INDUSTRIAL TRAINING

(PHASE-I)

Undergone at

GAIL (India) Limited

Noida

A PRESENTATION REPORT

On

Family Details Management

Submitted by

Tanishq Babbar
RA1711003011357

in partial fulfillment for the award of the degree of

BACHELOR OF

TECHNOLOGY IN

COMPUTER SCIENCE ENGINEERING

SRM Nagar, Kattankulathur - 603203
Kancheepuram District, Tamil Nadu.

JUNE 2019

ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely privileged to have got this all along the completion of my industrial training. All that I have done is only due to such supervision and assistance and I would not forget to thank them.

I respect and thank ***Dr. C. Muthamizhchelvan, Director, Faculty of Engineering & Technology, SRM Institute of Science and Technology*** *for providing me an opportunity to do the training and giving us all support and guidance, which made me complete the training duly. I am extremely thankful to him for providing such a nice support and guidance, although he had busy schedule.*

I owe my deep gratitude to ***Dr. B. Amutha, Head, Computer Science Engineering*** *who took keen interest on our training and guided us all along, till the completion of our training by providing all the necessary information for developing a good system.*

I would not forget to remember ***Ms. Aswathy K Cherian, Class Incharge*** *for her encouragement and more over for her timely support and guidance till the completion of our training.*

Tanishq Babbar

BONAFIDE CERTIFICATE

Certified that the report on (Family Details Management) is a proof of successful completion of Industrial Training Phase–I program undergone by Tanishq Babbar (Register no. RA1711003011357) in the company GAIL (India) Limited located at Noida in the period of June 2019.

Date

Signature of the
Industrial Training In-charge

Certificate of Internship

गेल (इंडिया) लिमिटेड
(भारत सरकार का उपक्रम - महारत्न कम्पनी)
GAIL (India) Limited
(A Govt. of India Undertaking - A Maharatna Company)

गेल ट्रेनिंग इंस्टिट्यूट
प्लॉट नं.-24, सैक्टर 16-ए, नोएडा
जिला-गौतम बुद्ध नगर (उ.प्र.) पिन - 201301
GAIL Training Institute
Plot No.- 24, Sector-16-A, Noida
Distt. - Gautam Budh Nagar (U.P.) PIN - 201301
फोन/PHONE : +91-120-2515353/354/355/363
फैक्स/FAX : +91-120-2511134

CERTIFICATE OF INTERNSHIP

This is to certify that **Mr. Tanishq Babbar,** student of student of B. Tech (CSE), from **SRM Institute of Science and Technology** has undergone Vocational Training from 10.06.2019 to 28.06.2019 at BIS Department, GAIL (India) Limited, Jubilee Tower, Sector-1, Noida. During the above period, he submitted a Project Report on **"Family Details Management"**

His performance and conduct was very good during this period.

GAIL wishes him best of luck for his career and future endeavors.

(K M Singh)
DGM (Training)

Date: June 28, 2019

पंजीकृत कार्यालय :
गेल भवन, 16, भीकाएजी कामा प्लेस,
नई दिल्ली-110 066 इंडिया

REGD. OFFICE :
GAIL BHAWAN, 16, BHIKAJI CAMA PLACE,
NEW DELHI-110 066, INDIA

सीआईएन/CIN
L40200DL1984GO1018976

Website : www.gailonline.com

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DECLARATION

I hereby declare that the presentation report submitted titled “Family Details Management”, is a record of my industrial training program which I had undergone in the company Gail (India) Limited, Noida during the end of the fourth semester between the period 10th June to 28th June 2019.

Signature of the Student

RUBRICS FOR EVALUATION

S. No	Marks Split up	Maximum marks	Marks Obtained
1	Report Preparation	50	
2	Presentation	25	
3	Quiz and Viva	25	
	Total	100	

Signature of the Staff

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About the Organization: GAIL (India) Limited

GAIL (India) Limited is India's principal Natural Gas Company with activities ranging from Gas Transmission and Marketing to Processing (for fractionating LPG, Propane, SBP Solvent and Pentane), transmission of Liquefied Petroleum Gas (LPG) and production and marketing of Petrochemicals like HDPE and LLDPE. The company has extended its presence in Liquefied Natural Gas (LNG) sourcing and re-gasification, City Gas Distribution, Exploration and Production and Power and Renewable Energy through equity and joint venture participations.

With a lean and thin work force of around 4,000 employees, GAIL plays a significant role in the nation's social and economic development and contributions towards energy security of the country. As recognition of its capacity to emerge as a global company and the significant role it plays in the country's economic development, GAIL has been bestowed with the status of ***Maharatna*** company by the Government of India, the youngest Public Sector Undertaking to have been accorded the coveted grade.

Mission

To accelerate and optimize the effective and economic use of Natural Gas and its fractions to the benefit of national economy.

Vision

Be the Leading Company in Natural Gas and beyond, with Global Focus, Committed to Customer Care, Value Creation for all Stakeholders and Environmental Responsibility.

GAIL and Information Technology

GAIL is an IT-savvy organization and is continuously adopting the latest and state-of the- art IT solutions, keeping pace with the fast-changing industry. This helps in continuous efficiency and productivity improvement of employees and also enables right information to the right person by the use of latest IT security solutions.

GAIL has migrated business-critical applications to a centralized private cloud platform, along with Disaster Recovery (DR) IT infrastructure, in line with the industry's latest technological advancements. System's manageability and availability have been enhanced substantially with this future-ready and DR-enabled cloud infrastructure. GAIL has completed implementing an electronic Document Management System (DMS), in line with the industry best practices. This enabled the Company to digitize important documents and records across locations and also provided electronic workflow and secure authorization-based access to information.

GAIL is in the forefront of leveraging IT to bring in systemic improvements. GAIL has been recently awarded with SAP ACE Award for Best Run Award for innovative use of SAP. During the year, it has also been certified as Customer Centre for Expertise (CCOE) by SAP. With the implementation of JVA, GAIL has enhanced efficiency, transparency and regulatory compliance in E&P activities. GAIL has also initiated implementation of centralized enterprise-wide Geographic Information Systems (GIS)-based Pipeline Integrity Management System for its cross-country pipeline network, using industry standard assessment models to fulfil the national/international statutory codes. This will ensure seamless and consistent data flow from engineering to operations and will also result in continuous updation of O&M data and aging of the pipelines.

SAP-ERP IN GAIL

GAIL has implemented Enterprise Resource Planning (SAP-ERP) system. Implementation of ERP will lead to the operational efficiency, productivity and customer satisfaction levels, besides optimization of cost, inventory and manpower utilization. This will also lead to efficient Supply Chain Management. ERP implementation would also lead to Integrated business & process control systems, Standardized processes by adopting best industry practices across locations and functions, Efficient and timely provision of Management Information for better decision support and operational control, and Enabling internal performance measurement and Improved responsiveness to changing market conditions.

Apart from ERP, GAIL has implemented SAP-Business Information Warehouse for reporting and analysis purpose, SAP-SRM for e-tendering, SAP-CRM for customer service.

REVIEW OF LITERATURE

Introduction to SAP

SAP SE (Systems, Applications & Products in Data Processing) is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. Headquartered in Walldorf, Germany, SAP SE is the market leader in enterprise applications and software.

The SAP system is a collection of software that performs standard business functions for corporations. The system has become very popular because it provides a complete solution to standard business requirements such as manufacturing, accounting, financial management, and human resources. It incorporates the concepts of enterprise resource planning (ERP) and business process re-engineering (BPR) into an integrated solution for business applications.

The SAP System Architecture

All SAP applications are delivered in three-tier client/server architecture. The three layers are:

- **Presentation layer**

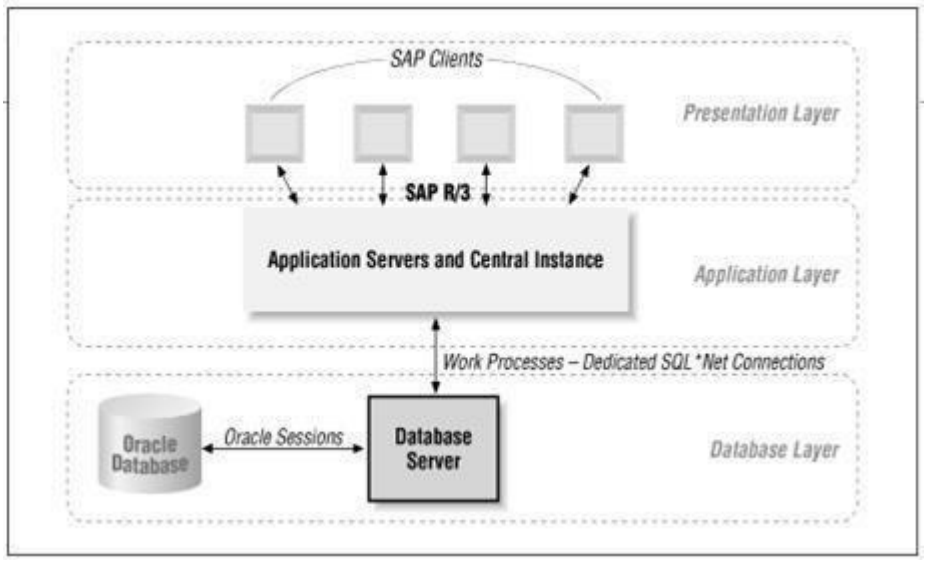
  The PC-based GUI interface that is used by the end-user community.

- **Application layer**

  The SAP application servers that service requests for data and manage the interface to the presentation layer.

- **Database layer**

  The actual DBMS that communicates with the application servers to fulfil their requests for data.



Three-tier client-server system of SAP

At the heart of the SAP application is a central relational database. This relational database defines and links thousands of tables of information, providing flow and congruency of the information across the whole of the operating environment.

SAP provides wide variety of transactions to make it easy to work with the database tables through an interactive front-end SAP GUI screen. The front-end screen allows SAP users to work with data in a friendly, formatted presentation.

SAP groups transactions into an architectural hierarchy known as business modules. Each business module represents the collection of logically related transactions used by a particular business area. For example, various material number maintenance transactions are collectively associated with other similar transactions-material drawing specifications, factory inventory specifications, material change management records, and so on-to further define a business's specifications of a material number. These material maintenance transactions would all be under a single SAP business module.

- **CLIENT**: It is possible that multiple files exist on an SAP server. Production, customization, training clients etc. One should be careful to choose the right client for the activity he/she conducts.

- **USER**: Enter your assigned user logon ID. A security administrator or a logon administrator should be defined within the IT team to help establish your logon ID.

- **PASSWORD**: Set the password accordingly to pass the security screen.

- **LANGUAGE**: Since SAP is an application with worldwide the language to be used should be specified beforehand. D stands for German (Deutche) and EN stands for English.

Advantages of SAP

1. It allows easier global integration.
2. It allows bridging some barriers like currency exchange rates, language, and culture automatically.
3. It provides real time information.
4. It reduces data redundancy and hence the possibility of redundancy errors.
5. By using it the company or enterprise have more efficient work environment.

Disadvantages of SAP

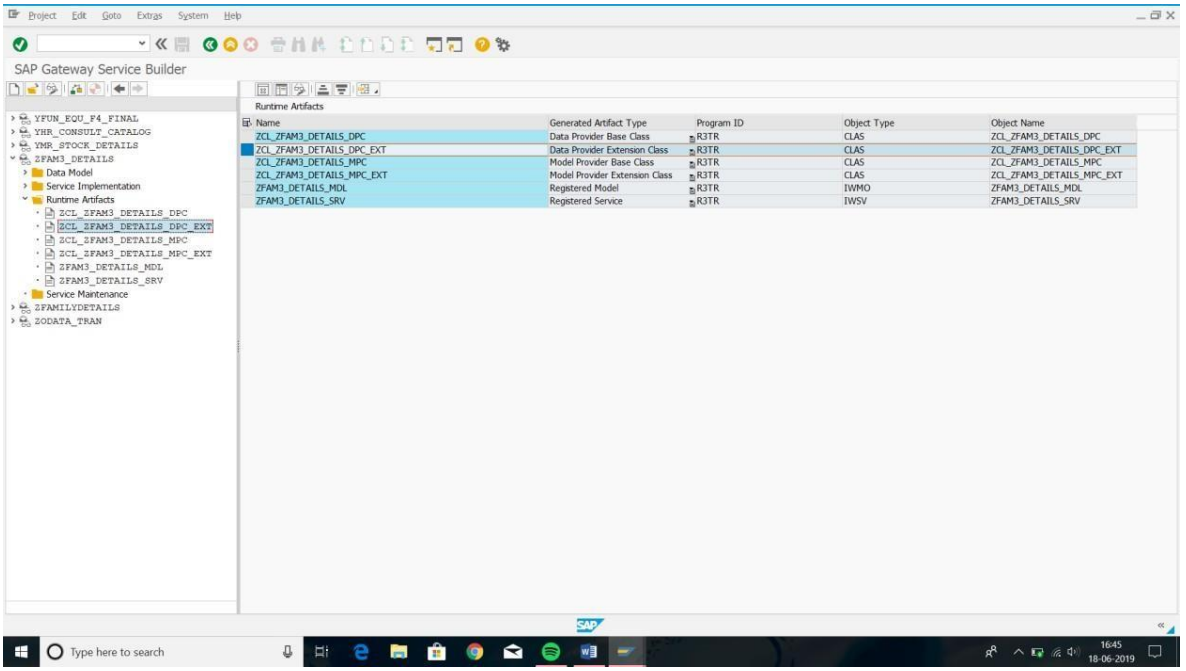
1. A contract is required to sign by the company to use SAP software and it holds that companies to the vendor until the expiry of the contract.
2. It is inflexible because sometimes the vendor package does not fit a company's business model.
3. To implement and use SAP can be very expensive.
4. Being a centralized system, it is at risk in absence of disaster recovery system.

ODATA SERVICES:

OData is used to define best practices that are required to build and consume RESTful APIs. It helps you to find out changes, defining functions for reusable procedures and sending batch requests etc.

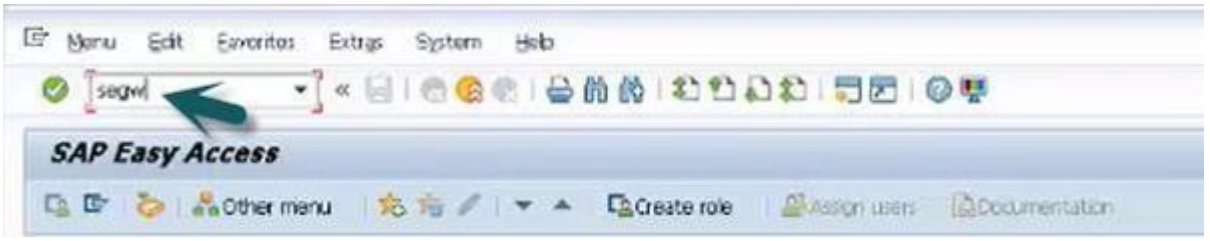
Some of the important features are −

- OData provides facility for extension to fulfil any custom needs of your RESTful APIs.
- REST stands for Representational State Transfer and it is sometimes spelled as "ReST".
- It relies on a stateless, client-server, cacheable communication protocol. In virtually all cases, the HTTP protocol is used.
- REST is defined as an architecture style for designing network applications.
- OData helps you focus on your business logic while building RESTful APIs without having to worry about the approaches to define request and response headers, status codes, HTTP methods, URL conventions, media types, payload formats and query options etc.
- OData RESTful APIs are easy to consume.



OData Service using SAP NetWeaver Gateway Service Builder:

Use the **T-Code: SEGW**

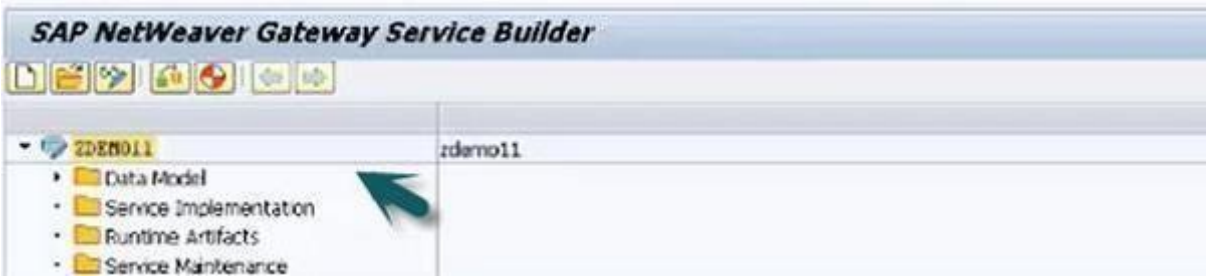


A new window will open. Click **Create Project.**

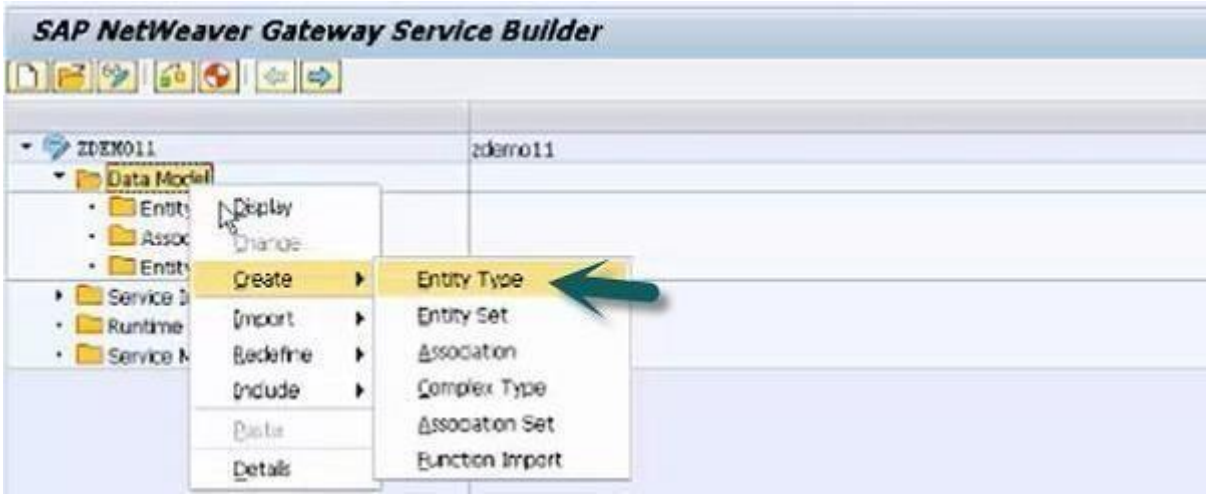
Now, follow the steps given below −

- Enter the Project name as shown in the image below. It should be unique and should not contain any special characters.
- Enter the description of the project as it is a mandatory field.
- Enter the different attributes such as Project Type,Generation Strategy.
- Select Package or click the local object, if you want to create this locally.

Once you click the local object, Service builder will create a new project with empty folder structure. All these are automatically created with a new project and click the save icon.



Now, to create an Entity type in data model. Expand the Data model → right click → Create → Entity Type.



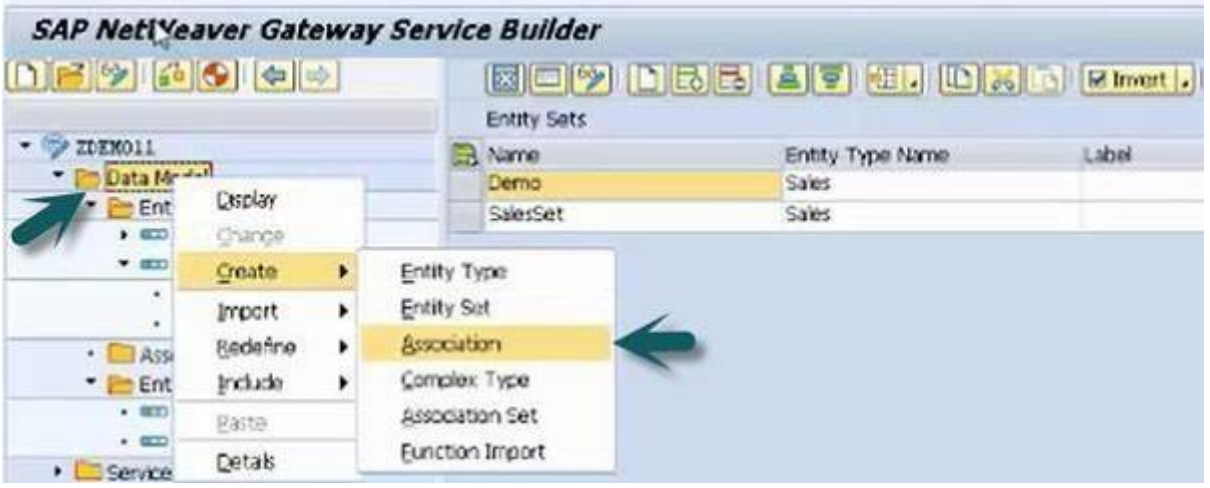
Enter the Entity type name and to create an entity set automatically, click on related entity set check box option.

Click the option **Insert row** to add another entity type in data model and add the details as given below. Click Save.

In a similar way, you can create an entity set by right-clicking the data model and enter the details or by using the **Insert Row** option in Entity Type.

The next step is to define association and relationship between different entities. It can be created in two ways, by using a wizard or by using mask edit view.

- Right click **data model → Create → Association** or
- Right click **Association folder → Create**



Double click **Association folder → Edit Mode → Insert Row**

Enter the details of the given labels −

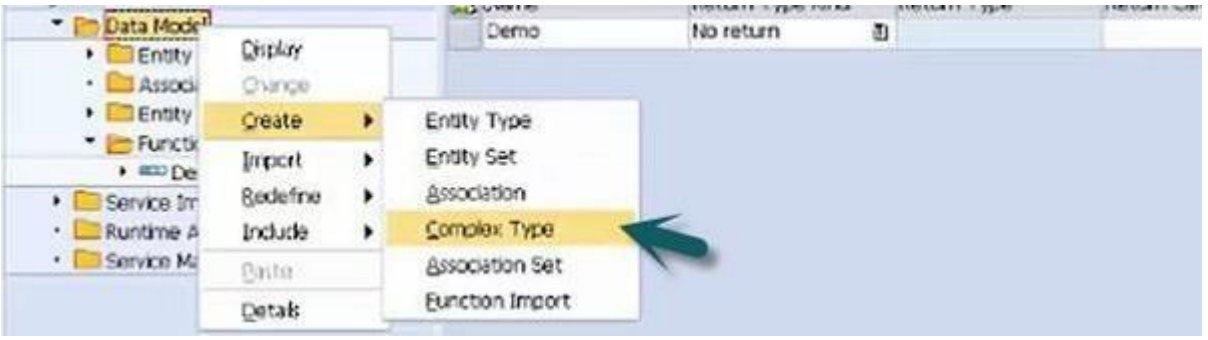
- Name for the association
- External Association Editor
- Principal entity and cardinality
- Dependent Entity and Cardinality

Click the **Association set**. Right click **data model → Create → Association Set**.

To create **Function Import** in Service Builder, right click **Data Model → Create → Function Import**.

Enter the name of **Function Import** and you can select from other options and click the **save icon**.

To define complex type, go to **Data Model → right Click → Complex type**.



Enter the details as per the requirement and Save.

This is how you can create Data model, Entity set, type, Association and Complex types.

How to Import Data Model:

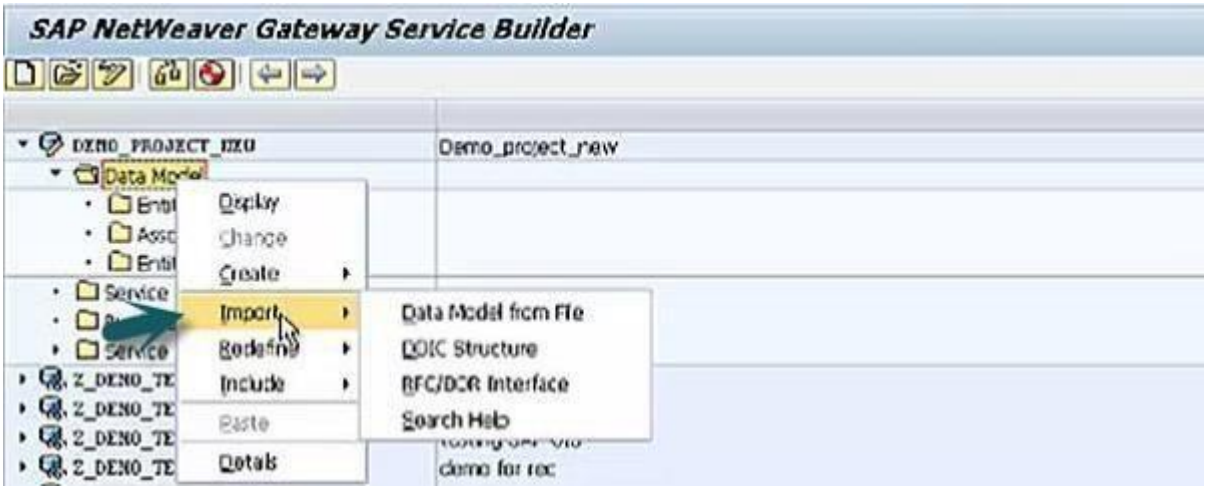
There are four options available to import Data Model from a file −

- Data model from File
- DDIC structure
- RFC/BOR Interface
- Search Help

To import data model, follow the steps given below −

Run T-code: SEGW

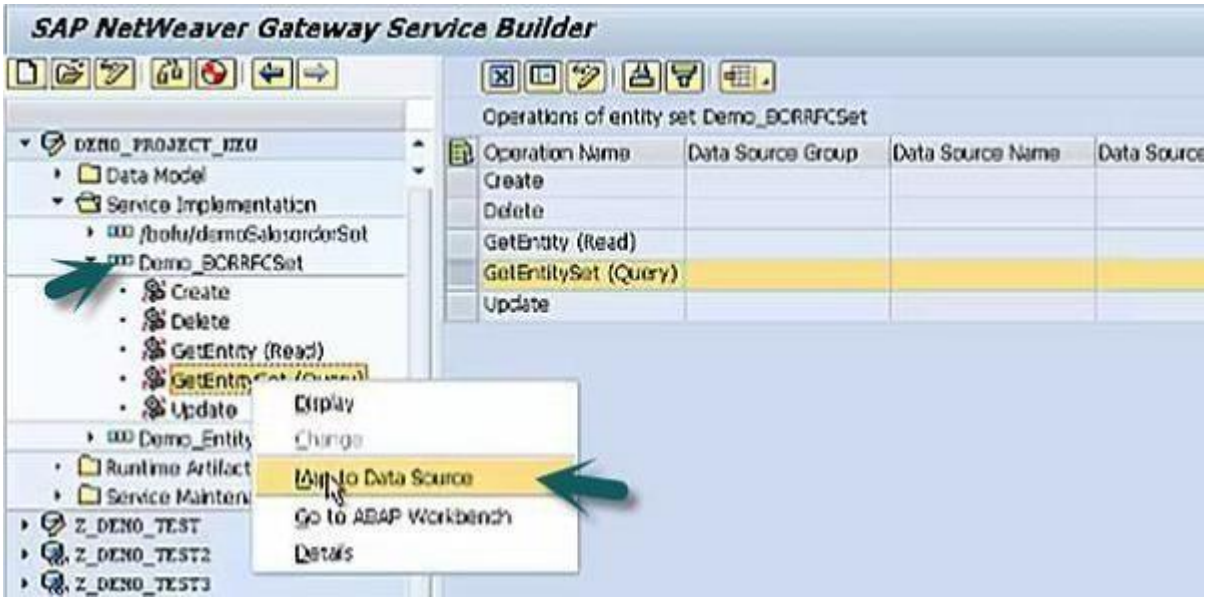
Right-click Project Name → Import → Select the import method



Enter the path and import Entity types, Entity sets, associations and complex types.

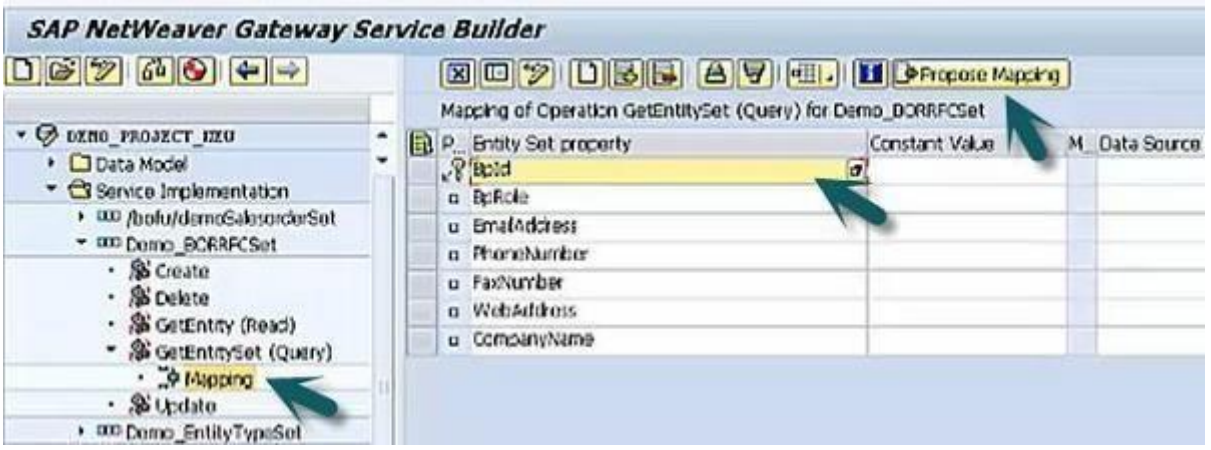
Mapping to DataSource:

Go to Data Model → Service Implementation → select Entity Set for Mapping



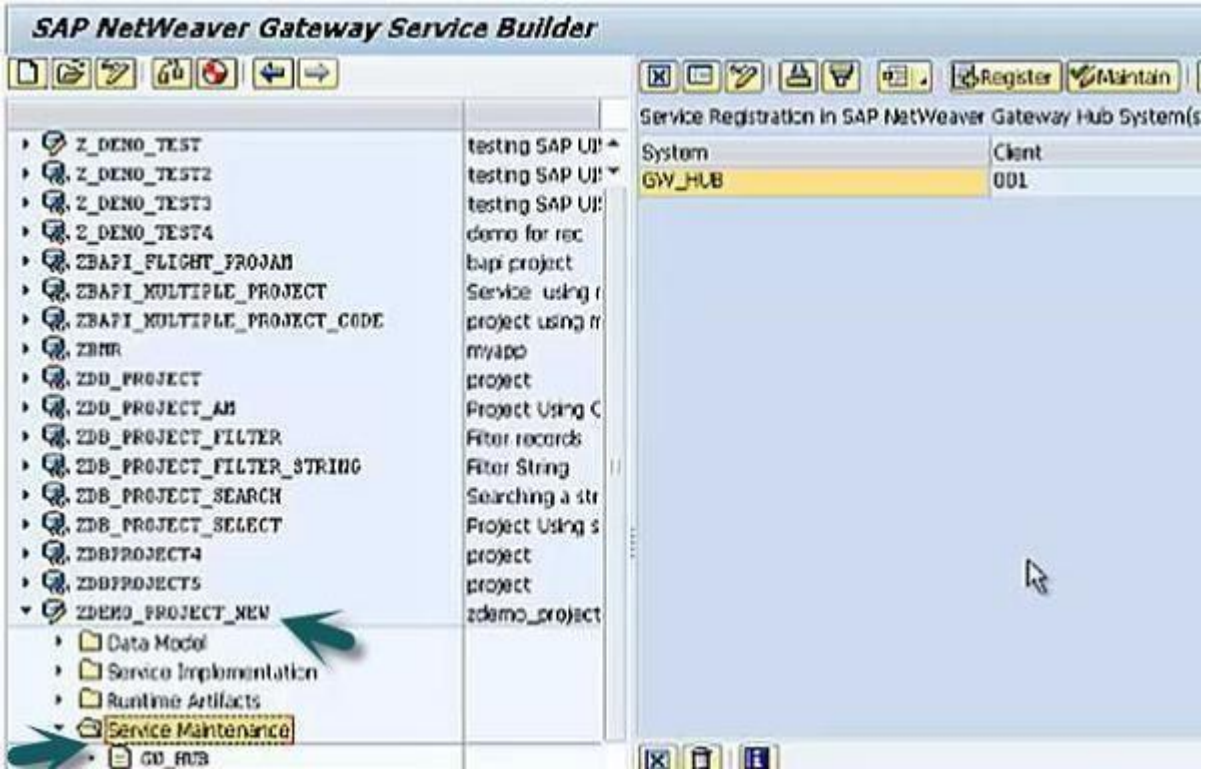
Enter the local or remote system data source, type and Name and save.

This will enable mapping node under query operation. You can do mapping for single objects or can also use the option of **Propose mapping** option.

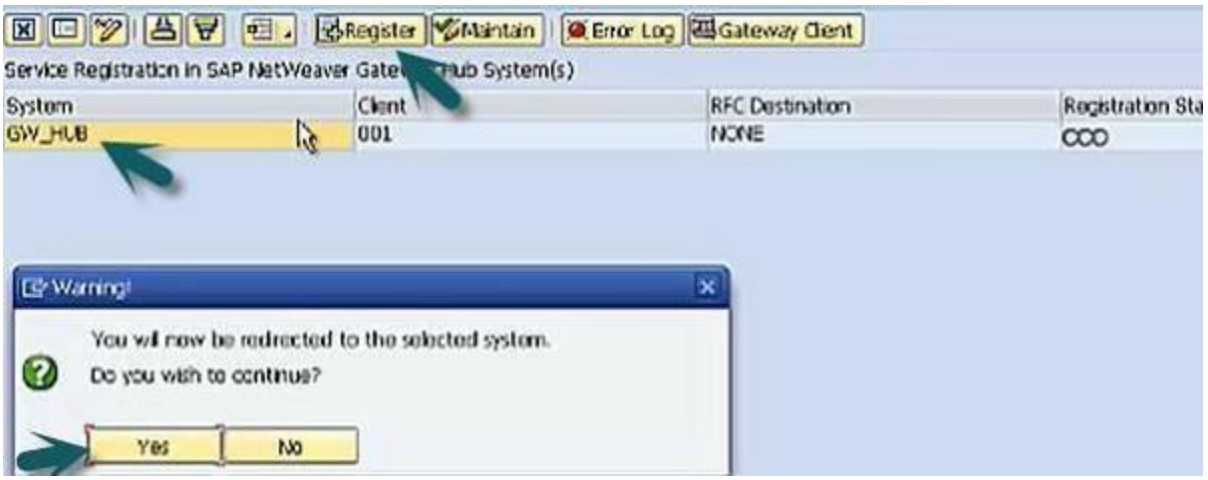


Service Maintenance and Registration:

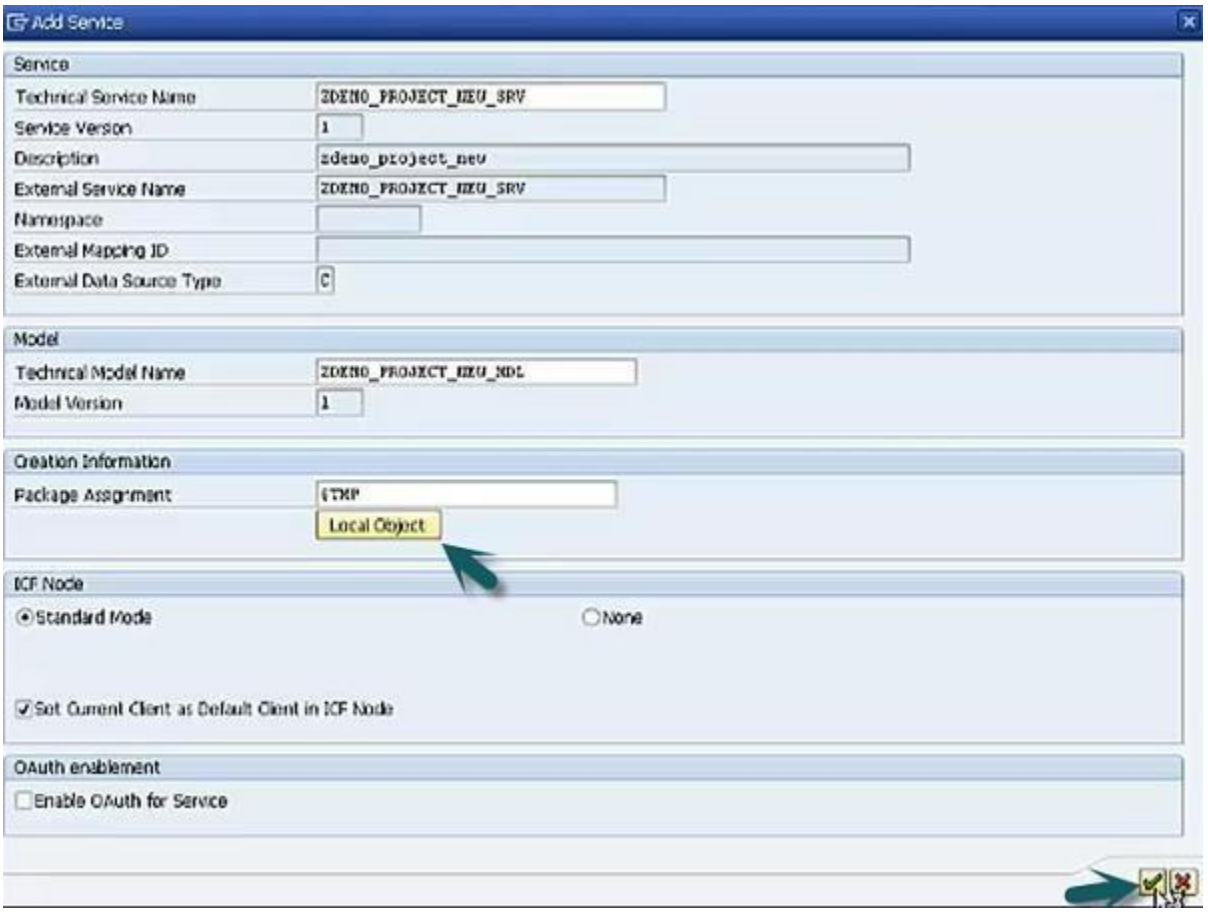
Go to **Data Model**. Double-click **Service Maintenance**.



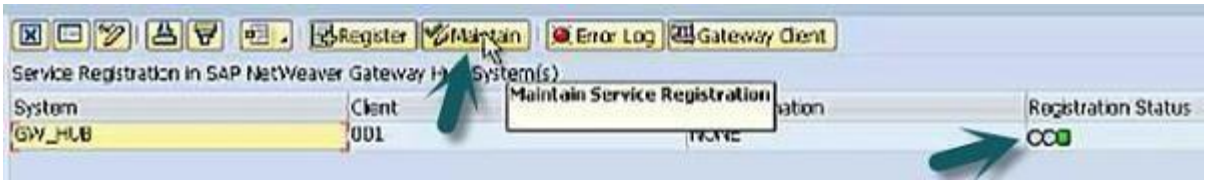
Select the system you want to register and click the **Register** option at the top.



Select the **project → Local Object** and then save by clicking the tick mark

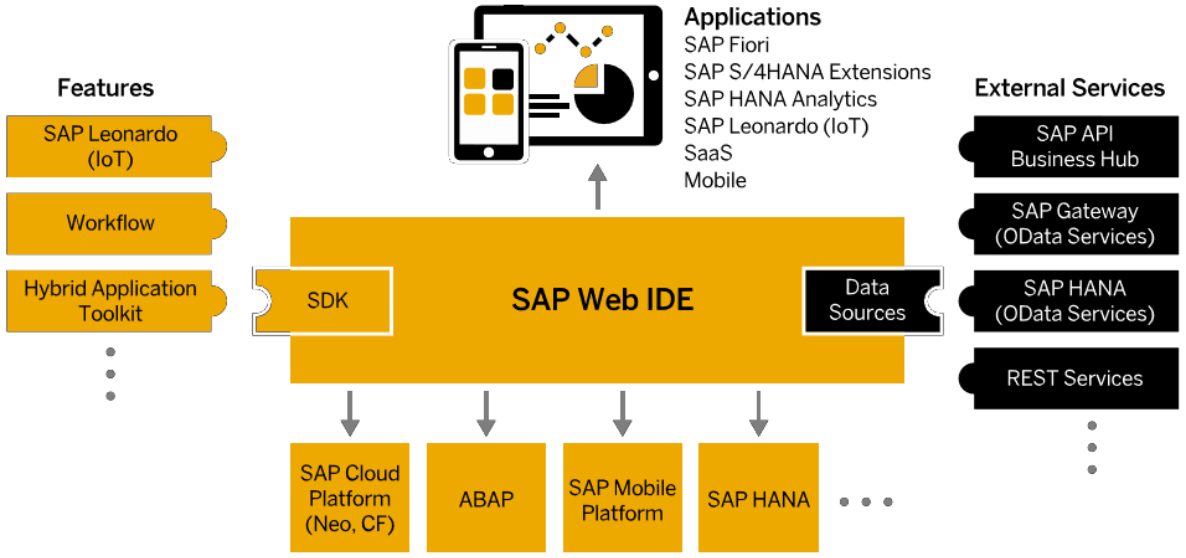


Check the **Service Registration** status.

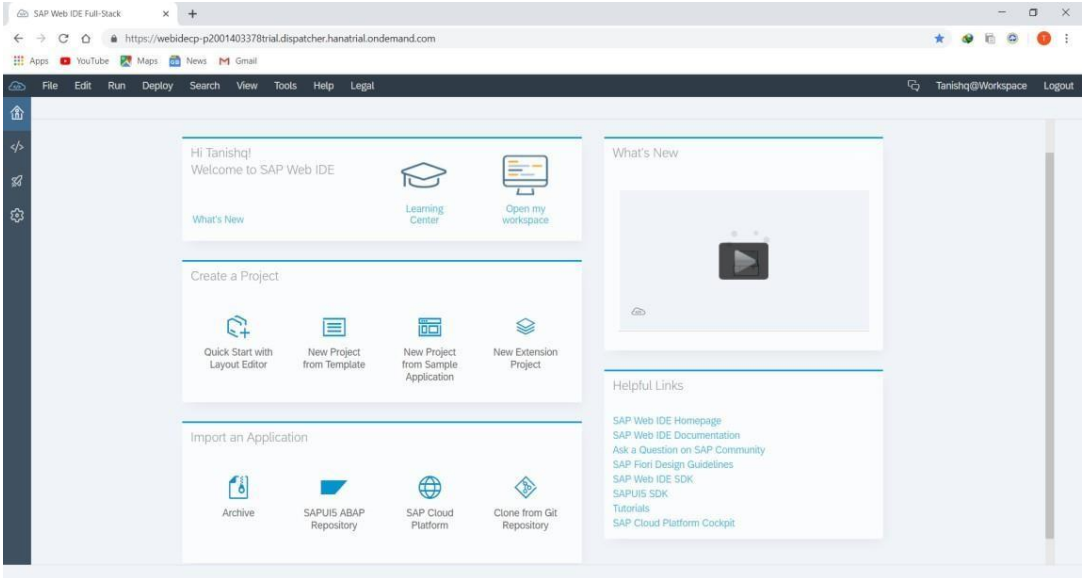


SAP WEB IDE:

SAP Web IDE is a powerful, extensible, web-based tool that simplifies both the development of end-to-end SAP Fiori apps and the full-stack (UI, business logic and database) application lifecycle. You can develop, debug, build, test, extend and deploy role-based, consumer-grade apps.



Use SAP Web IDE for developing and extending apps for a variety of platforms and data sources -- both SAP (on-premise or cloud), or non-SAP. Enrich the functionality of SAP Web IDE through a wide array of existing features from SAP or other vendors, or use the SDK to supplement the SAP Web IDE functionality.



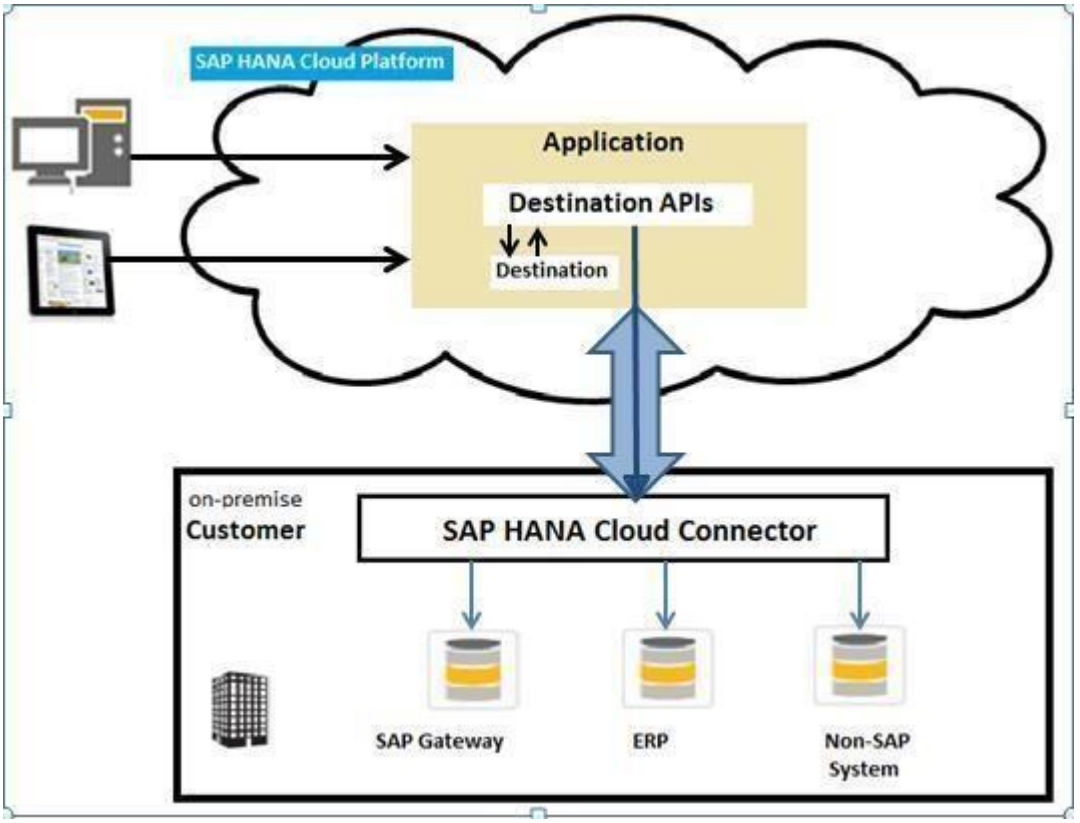
SAP CLOUD PLATFORM CLOUD CONNECTOR:

1. Overview

SAP HANA Cloud connector connects between on-demand applications in SAP HANA Cloud Platform and existing on-premise systems. The Cloud connector runs as on-premise agent in a secured network and acts as a reverse invoke proxy between the on-premise network and SAP HANA Cloud Platform.

Due to its reverse invoke support, the configuration is not required in the on-premise firewall to allow external access from the cloud to internal systems. The Cloud connector provides control over:

- On-premise systems and resources (HTTP or RFC) that shall be accessible by cloud applications.
- Cloud applications that shall make use of the Cloud connector.



1.1. Advantages

Compared to the approach of opening ports in the firewall and using reverse proxies in the DMZ to establish access to on-premise systems, the Cloud connector has the following advantages:

- In order to establish connectivity from SAP HANA Cloud Platform to an on-premise system, the firewall of the on-premise network does not require to open an inbound port.
- The Cloud connector supports HTTP and RFC protocols as of now. For example, the RFC protocol supports native access to ABAP systems by invoking function modules.
- The Cloud connector can be used to connect on-premise database, or BI tools to SAP HANA databases in the cloud in both direction
- The Cloud connector is easy to install and configure, that is, it comes with a low TCO and fits well to cloud scenarios. SAP provides standard support for it.

2. Step by step process to Install Cloud Connector

This document illustrates the step by step installation process of Cloud connector 2.x on Microsoft Windows OS.

2.1. Prerequisites

Below are the prerequisites for successfully installation of Cloud Connector 2.x.

2.1.1. Hardware

- Memory: 1 GB RAM (min.), 4 GB recommended
- Hard disk space: 1 GB (min.), recommended 20 GB
- CPU: Single core 3 GHz (min.), dual core 2 GHz recommended, x86-64 architecture compatible
- 64-bit operating systems: Windows 7, Windows 8.1, Windows Server 2008 R2, Windows Server 2012, or Windows Server 2012 R2.
- Cloud connector installation archive from SAP Development Tools for Eclipse.
- Microsoft Visual Studio C++ 2010 runtime libraries.
- Supported JDKs version : 6,7
- Environment variable for <JAVA_HOME> has been set to the Java installation directory, so that the bin subfolder can be found.

2.1.2. Software

- 64-bit operating systems: Windows 7, Windows 8.1, Windows Server 2008 R2, Windows Server 2012, or Windows Server 2012 R2.
- Cloud connector installation archive from SAP Development Tools for Eclipse.
- Microsoft Visual Studio C++ 2010 runtime libraries.
- Supported JDKs version : 6,7
- Environment variable for <JAVA_HOME> has been set to the Java installation

ABSTRACT

Project – Family Details Management

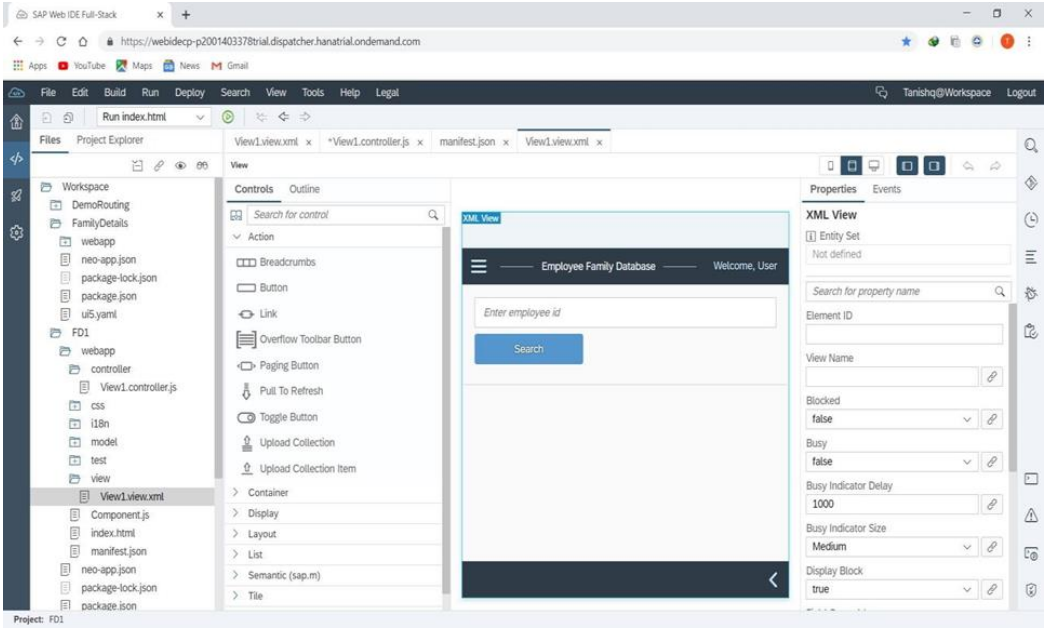
About the problem: In this project we have to define the odata services in sap NetWeaver gateway builder (SEGW) and display them in form of a web application (sapui5) on sap web ide using sap cloud platform cloud connector in a table format.

Project Description: In this project, a webpage is created using sap web ide which displays the required table. There is only one table in this project which displays the Employee ID, Family Members' Name and their Date of birth. This project converts an existing SAP T-Code into Web framework and makes it easily accessible on the web. Users can view the webpage by logging into 190 client and entering the URL

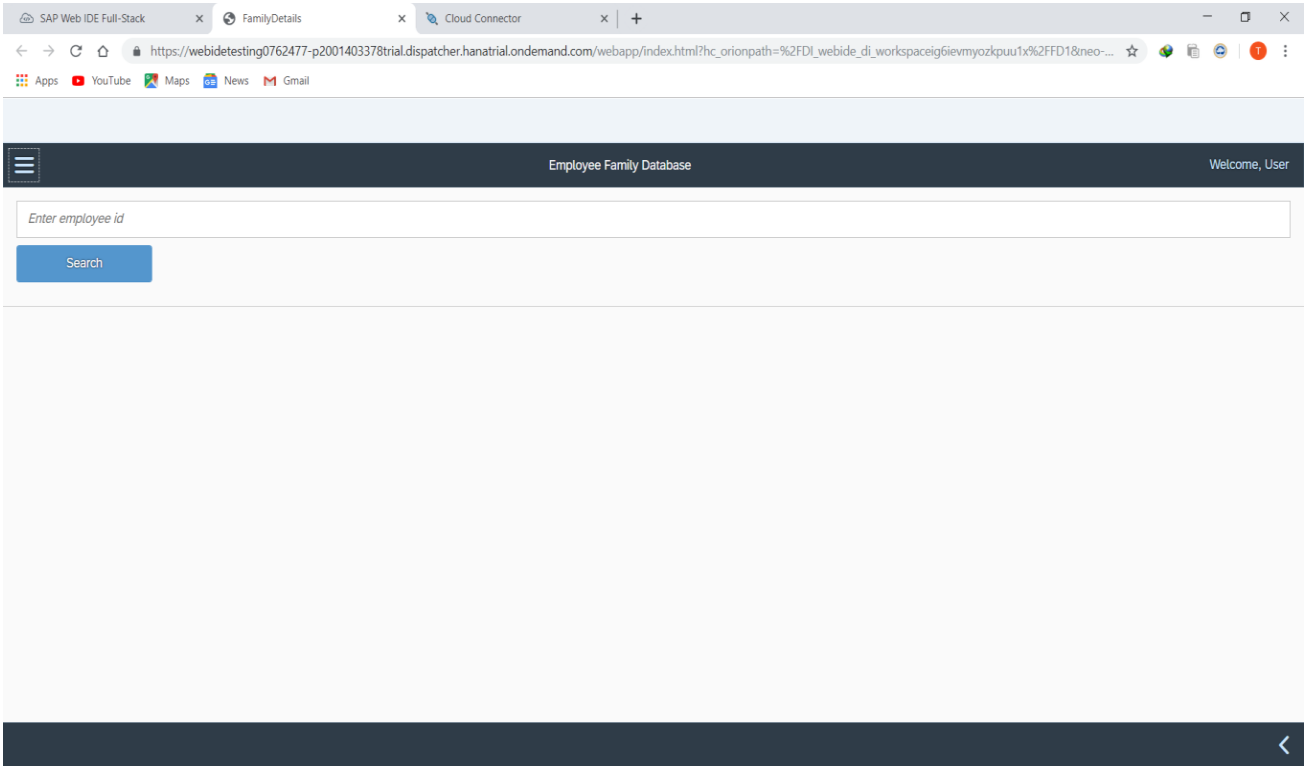
The required webpage looks as follows for the Employee ID "00000160".

Family Details of AJAY KUMAR DIXIT

Personnel Number	Date of Joining	Relationship	First Name	Last Name	Date of Birth
00000160	15.12.1984	Spouse	SAVITA	DIXIT	09.04.1964
00000160	15.12.1984	Father	Late SH. J.K.	DIXIT	31.10.1932
00000160	15.12.1984	Child	THREE	DIXIT THR	05.12.2011
00000160	15.12.1984	Child	FOUR	DIXIT DX	01.12.2009



OUTPUTS


SAP Web IDE Full-Stack
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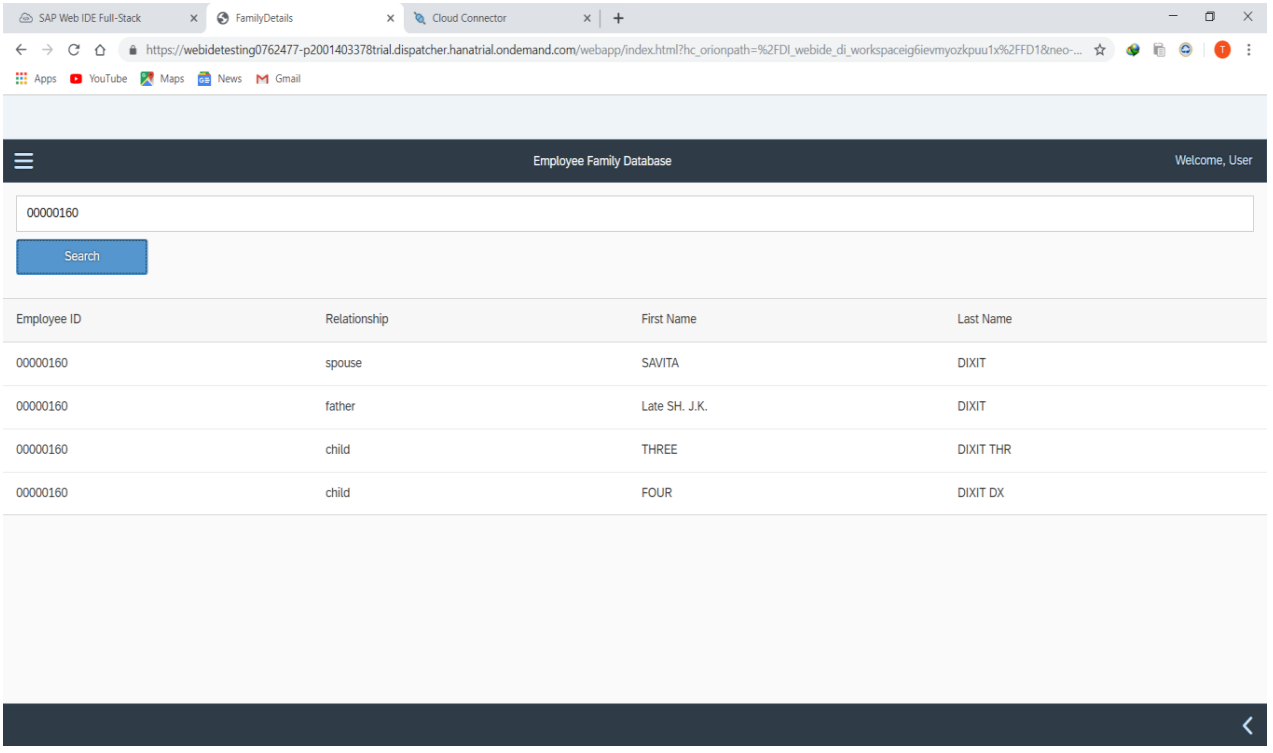
Apps
YouTube
Maps
News
Gmail
Employee Family Database
Welcome, User
Enter employee id
Search


SAP Web IDE Full-Stack
FamilyDetails
Cloud Connector
https://webidetesting0762477-p2001403378trial.dispatcher.hanatrial.ondemand.com/webapp/index.html?hc_orionpath=%2FDI_webide_di_workspaceig6ievmyozkpuu1x%2FFD1&neo-...
Apps
YouTube
Maps
News
Gmail
Employee Family Database
Welcome, User
00000160
Search
Employee ID
Relationship
First Name
Last Name
00000160
spouse
SAVITA
DIXIT
00000160
father
Late SH. J.K.
DIXIT
00000160
child
THREE
DIXIT THR
00000160
child
FOUR
DIXIT DX