a message is received from the sender
    - End Event: Indicates the end of an integration process, signifying the completion of the integration flow and the successful delivery of the message to the receiver
4. Connector
    - HTTP: Connects to HTTP-based services, enabling communication with RESTful web services. It allows you to send and receive HTTP requests and responses
    - SOAP: Connects to SOAP-based web services, facilitating communication with SOAP web services. It enables you to send and receive SOAP

messages

- SAP Business Connector: Integrates different IT architectures with SAP systems using open standards, providing bi-directional, real-time, and asynchronous communication .
- SAP Java Connector (JCo): Enables Java applications to communicate with SAP systems via SAP's RFC protocol
- SAP Connector for Microsoft .NET: Allows .NET applications to interact with SAP systems, supporting both inbound and outbound calls

5. Delete

- Delete from Internal Table: Removes specific entries from an internal table based on conditions
- Delete from Database Table: Deletes rows from a database table using SQL DELETE statements
- Delete Dataset: Deletes files from the file system ,Delete Report: Removes ABAP reports from the system

6. Mapping

- Message Mapping: Transforms the structure and content of messages from the source format to the target format. It is used to map fields between different data formats, such as XML to JSON or IDoc to SOAP
- XSLT Mapping: Uses XSLT to transform XML documents into other formats, such as HTML or plain text
- Operation Mapping: Defines how operations are mapped between source and target systems

7. Transformation

- Purpose: Converts data into a desired format or structure.
- Usage: Involves various transformation techniques to ensure data is in the correct format for the target system. This can include converting XML to JSON, modifying data structures, or applying business rules

8. Call

- Call Function: Invokes external services or functions, such as RESTful APIs, web services, or internal methods to perform specific tasks
- Call Method: Defines and calls methods within ABAP programs, allowing for modular and reusable code

9. Routing

- Router: Directs messages to different paths based on specified conditions, implementing conditional logic to route messages to different branches of the integration flow
- Filter: Filters messages based on conditions, allowing only certain messages to pass through. This ensures that only valid data is processed further

10. Security

- Authentication: Ensures that users are who they claim to be, using methods like username/password, tokens, or certificates
- Authorization: Determines what users are allowed to do, based on roles and permissions
- Encryption: Protects data by converting it into a secure format that can only be read by authorized parties

11. Persistence

- Data Storage: Manages data storage and retrieval, ensuring data is stored persistently and can be retrieved as needed during the integration process
- Database Operations: Includes operations like insert, update, delete, and query to manage data in databases

12. Validator

- Purpose: Validates data against specified criteria.
- Usage: Ensures incoming data meets required standards before processing further. This can include checking data formats, values, and business rules

How message mapping takes place in Integration suite:

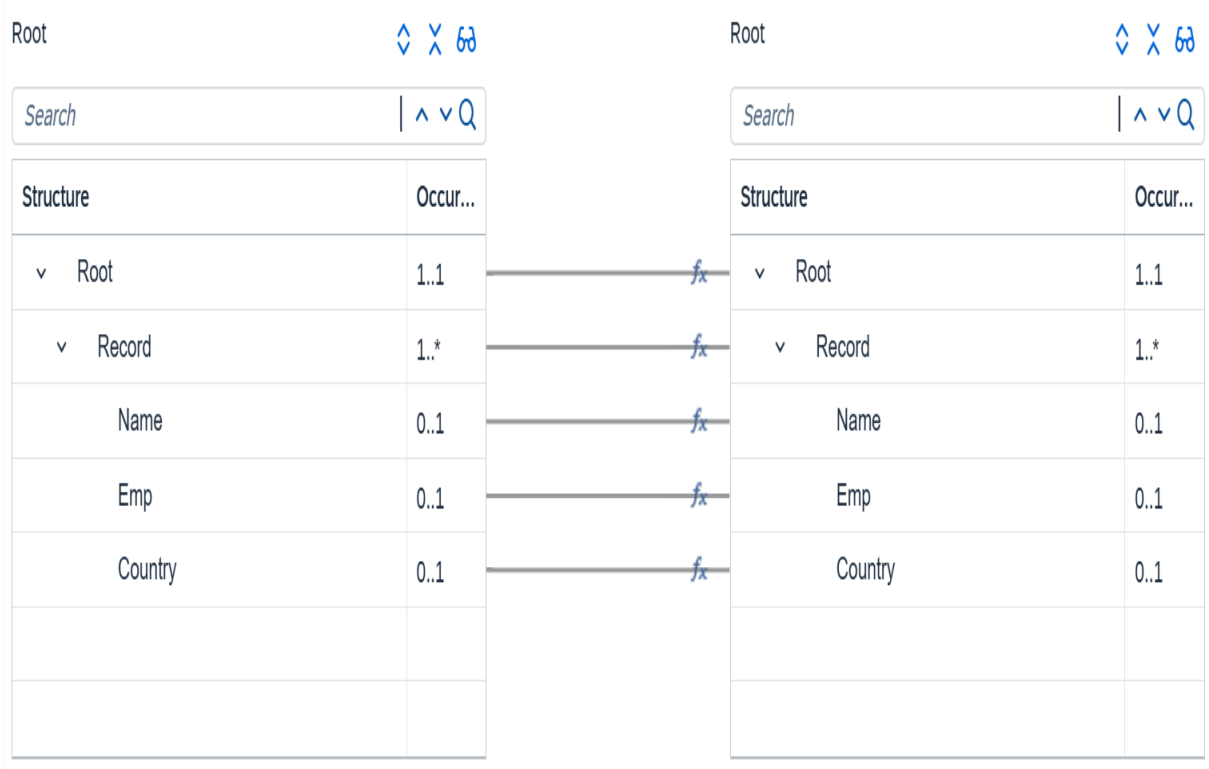


Fig:3.14 Message Mapping

Project

Problem Statement:

“Send an exception email by using gmail tabular format interface Name and Error Message”

1) In Integration Suite we need to go to Design system in that choose Integration and API

2) We have to create a Iflow

3) In Iflow I am using pallete functions such as

=>Routing

=>Process

=>Participant

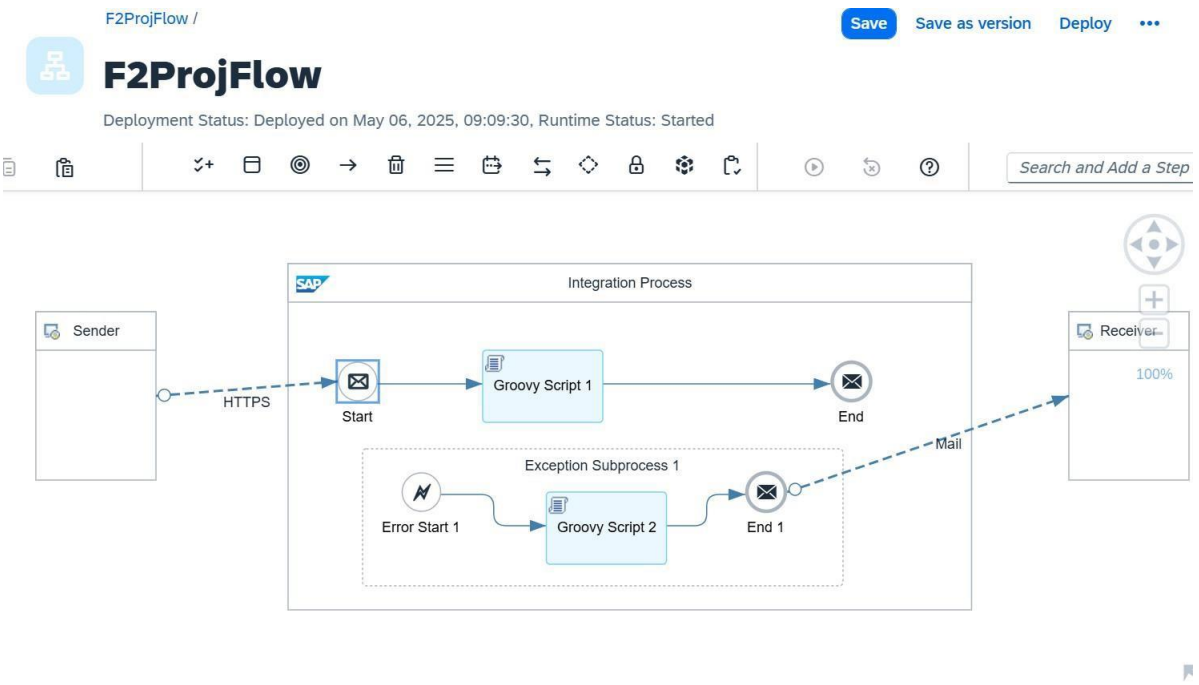


Fig:3.15 Home Page of project

Implementation:

1) Trigger the Iflow by sending HTTP adapter in the main iflow

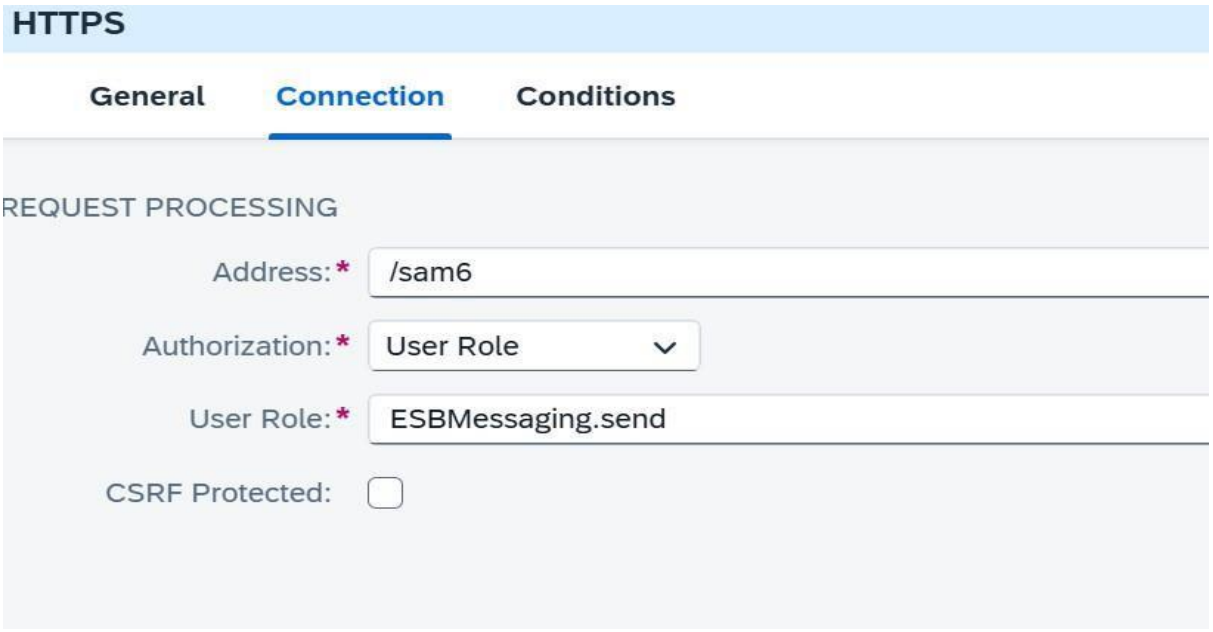


Fig:3.16 Https

2) Wantedly throw an error in groovy script :

F2ProjFlow / script1.groovy /

script1.groovy

```
1  /* Refer the link below to learn more about the use cases of scr
2  https://help.sap.com/viewer/368c481cd6954bdfa5d0435479fd4eaf/Clo
3
4  If you want to know more about the SCRIPT APIs, refer the link b
5  https://help.sap.com/doc/a56f52e1a58e4e2bac7f7adbf45b2e26/Cloud/
6  import com.sap.gateway.ip.core.customdev.util.Message;
7  def Message processData(Message message) {
8      //Body
9     throw new Exception("Exception error");
10 }
```

Fig:3.17 Groovy script code 1

4) Call a Exception Subprocess within the Iflow

5) Exception Sub-Process basically starts with error start message = ends the Iflow after sending a message

6) So here we are using Exception subprocess to handle the error

7) So I am calling an another groovy script

F2ProjFlow / script2.groovy /

script2.groovy

```
4  If you want to know more about the SCRIPT APIs, refer the link below
5  https://help.sap.com/doc/a56f52e1a58e4e2bac7f7adbf45b2e26/Cloud/en-US/index.html */
6  import com.sap.gateway.ip.core.customdev.util.Message;
7  def Message processData(Message message) {
8      //Body
9      def headers=message.getHeaders();
10     def properties=message.getProperties();
11     def interfaceName=headers.get("CamelHttpUri")?:"Unknown interfaceName";
12     def errorMsg="Unknown Error";
13     def exception=properties.get("CamelExceptionCaught");
14     if(exception!=null && exception instanceof Exception){
15         errorMsg=exception.getMessage();
16         message.setProperty("interfaceName",interfaceName);
17         message.setProperty("ErrorMessage",errorMsg);
18         return message;
19     }
20     }
```

Fig:3.18 Groovy script code 2

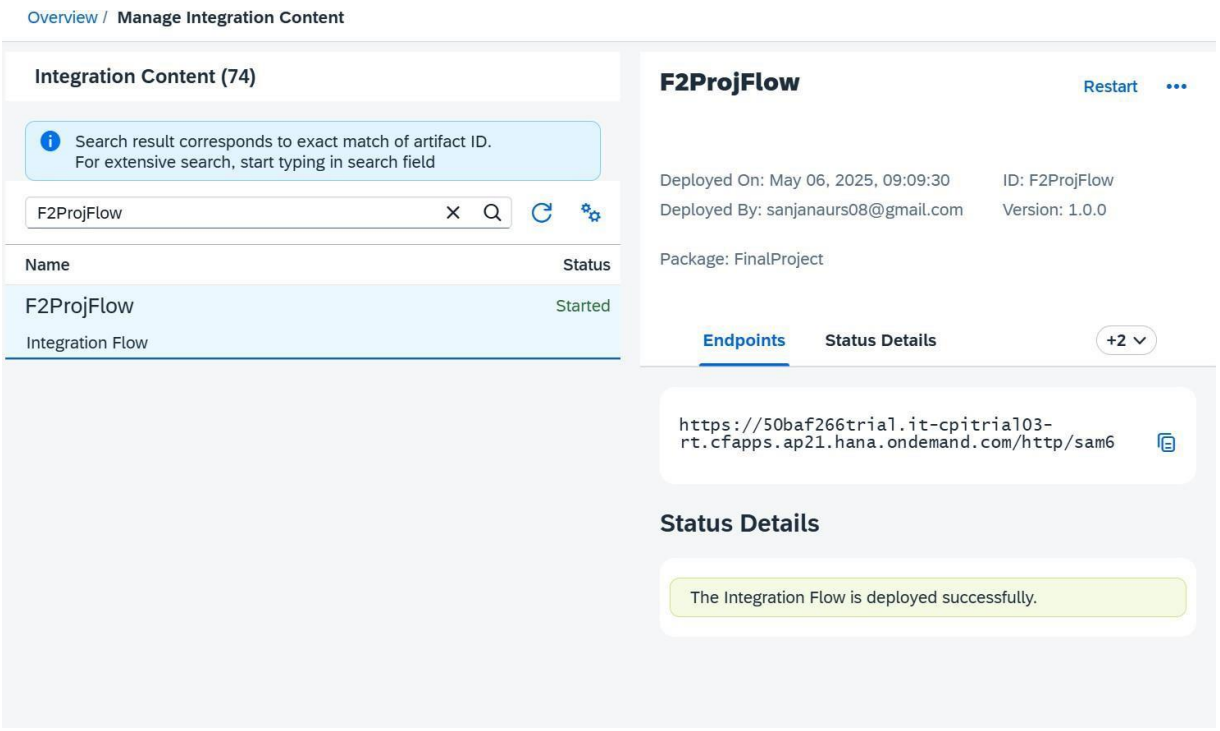


Fig:3.19 Check for link

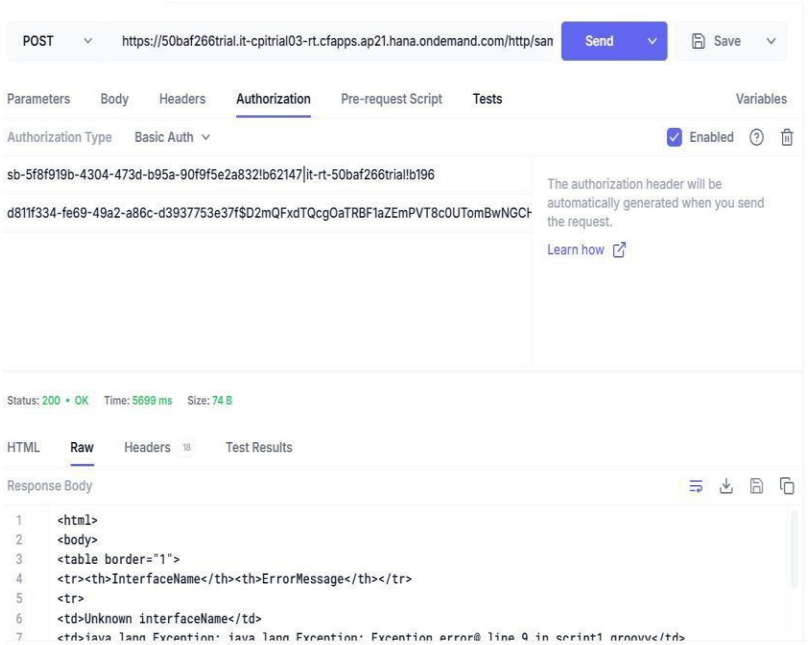


Fig:3.20 Check for link in Hopscotch

InterfaceName	ErrorMessage
Unknown Interface	java.lang.Exception: java.lang.Exception: Exception Error@ line 9 in script1.groovy

Fig:3.21 Output

The above figure shows the output of the project

CHAPTER 4

REFLECTION NOTES

4.1 Technical Growth

SAP Business Technology Platform (SAP BTP) has experienced substantial technical growth since its inception in January 2021. It encompasses key pillars such as database and data management, analytics, application development and integration, and intelligent technologies. SAP BTP supports both cloud and hybrid environments, offering flexibility and scalability. With hundreds of pre-built integrations for SAP and third-party applications, it streamlines processes and enhances performance through fast in-memory processing capabilities. As the cornerstone of SAP's strategy, SAP BTP enables seamless end-to-end process solutions, innovative application development, and comprehensive integration. Looking ahead, SAP continues to expand BTP's capabilities, focusing on enhancing integration, analytics, and intelligent technologies to help businesses adapt quickly to changing environments. It supports both cloud and hybrid environments, providing flexibility and scalability for businesses. SAP BTP includes key pillars such as database and data management, analytics, application development and integration, and intelligent technologies like AI, IoT, and intelligent RPA. These components enable businesses to build new cloud solutions or extend existing SAP systems with minimal effort and cost. The platform's fast in-memory processing capabilities enhance performance, while hundreds of pre-built integrations streamline processes. As the cornerstone of SAP's strategy, SAP BTP facilitates seamless end-to-end process solutions, innovative application development, and comprehensive integration. SAP continues to expand BTP's capabilities, focusing on enhancing integration, analytics, and intelligent technologies to help businesses adapt quickly to changing environments

4.2 Performance and Impact

SAP Business Technology Platform (SAP BTP) has significantly enhanced business performance and impact through its comprehensive suite of tools and services. By driving speed and agility in core processes, SAP BTP enables businesses to quickly develop, deploy, and manage applications, which is crucial for adapting to market changes. Organizations using SAP BTP have reported increased productivity and substantial operational cost savings, allowing them to reinvest in critical areas. Financially, companies have avoided significant

revenue losses due to reduced downtime, thanks to the platform's robust capabilities. Additionally, SAP BTP's advanced analytics and data management solutions facilitate informed decision-making, driving innovation and growth. Overall, SAP BTP has proven to be a game-changer, delivering better business results through enhanced performance, productivity, and financial impact. SAP BTP have reported increased productivity and substantial operational cost savings, allowing them to reinvest in critical areas. Financially, companies have avoided significant revenue losses due to reduced downtime, thanks to the platform's robust capabilities. Additionally, SAP BTP's advanced analytics and data management solutions facilitate informed decision-making, driving innovation and growth. Overall, SAP BTP has proven to be a game-changer, delivering better business results through enhanced performance, productivity, and financial impact

4.3 Soft Skills and Collaboration

Soft skills and collaboration are essential components of professional success, especially in today's interconnected and globalized world. Soft skills, such as communication, emotional intelligence, adaptability, and problem-solving, play a crucial role in navigating complex interpersonal dynamics and fostering effective teamwork These skills enable individuals to build strong relationships, manage conflicts, and work efficiently in diverse environments Collaboration, on the other hand, involves working together towards common goals, leveraging each team member's strengths, and creating a cohesive and productive work environment The combination of strong soft skills and effective collaboration leads to improved innovation, productivity, and overall business performance As businesses continue to operate across borders, the importance of these skills will only grow, making them indispensable for professional growth and success.

4.4 Key Learnings

Key learnings from the study of soft skills and collaboration include the importance of effective communication, emotional intelligence, adaptability, and teamwork. These skills are essential for building strong relationships, managing conflicts, and working efficiently in diverse environments. Effective communication involves expressing ideas clearly and listening actively, which fosters mutual understanding and collaboration. Emotional intelligence helps individuals understand and manage their own emotions, as well as recognize and influence the emotions of others, leading to better interpersonal interactions. Adaptability

allows individuals to adjust to changing situations and challenges, ensuring they remain productive and resilient. Teamwork emphasizes the value of working collaboratively towards common goals, leveraging each team member's strengths to create a cohesive and productive work environment. Mastering these soft skills not only enhances personal and professional growth but also contributes to overall business success by improving innovation, productivity, and decision-making

These skills are essential for building strong relationships, managing conflicts, and working efficiently in diverse environments. Effective communication involves expressing ideas clearly and listening actively, fostering mutual understanding and collaboration. Emotional intelligence helps individuals understand and manage their own emotions, as well as recognize and influence the emotions of others, leading to better interpersonal interactions. Adaptability allows individuals to adjust to changing situations and challenges, ensuring they remain productive and resilient. Teamwork emphasizes the value of working collaboratively towards common goals, leveraging each team member's strengths to create a cohesive and productive work environment. Mastering these soft skills not only enhances personal and professional growth but also contributes to overall business success by improving innovation, productivity, and decision-making

CONCLUSION

SAP Business Technology Platform (SAP BTP) serves as a powerful foundation for digital innovation, enabling organizations to build, integrate, and extend applications while leveraging data, analytics, AI, and automation. Its open, flexible, and scalable architecture supports both SAP and non-SAP systems, making it ideal for hybrid and multi-cloud environments. By empowering both developers and business users with intuitive tools and services, SAP BTP accelerates innovation, enhances business agility, and drives smarter, data-driven decisions—ultimately helping companies stay competitive in a rapidly evolving digital landscape. Expanding further, SAP BTP not only supports innovation but also ensures long-term scalability, resilience, and compliance—critical factors for modern enterprises. Its ability to seamlessly connect disparate systems and unify data across departments creates a foundation for real-time insights and strategic decision-making. With built-in security, governance, and lifecycle management, organizations can trust that their custom developments and integrations remain robust and future-proof.

Additionally, SAP BTP promotes collaboration between IT and business users by offering both professional-grade development environments and low-code/no-code tools. This democratizes innovation, allowing teams to respond faster to business challenges without always depending on traditional development cycles.

Ultimately, SAP BTP is more than just a technology platform—it is a catalyst for business transformation. It equips companies with the tools they need to become intelligent enterprises, capable of adapting quickly, delivering personalized experiences, and continuously optimizing their operations in a digital-first world.

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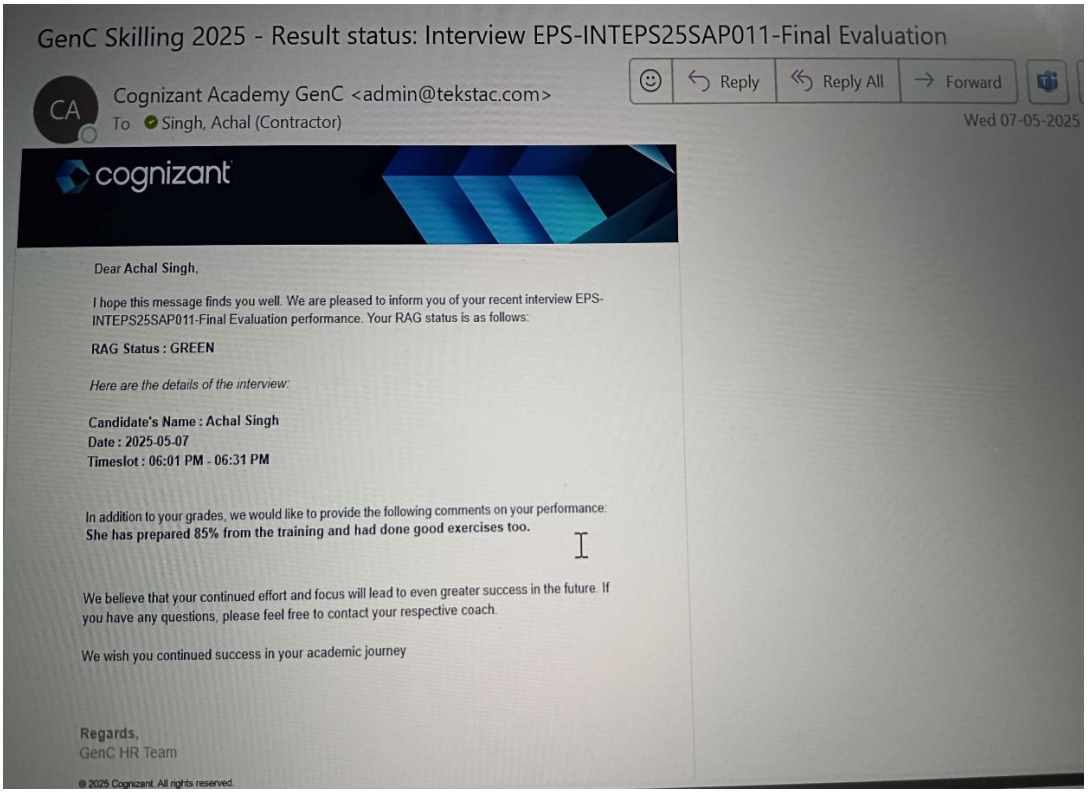
4) https://community.sap.com/topics/business-technology-platform
5) https://learning.sap.com/learning-journeys/explore-sap-business-technology-platform
6) https://www.sap-press.com
7) https://open.sap.com/courses/btp1
8) https://www.youtube.com/@SAPTechnology

INTERNSHIP EVALUATION RESULT



GenC Skilling 2025 - Result status: Interview EPS-INTEPS25SAP011-Final Evaluation

Reply | Reply All | Forward

CA

Cognizant Academy GenC <admin@tekstac.com>

To Singh, Achal (Contractor)

Wed 07-05-2025

cognizant

Dear **Achal Singh,**

I hope this message finds you well. We are pleased to inform you of your recent interview EPS-INTEPS25SAP011-Final Evaluation performance. Your RAG status is as follows:

RAG Status : GREEN

Here are the details of the interview:

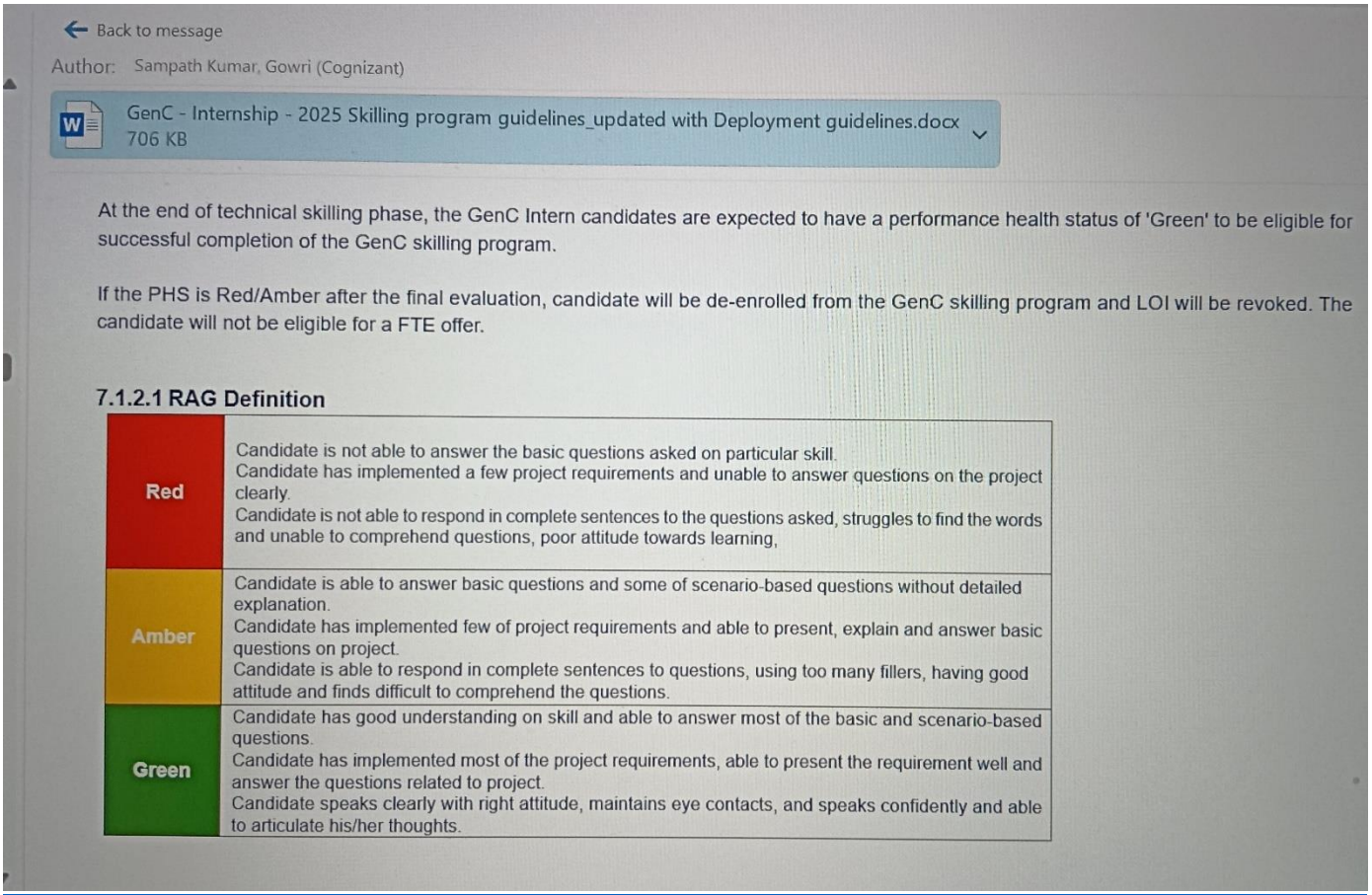
Candidate's Name : Achal Singh
Date : 2025-05-07
Timeslot : 06:01 PM - 06:31 PM

In addition to your grades, we would like to provide the following comments on your performance:
She has prepared 85% from the training and had done good exercises too.

We believe that your continued effort and focus will lead to even greater success in the future. If you have any questions, please feel free to contact your respective coach.

We wish you continued success in your academic journey

Regards,
GenC HR Team



Back to message

Author: Sampath Kumar, Gowri (Cognizant)

GenC - Internship - 2025 Skilling program guidelines_updated with Deployment guidelines.docx
706 KB

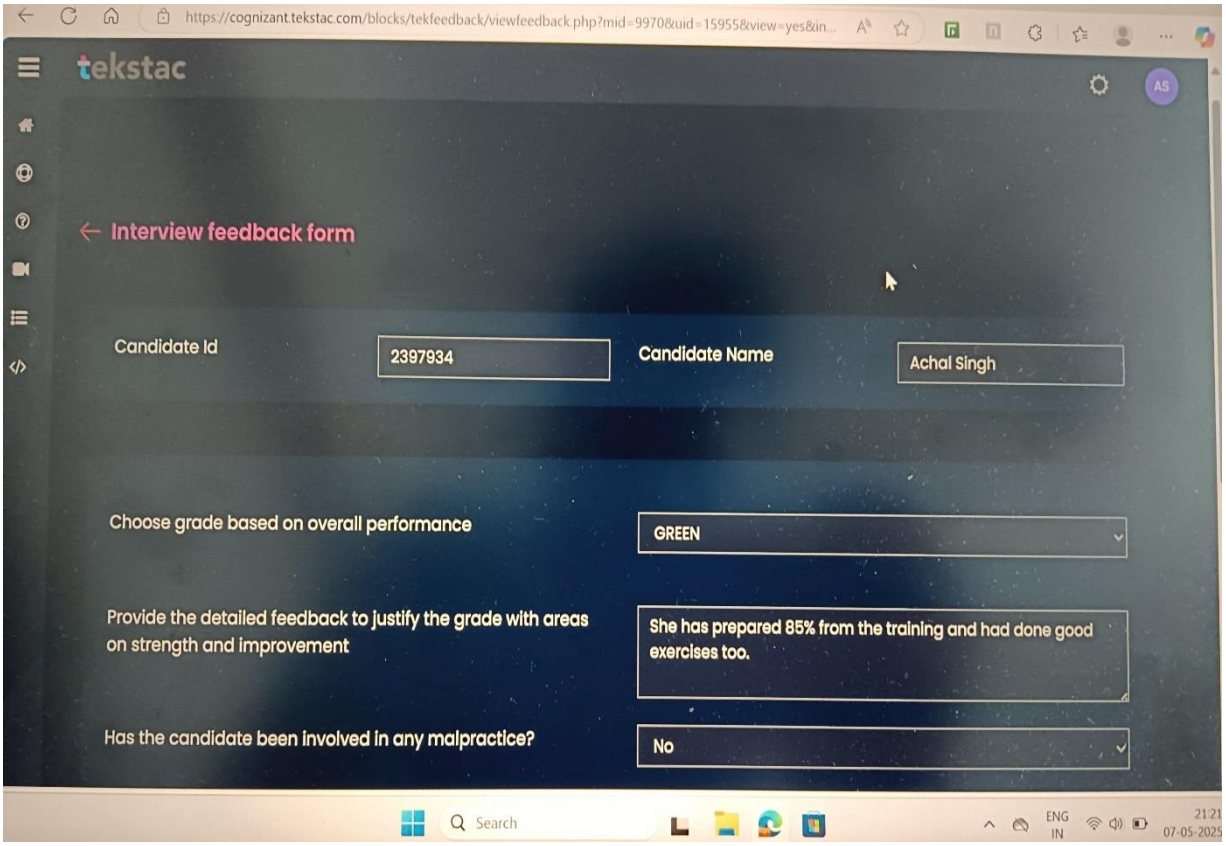
At the end of technical skilling phase, the GenC Intern candidates are expected to have a performance health status of 'Green' to be eligible for successful completion of the GenC skilling program.

If the PHS is Red/Amber after the final evaluation, candidate will be de-enrolled from the GenC skilling program and LOI will be revoked. The candidate will not be eligible for a FTE offer.

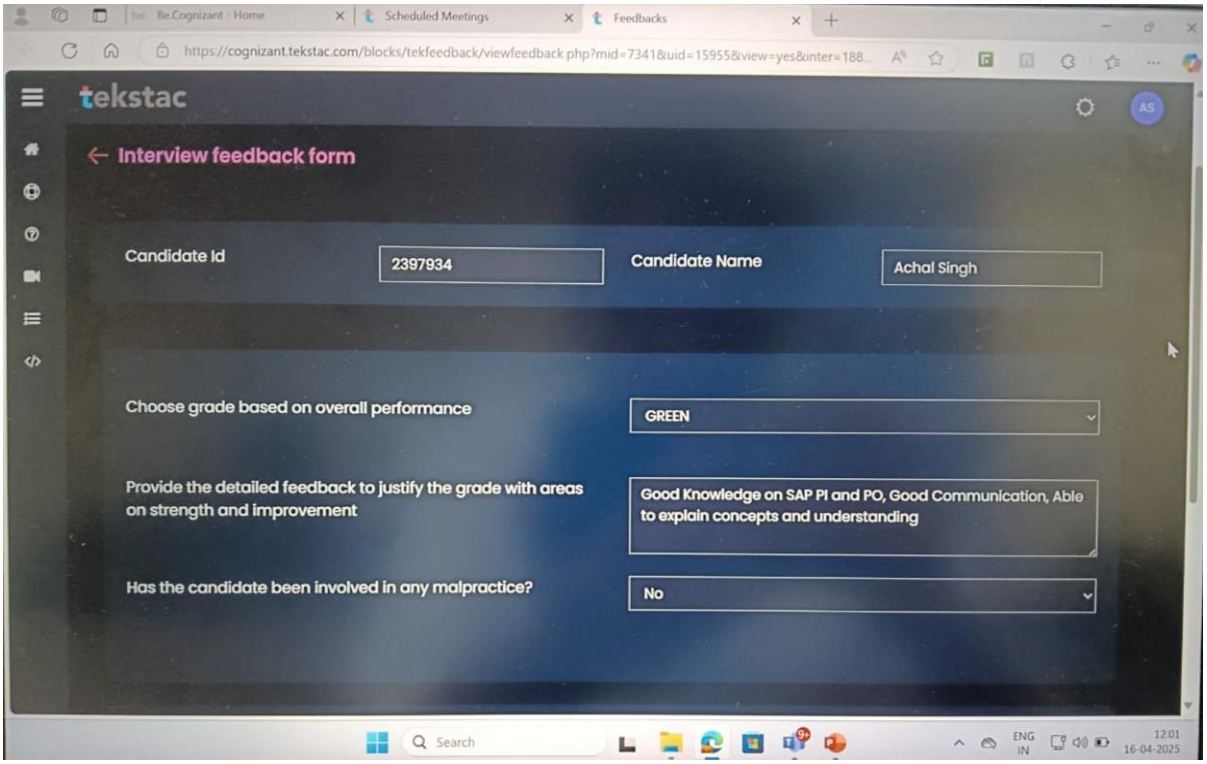
7.1.2.1 RAG Definition

Red	Candidate is not able to answer the basic questions asked on particular skill. Candidate has implemented a few project requirements and unable to answer questions on the project clearly. Candidate is not able to respond in complete sentences to the questions asked, struggles to find the words and unable to comprehend questions, poor attitude towards learning,
Amber	Candidate is able to answer basic questions and some of scenario-based questions without detailed explanation. Candidate has implemented few of project requirements and able to present, explain and answer basic questions on project. Candidate is able to respond in complete sentences to questions, using too many fillers, having good attitude and finds difficult to comprehend the questions.
Green	Candidate has good understanding on skill and able to answer most of the basic and scenario-based questions. Candidate has implemented most of the project requirements, able to present the requirement well and answer the questions related to project. Candidate speaks clearly with right attitude, maintains eye contacts, and speaks confidently and able to articulate his/her thoughts.

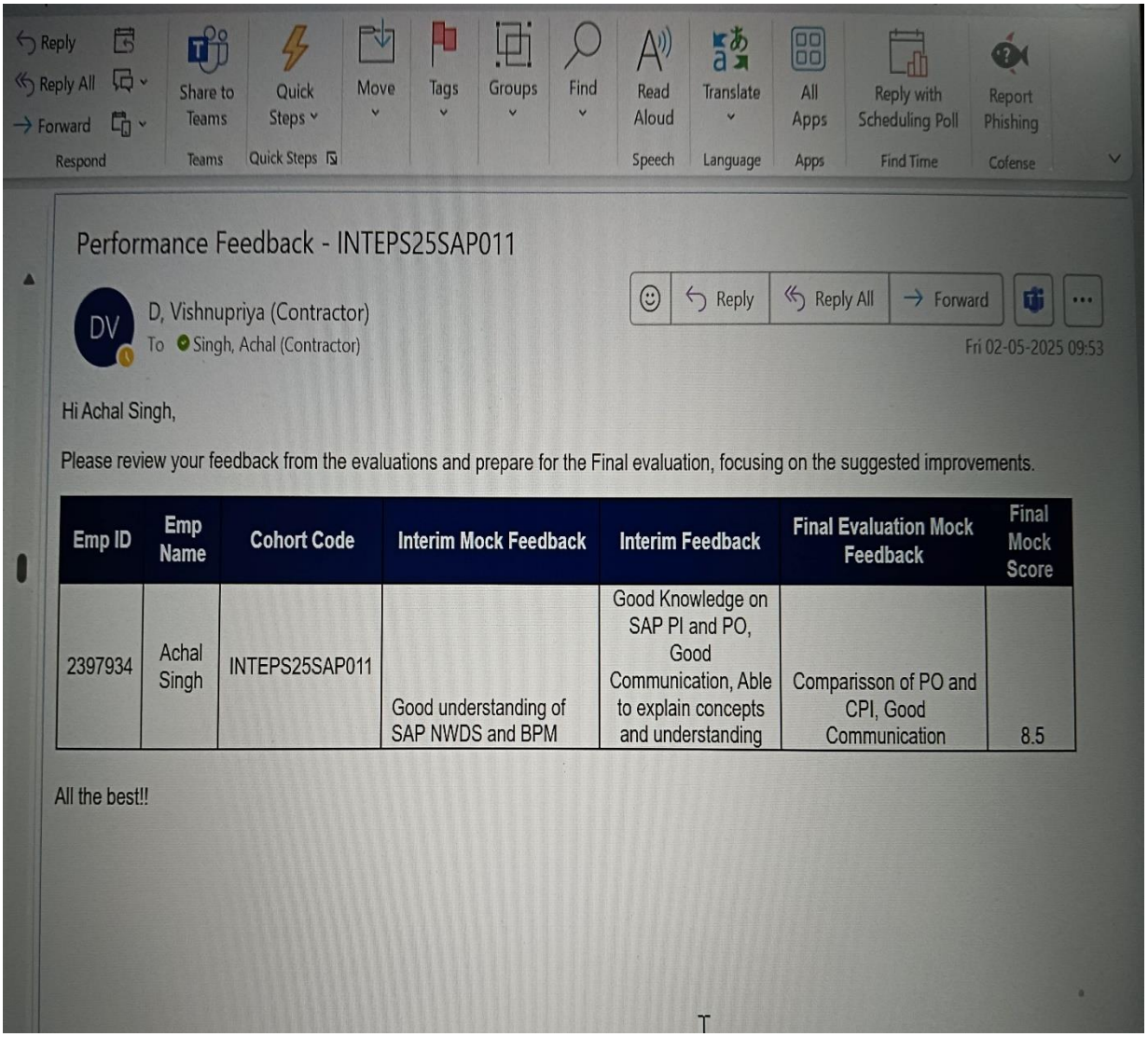
Interim Evaluation Result –



Final Evaluation Result-



Performance Review By Lead-



Reply | Reply All | Forward | Share to Teams | Quick Steps | Move | Tags | Groups | Find | Read Aloud | Translate | All Apps | Reply with Scheduling Poll | Report Phishing

Respond | Teams | Quick Steps | Speech | Language | Apps | Find Time | Cofense

Performance Feedback - INTEPS25SAP011

DV

D, Vishnupriya (Contractor)

To Singh, Achal (Contractor)

Reply | Reply All | Forward

Fri 02-05-2025 09:53

Hi Achal Singh,

Please review your feedback from the evaluations and prepare for the Final evaluation, focusing on the suggested improvements.

Emp ID	Emp Name	Cohort Code	Interim Mock Feedback	Interim Feedback	Final Evaluation Mock Feedback	Final Mock Score
2397934	Achal Singh	INTEPS25SAP011	Good understanding of SAP NWDS and BPM	Good Knowledge on SAP PI and PO, Good Communication, Able to explain concepts and understanding	Comparisson of PO and CPI, Good Communication	8.5

All the best!!

cognizant

21-Feb-2025

Candidate ID: 31568244

Achal Pratap Singh
B.Tech Computer Science & Engineering
Noida Institute of Engineering and Technology, Greater Noida

Dear **Achal Pratap Singh,**

Further to our Letter of Intent for the position of Programmer Analyst Trainee / Programmer Analyst aligned to the hiring category, we are pleased to offer you an internship with us at Cognizant office for **a period of 3 to 6 months**. Your internship on-boarding will be scheduled based on your availability factoring your college exam schedule, availability of your Provisional Certificate and our business requirements.

During this period, you will be provided with a stipend of **INR 12,000** per month equated to the planned duration of the Internship curriculum and will be paid only subject to successful completion of milestones as defined in the curriculum, prior to the monthly stipend processing window, for a given month based on your performance and attendance.

Though Cognizant Internship is a skilling program aimed at enhancing technical acumen , it does not guarantee employment and there is no employer – employee relationship during the course of this internship program. However, the successful completion of internship will form a critical part of your eligibility for employment with Cognizant if an opportunity arises in future.

You will be provided a learning curriculum as per the skill track assigned to you. The learning design would expect you to drive your learning through hands on exercise and project work. There will also be series of webinars, quizzes, Subject Matter Expertise (SME) interactions, mentor connects, code challenges, assessments etc. to accelerate your learning. The outcome during Internship would be monitored through formal evaluations.

Prior to joining on the rolls of Cognizant, you must have successfully completed the prescribed Internship program. In the event of unsatisfactory performance during the Internship or non-completion of the Internship, no Internship Completion Certificate shall be issued by Cognizant. Cognizant reserves rights at its sole discretion to revoke its Letter of Intent.

Section A: Terms and Conditions:

1. The Internship timings would be for 10 hours per day from Monday through Friday aligned to the working timings followed in Cognizant which based on the need could also be operated on a shift model. Attendance is mandatory on all the days to stay active in the Internship Program. The Internship Offer would be cancelled if the mandatory requirement of minimum 85% attendance at office is not met in a month.

2. Interns are covered under Cognizant's calendar holidays of the respective location of internship, and you would need to adhere with minimum attendance requirements. Prior approvals are must towards any unavoidable leave or break requests during the program and the internship would be cancelled if leaves are availed without prior approvals.

3. You would be required to ensure timely completion and submission of assignments, project work and preparation required prior to the sessions failing which your internship would be cancelled.

4. The Technical skills track mapped could change at the start or mid-way or even later during the program depending on business demand changes and you would be required to be flexible for this change failing which your internship would be cancelled.

5. Stipend payment will be done for the prescribed Internship Curriculum period only and no additional payment will be done for any delay in completion. Attendance and successful completion of Milestone(s) are the eligible factors for processing stipend payment and tenure spent will not guarantee your monthly stipend payment.

6. There would be zero tolerance to plagiarisms and misconduct during the internship. Adherence to Cognizant Internship policies and guidelines is mandatory and any breach or incident reported will lead to immediate cancellation of Internship without any notice. You would be required to complete Cognizant mandatory trainings such as Code of Conduct and Acceptable Use Policy (AUP) within the given timelines.

7. During the course of your Internship and at all times, you shall be governed by Cognizant's Social Media Policy and shall, refrain from posting malicious, libelous, defamatory, false, obscene, political, anti-social, abusive, and threatening messages/statements or disparaging the Company, clients, associates, competitors, or suppliers or any third parties, irrespective of whether any such statements are likely to cause damage to any such entity or person. Any breach of this section would lead to immediate cancellation of the Internship.

8. Cognizant reserves rights regarding IT infra as applicable and access to information and material of Cognizant during the internship period and may modify or amend the Cognizant GenC program terms and conditions from time to time.

9. It is hereby clarified that participation in this Internship shall not constitute you to be an employee of Cognizant nor obligates Cognizant for any purpose whatsoever. The scope of this Internship does not include any supervisory responsibilities and that there is no agency, fiduciary or employer-employee relationship intended or created by reason of this document.

10. Cognizant holds all rights to cancel this Internship Offer due to non-conformance of performance benchmark or moral code of conduct or in case of you failing to participate in the Internship within the given date/timeline or for such other any reasons upon providing written communication of the same to you. Upon such cancellation of this Internship Offer, your access and participation in the Internship shall stand cancelled.

11. At the time of your reporting for the internship, you will be required to sign a Non – Disclosure Agreement with the company. During the course of your internship and after completion of the same, you are required to maintain strictest confidentiality with respect to company proprietary or products that you access or come into contact with, during your project as an Intern, at all times as per our Policy. Use of company proprietary information or products shall not be made without prior permission from the concerned authority. Any breach of information security will be dealt as per Company Policy.

12. After successful completion of your internship if there is a business demand which expects you to get enabled on a different skill, you would be onboarded as full-time employee (FTE) and deployed into another formal training based on business demand to a specific skill track which will be used as basis towards your allocation to projects/roles. Successful completion of this training is mandatory to continue as an FTE with Cognizant.

13. This offer from Cognizant shall be active and **valid for only 3 calendar days** and hence you are expected to accept or decline the offer through the company's online portal within the said time-period of 3 calendar days and you will also be required to submit the mandatory documents at least **7 days** before your Internship Onboarding Date as part of your Pre-joining & Background Verification (BGV) process. In case you don't comply to the above timelines or if the background verification checks reveal unfavorable results at any time, this Offer shall stand withdrawn and will be considered as cancelled. Any official written extension to the offer validity and the above-mentioned timelines will be at the sole discretion of Cognizant.

14. For avoidance of doubt, it is herewith stated that the Internship shall stand cancelled on the below scenarios as well:

a. In the event of you accepting this Internship Offer but not joining into the Internship on the specified date and at the specified location of on-boarding.
b. In the event of you not accepting this Internship Offer or failing to communicate acceptance within 3 calendar days as stated above, the opportunity to do internship will be cancelled.
c. For such other operational, regulatory reasons including breach of terms herein.

Thereupon, your access shall also stand revoked, and Cognizant shall not be obligated to extend nor be liable for any claims due to cancellation of this Internship Offer.

On any of the above-mentioned scenarios (Refer to **Section A: Terms and Conditions**), if your Internship Offer has been cancelled then your Letter of Intent would also be revoked at the sole discretion of Cognizant

Below are the **mandatory documents** to be submitted as part of your **Background Verification:**

- Your Pan Card
- Letter of Authorization (LOA) which should be downloaded from the BGV application hand signed with your name and date and re-uploaded back to the application

Below are the **mandatory documents** to be submitted as part of your **Pre- joining formalities:**

- 2 Passport sized Photographs preferably with a White background
- Personal individual bank account from a nationalized bank for processing stipend

In case of additional queries or concerns, you can raise a query at
https://campus2Cognizant.cognizant.com

We wish you good luck.

Yours sincerely,
For **Cognizant Technology Solutions India Pvt. Ltd.,**

Maya Sreekumar
Vice President - Human Resources

I have read the offer, understood and accept the above mentioned terms and conditions.

Signature: **Date:**

Achal Pratap Singh

achalpratapsingh1220@gmail.com 7991257408 Noida LikedIn GitHub

EDUCATION

Bachelor of Technology (Honors) in Computer Science 2021 – 2025
Noida Institute of Engineering & Technology Greater Noida, India
Grade- 75.40%

Intermediate 2021
BNSD SIKSHA NIKETAN I C Kanpur, India
Grade - 77%

Matriculation 2019
SJS PUBLIC SCHOOL Raebareli, India
Grade- 90.40%

PROFESSIONAL EXPERIENCE

Programmer Analyst Trainne 03/2025 – present
Cognizant Technology Solutions Chennai, India

- Worked on **SAP BTP Integration Suite** to design, develop, and monitor integration flows (**iFlows**) between SAP and non-SAP systems.
- Gained hands-on experience with **PI/PO (Process Integration/Process Orchestration)** for enterprise-level data exchange and process automation.
- Developed and maintained custom integration logic using **Groovy scripting** within the Integration Suite.
- Built and consumed **REST/SOAP APIs** to enable smooth data transfer across platforms.

Internship 07/2024 – 09/2024
Sopra Steria Noida, India

- **Developed HR Analytics Dashboards** using **Power BI** to visualize and analyze key business metrics.
- **Managed Data Integration** through SQL, ensuring accurate data extraction, transformation, and loading (ETL) processes.
- Collaborated on **SharePoint Projects** to improve document management and workflow automation for team efficiency.

PROJECTS

ODOP: A New Era for Local Producers 01/2024
Developing solution to effective market linkage an e-commerce site and promotion of One District One Product (ODOP)

- **Role**: Responsible for all aspects of project planning, design and development.
- **Technologies Used**: Vite+React.js, React Query, HTML5, CSS3, SCSS, Express.js, Node.js, MongoDB, JavaScript ,Git Hub, Vercel.

SKILLS

Languages
Java, Python, JavaScript, Groovy Script, HTML/CSS

Frameworks
React.js, Vite.js, Express.js, Node.js, Svelte.js

Coursework
Data Structures & Algorithms , Database Management System (DBMS) , Operating Systems OOPS Concept , Web Development , Machine Learning , Cloud Computing , MongoDB , MySQL

ORGANIZATIONS

NIET Cloud Shastra and Innominds Club
Vice President

Smart India Hackathon 2024
Team Lead