

# Implementation Warehouse Management for Mobile Devices Using ITS



## Applies to:

Enter SAP technology or product release (release 6.0, SP, etc.) to which this article or code sample applies (optional). For more information, visit the [Mobile homepage](#).

## Summary

Document for generating pages in ITS Mobile by creating service as well as removing spaces between elements and optimizing the size of elements

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**Created on:** 07 December 2009

## Author Bio



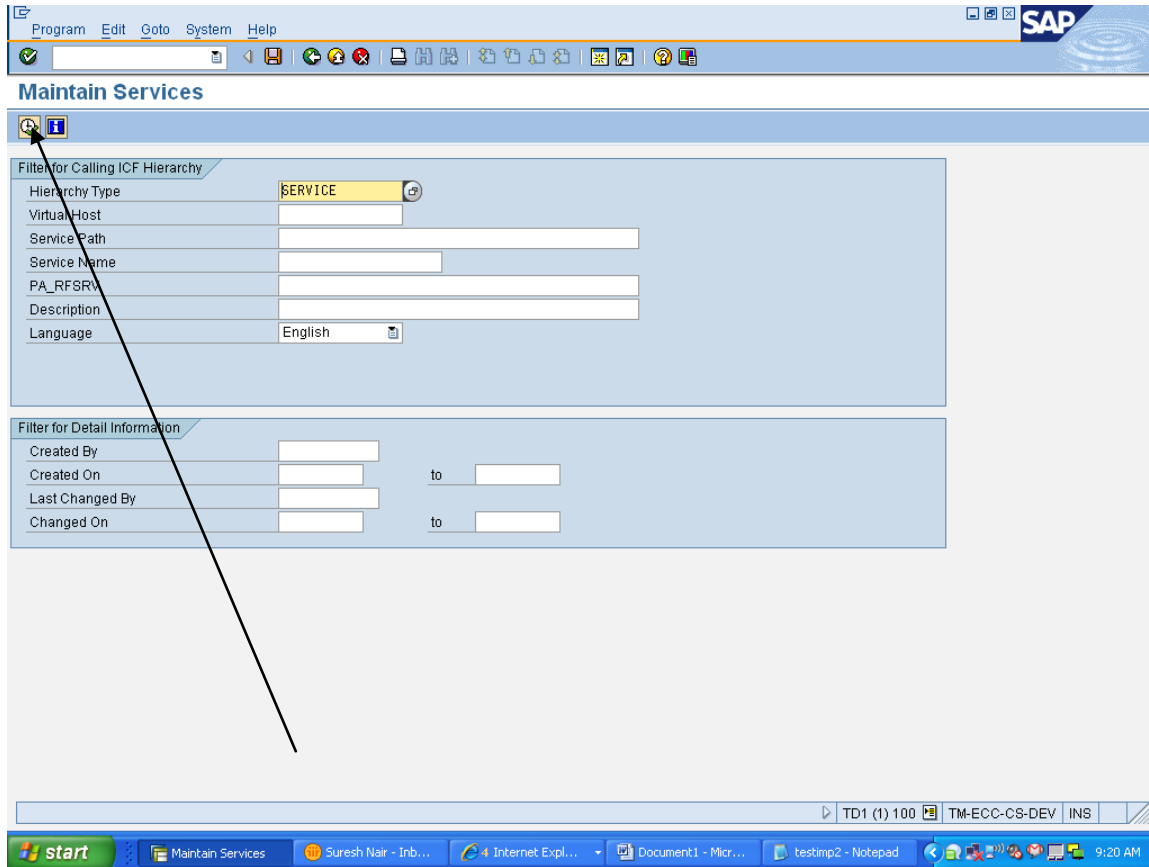
Suresh Nair works at L & T Infotech Ltd in the ABAP module.

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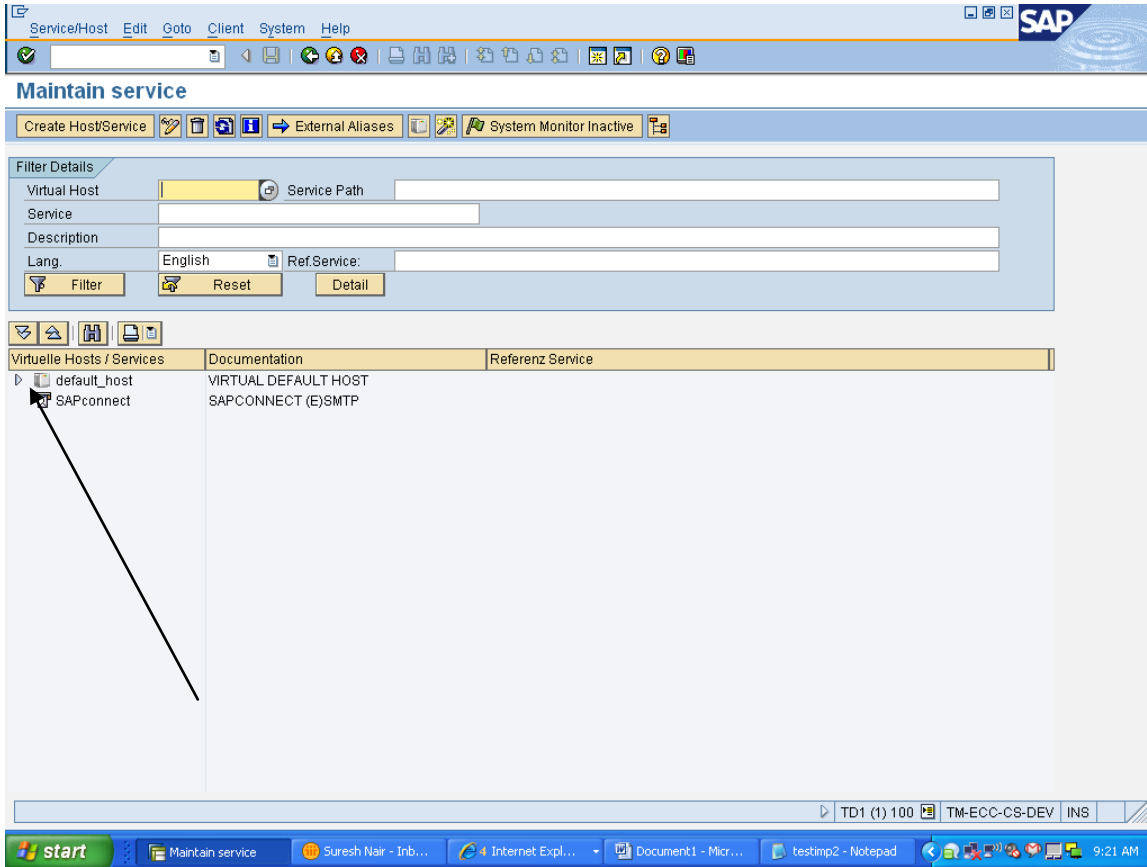
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## Creation of Service

Tcode: SICF



Click of Execute Button / F8 this would take you to another screen



Click on the Treeview **Default Host**

Drill down to its directory by following: Default Host->SAP->bc->gui->sap->its

The screenshot shows the SAP 'Maintain service' transaction. The top menu bar includes 'Service/Host', 'Edit', 'Goto', 'Client', 'System', and 'Help'. The main window title is 'Maintain service'. Below the title bar, there are several icons for actions like 'Create Host/Service', 'External Aliases', and 'System Monitor Inactive'. A 'Filter Details' section contains input fields for 'Virtual Host', 'Service Path', 'Service', 'Description', 'Lang.' (set to English), and 'Ref.Service'. Below this are 'Filter', 'Reset', and 'Detail' buttons. The main area is a tree view with columns 'Virtuelle Hosts / Services', 'Documentation', and 'Referenz Service'. The tree is expanded to show the path: 'sap' -> 'its' -> 'ITS Directory'. The 'its' directory contains several sub-elements, including 'ali ArchiveLink Viewer', 'AE QISRSCENARIO: Create Asset', 'AE QISRSCENARIO: Change Asset', 'AEASCC "Assets of My Cost Center"', and 'AEASEM "My Fixed Assets"'. The bottom status bar shows 'TD1 (1) 100' and 'TM-ECC-CS-DEV INS'. The Windows taskbar at the bottom shows the 'start' button, 'Maintain service' window, and other open applications like 'Internet Expl...', 'Creation Of Servi...', and 'testtmp2 - Notepad'.

Right click on the ITS directory and select New Sub Element

The screenshot shows the SAP 'Maintain service' interface. At the top, there is a menu bar with 'Service/Host', 'Edit', 'Goto', 'Client', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main area is titled 'Maintain service' and contains a 'Filter Details' section with input fields for 'Virtual Host', 'Service Path', 'Service', 'Description', 'Lang.' (set to English), and 'Ref.Service:'. Below the filter section is a tree view of services. The tree view has three columns: 'Virtuelle Hosts / Services', 'Documentation', and 'Referenz Service'. The tree structure is as follows:

- FormToRfc: INTERNAL VERIFICATION SERVICE
- fp: HTTP Extension/Request Handler for Form ...
- fpads: Various HTTP Data Services for ADS
- graphics: General handler for graphic applets
- gui: ITS-Based GUI Services
- sap: SAP Namespace for ITS-Based GUI Services

A context menu is open over the 'sap' node, listing the following options:

- New Sub-Element
- Display Service
- Delete Service
- Rename Service
- Activate Service
- Deactivate Service
- Test Service
- Test Load Balancing
- References to Service
- Obj. Directory Entry
- Cut
- Copy
- Paste

The bottom of the screenshot shows the Windows taskbar with the 'start' button and several open applications: 'Maintain service', 'Suresh Nair - Inb...', 'Internet Expl...', 'Creation Of Servi...', and 'testimp2 - Notepad'. The system tray shows the date and time as '9:26 AM'.

Name it as **ZZ\_SPX\_WM\_MENU** enter short description

Service Edit System Help

Path /default\_host/sap/bc/gui/sap/its/

Service Name ZZ\_SPX\_WM\_MENU Service (Active)

Lang. English Other Languages

Description

Description 1 Service for ITS Warehouse Management

Description 2

Description 3

Service Data Logon Data Handler List Error Pages Administration

Service Options

Do Not Include Inherited Settings

Load Balancing

SAP Authoriz.

Session Timeout 00:00:00 (HH:MM:SS)

Compression Not specified

Interactive Options

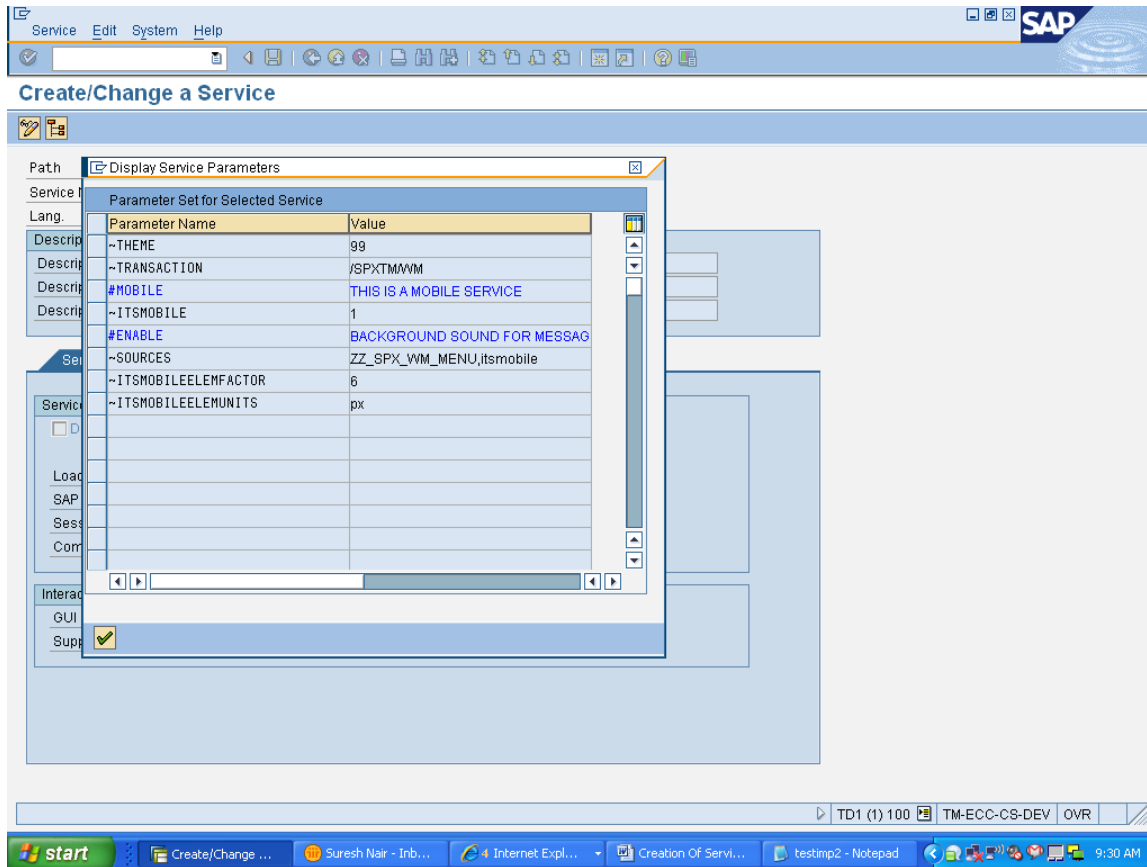
GUI Link Yes GUI Configuration

Support Accessibility Not specified

TD1 (1) 100 TM-ECC-CS-DEV OVR

start Create/Change ... Suresh Nair - Inb... Internet Expl... Creation Of Servi... testimp2 - Notepad 9:28 AM

Incase of GUI link select 'YES' and click on GUI Configurations where in you will set the parameters



## Parameter Descriptions

- 1) THEME : 99
- 2) ~TRANSACTION: Tcode for your program e.g.: **ZITSMOBILE**
- 3) '#' is for adding comments
- 4) ~ITSMOBILE : '1'
- 5) ~SOURCES : '**ZZ\_SPX\_WM\_MENU, itsmobile**' sequence here is very important

First the service name and it should be followed by standard SAP provided service that is

### Itsmobile

- 6) ~ITSMOBILEELEMFACTOR: '6' define the factor (integer number) by which the width of visible elements will be multiplied.
- 7) ~ITSMOBILEELEMUNITS : '**px**' defines which measurements units will be used.

The above parameters that are **~ITSMOBILEELEMFACTOR**, **~ITSMOBILEELEMUNITS** are meant for your size of objects and spacing between elements, this parameters play a vital role in spacing between elements and sizing of objects. If those parameters are not set then

If those factor are not specified, the default factor "0.82" and default units "em" will be used (these defaults are defined in the constructor of the CL\_ITS\_GENERATE\_HTML\_MOBILE4 class)



This calculation is done in a function called "w()" which is implemented in ITSMOBILE/99/FUNCTIONS template, but you can have your own function, just copy the FUNCTIONS.HTML template into your service and define parameter

~itsmobileFuncInclude if the template name has changed during copying.

The function module mentioned in the Internet service is shown in the below

The screenshot shows the SAP Web Application Builder interface. The left-hand pane displays a tree structure under 'ITSMOBILE' with 'FUNCTIONS' highlighted. The main editor area shows the following code:

```

<include(~service="system", ~language="", ~theme="dm", ~name="templateLibraryScreenInc
function w(1, a)
if (~itsmobileElemFactor != "")
return ((1 * ~itsmobileElemFactor) & ~itsmobileElemUnits);
else
return (a);
end;
end;

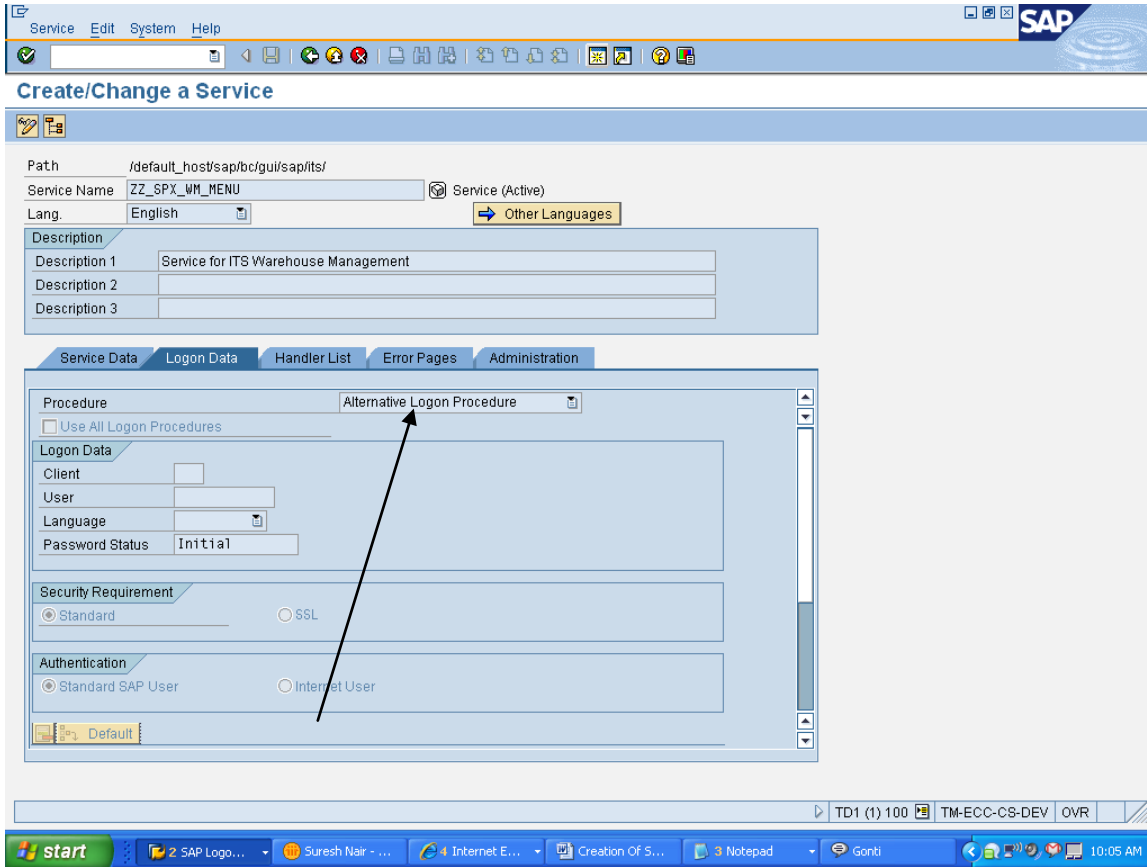
if (~itsmobileUnitWidth == "")
~itsmobileUnitWidth = "0.82em";
end;

<html>
<head>
<!-- <title>#windowtitle</title> -->
`SAP_TemplateStylesheet()`
`SAP_TemplateJavaScript()`
</head>
<body `SAP_TemplateBodyAttributes( )`
onload="`SAP_TemplateOnLoadJavaScript()`" >
<!-- add content here -->
</body>
`SAP_TemplatePostProcess();`
</html>

```

The status bar at the bottom indicates 'Ln 1 - Co 1' and 'Ln 1 - Ln 29 of 29 lines'.

After setting up the Parameters in Internet Service click on “Logon Data” TAB select procedure “Alternative Logon Procedure”



Scroll Down and go to **Logon procedure List** Delete rest of the attributes except for “Field Authentication” shown in the below image

The screenshot displays the SAP Service Configuration Wizard interface. The main window is titled "Create/Change a Service". The service name is "ZZ\_SPX\_WM\_MENU" and it is active. The language is set to "English". The description is "Service for ITS Warehouse Management".

The "Logon Data" tab is selected, showing the "Logon Procedure List (in Order of Execution)". The list contains one entry:

Index	Logon Procedure
1	Fields Authentication

An arrow points to the "Fields Authentication" entry in the list. The list is currently empty except for this one entry. The "Authentication" section shows "Standard SAP User" selected. The "Logon Procedure List" is currently empty except for the one entry shown.

The bottom of the screenshot shows the Windows taskbar with the Start button and several open applications: SAP Logo..., Suresh Nair..., Internet E..., Creation Of S..., Notepad, and Gonti. The system tray shows the date and time as 10:08 AM.

Click on **Handler List** tab do not make any changes live it as it is

The screenshot shows the SAP Service Configuration tool interface. At the top, there is a menu bar with 'Service', 'Edit', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main title is 'Create/Change a Service'. The service name is 'ZZ\_SPX\_WM\_MENU' and it is marked as 'Service (Active)'. The language is set to 'English'. There are three description fields: 'Description 1' contains 'Service for ITS Warehouse Management', 'Description 2' is empty, and 'Description 3' is empty. Below the descriptions are tabs for 'Service Data', 'Logon Data', 'Handler List', 'Error Pages', and 'Administration'. The 'Handler List' tab is selected, showing a table titled 'Handler List (in Order of Execution)'. The table has a header row with 'N' in the first column and 'Handler' in the second. The first row contains '1' in the first column and 'CL\_HTTP\_EXT\_ITS' in the second. The remaining rows (2-7) are empty. At the bottom of the window, there is a status bar showing 'TD1 (1) 100' and 'TM-ECC-CS-DEV OVR'. The Windows taskbar at the very bottom shows the start button, several open applications (SAP Logo, Suresh Nair, Internet Explorer, Creation Of S..., Notepad), and the system tray with the time '10:08 AM'.

Select tab **Error Pages** in the **Logon Errors** tab scroll down and select the option

The screenshot shows the SAP 'Create/Change a Service' interface. The 'Error Pages' tab is active, displaying a 'System Logon' option with a 'Configuration' button. Two arrows point to the 'System Logon' radio button and the 'Configuration' button. A warning message at the bottom of the window reads: 'Cannot activate system logon, entries missing in alternative logon order'. The window title bar shows 'SAP' and the taskbar at the bottom displays various open applications and the system clock at 10:11 AM.

Also click on **Configuration** button in the same tab following thing should be as seen in the image:

Path /default\_host/sap  
Service Name ZZ\_SPX\_WM\_MENU  
Lang. English

Description  
Description 1 Service for I  
Description 2  
Description 3

Service Data Logon Data

Header Page  
Explicit Response Page Bc  
Body Page  
Alias

Redirect to URL  
Redirect  
W/o Form Fields  
System Logon

System Logon Configuration

Settings Selection  
 Use Global Settings  
 Define Service-Specific Settings

System Logon Settings

Select Display  
 System ID  
 Client  
 Language  
 System Messages  
 Logon and System Information

Default  
Client  
Language

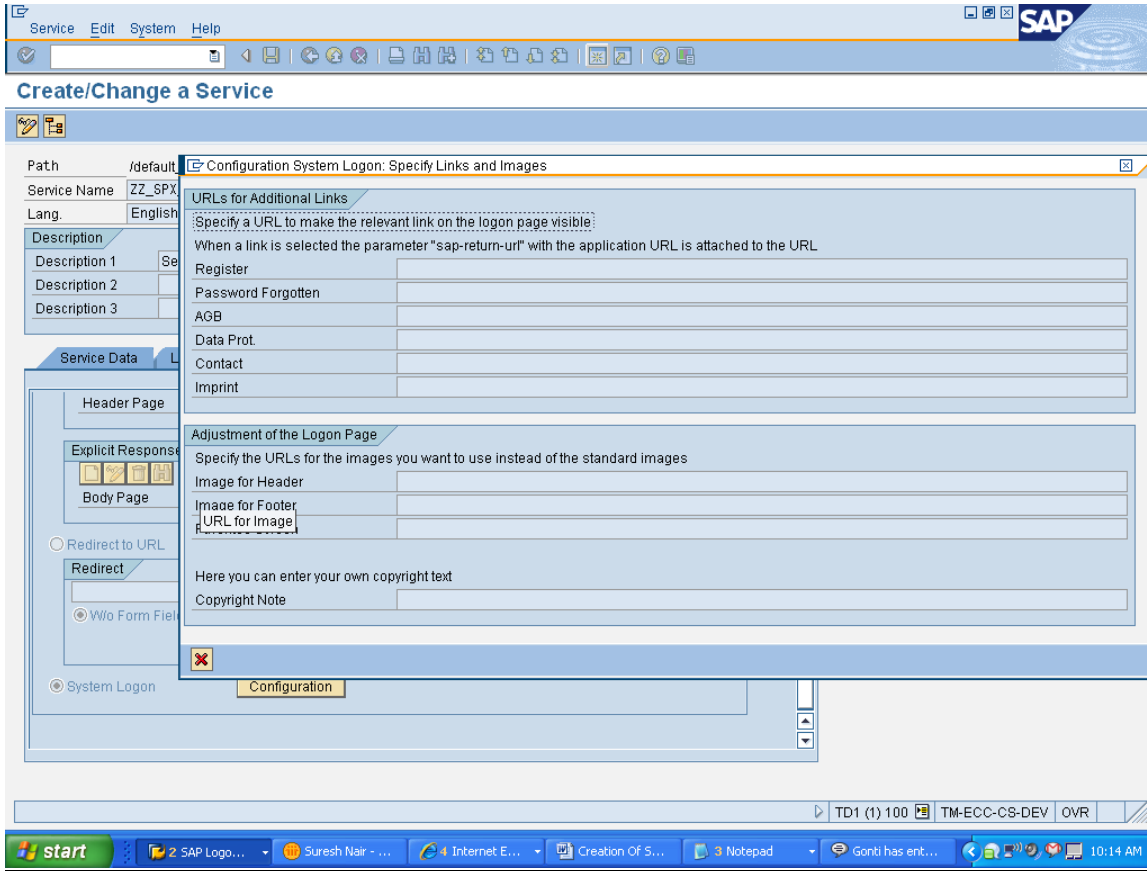
Logon Layout and Procedure  
 SAP Implementation  
Tpl.  
SAP Icon  
 User-Specific  
Class CL\_MOBILE\_SYSTEM\_LOGIN

Actions During Logon  
Protocol Do Not Switch  
 Do Not Display Warnings  
 Check for Multiple Logon  
 Support Accessibility

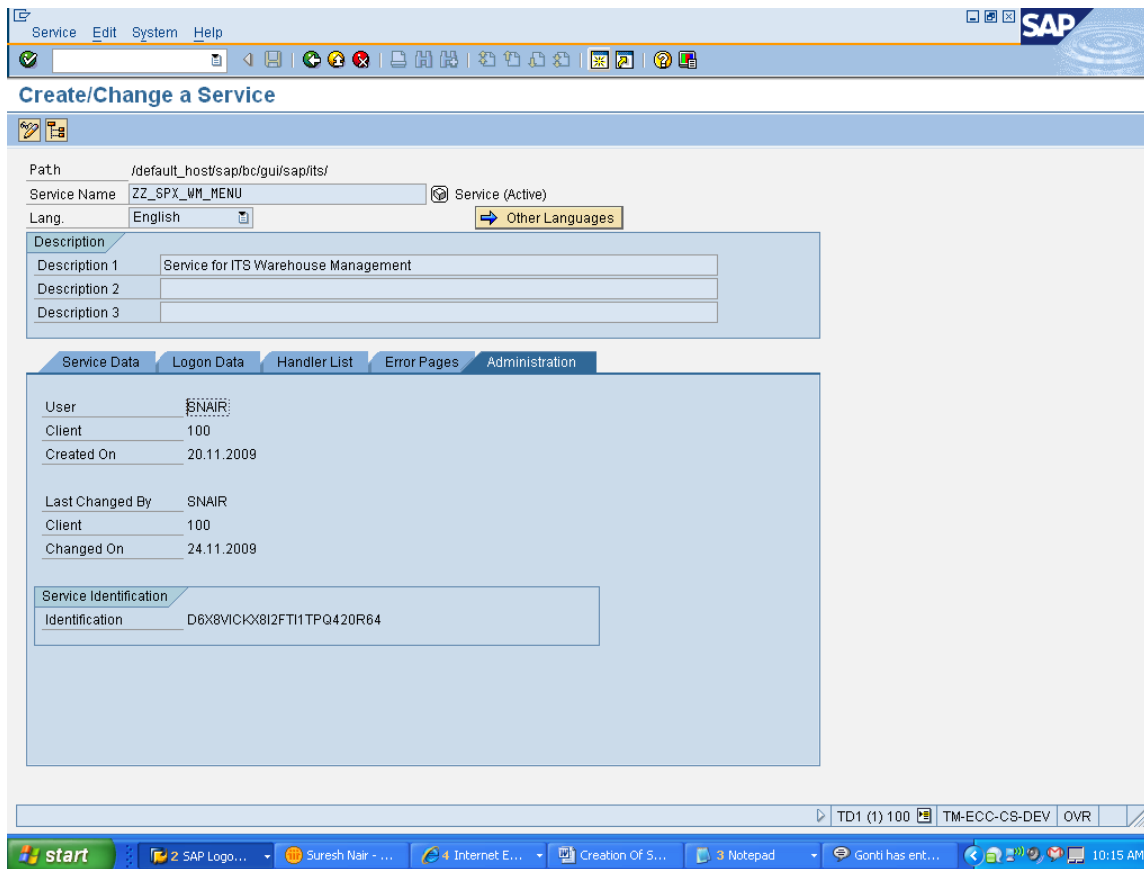
adjust Links and Images

TD1 (1) 100 TM-ECC-CS-DEV OVR

Class selection is very important this make pages that appear in the scanner mobile size format. Click on **adjust Links and Images**



Rest all tabs in the **Error Pages** are to be left without change, Clicking on the administration would only give information.



The screenshot shows the SAP 'Create/Change a Service' configuration screen. The interface includes a menu bar (Service, Edit, System, Help) and a toolbar. The main configuration area is divided into several sections:

- Path:** /default\_host/sap/bc/gui/sap/its/
- Service Name:** ZZ\_SPX\_WM\_MENU (Service (Active))
- Lang.:** English (with an 'Other Languages' button)
- Description:** Three text boxes for Description 1, 2, and 3. Description 1 contains 'Service for ITS Warehouse Management'.
- Administration:** A tabbed section containing:
  - User:** SNAIR
  - Client:** 100
  - Created On:** 20.11.2009
  - Last Changed By:** SNAIR
  - Client:** 100
  - Changed On:** 24.11.2009
  - Service Identification:** Identification D6X8VICKX8I2FT11TPQ420R64

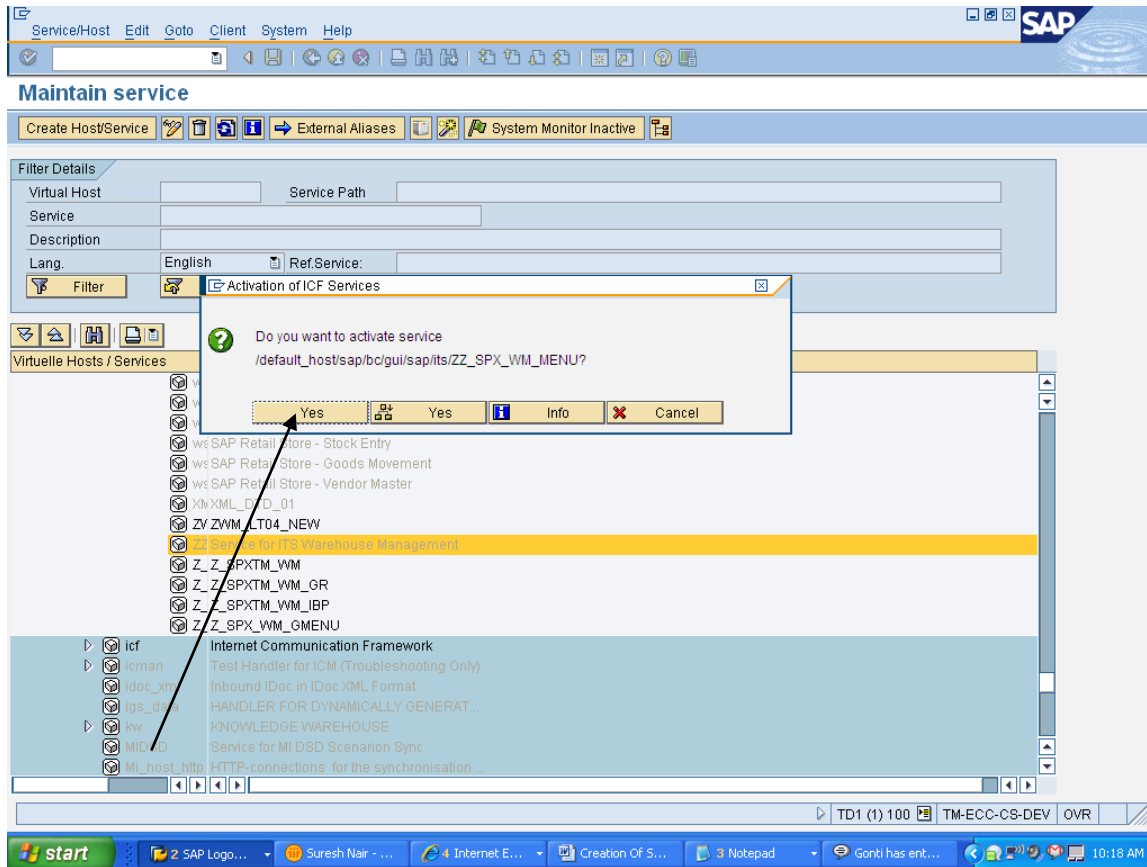
At the bottom, a status bar shows 'TD1 (1) 100 TM-ECC-CS-DEV OVR'. The Windows taskbar at the very bottom shows the Start button and several open applications, including SAP, Internet Explorer, and Notepad, with the system clock at 10:15 AM.

After completing the above settings save it and click on the back button this would take you to the following screen.

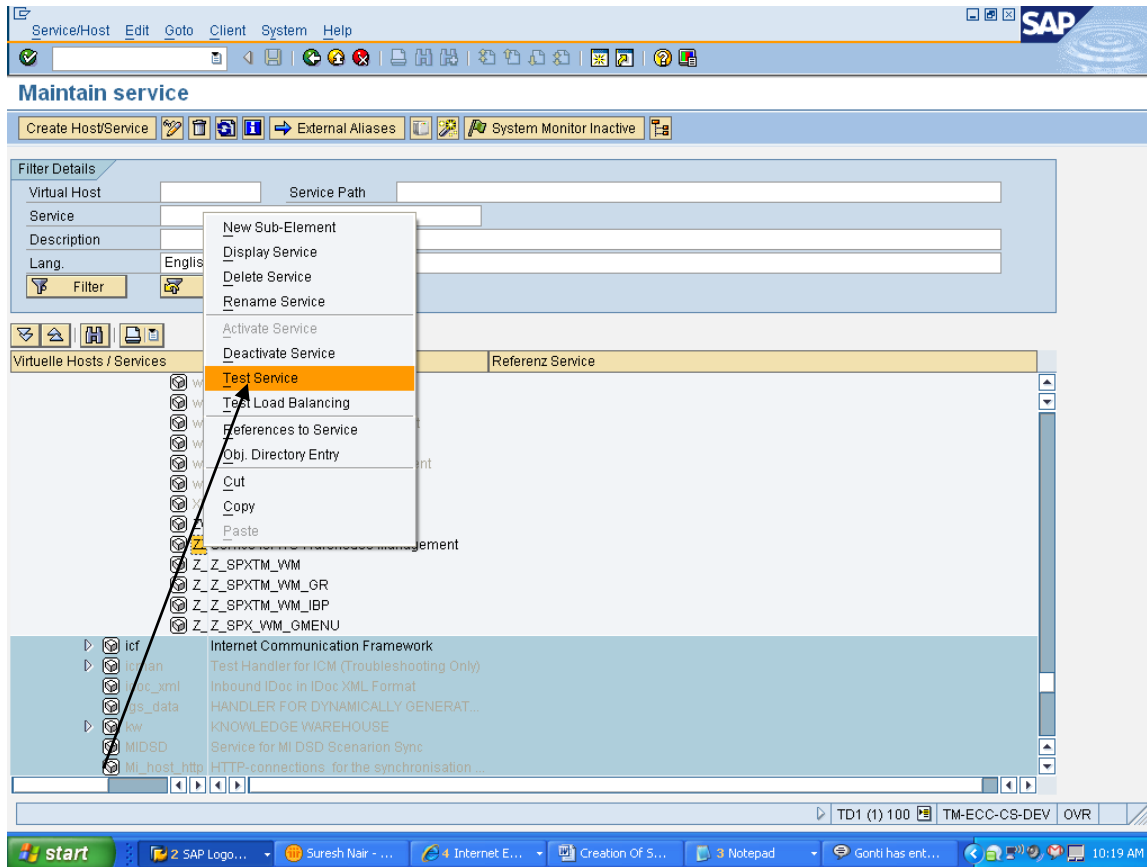


The screenshot shows the SAP 'Maintain service' transaction. The interface includes a menu bar (Service/Host, Edit, Goto, Client, System, Help), a toolbar, and a 'Filter Details' section with fields for Virtual Host, Service Path, Service, and Description. Below this is a list of 'Virtuelle Hosts / Services'. A context menu is open over the list, with 'Activate Service' highlighted. The menu options include: New Sub-Element, Display Service, Delete Service, Rename Service, Activate Service, Deactivate Service, Test Service, Test Load Balancing, References to Service, Obj. Directory Entry, Cut, Copy, Paste, and several Z\_\* prefixed services. The 'Activate Service' option is indicated by a black arrow.

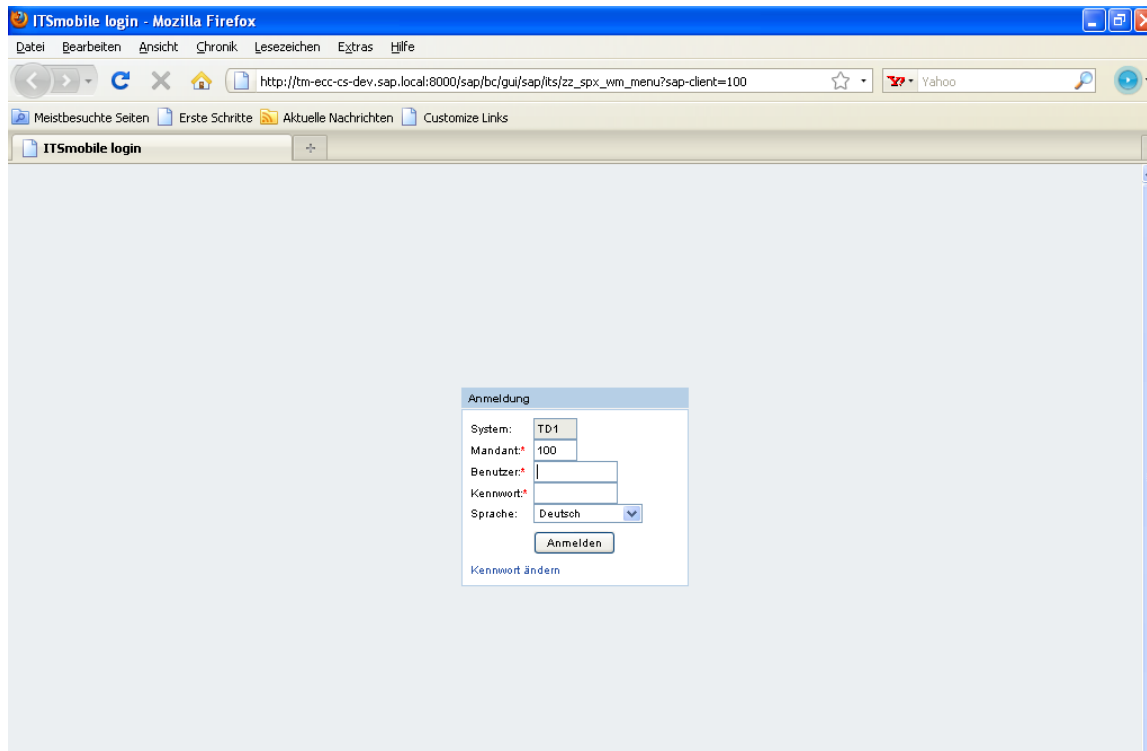
Now would be disabled / deactivated . As we need to activate it select the newly created service name and click on Activate service



It becomes enabled and activated to try that whether service is working just click on the service



Click on test service this should open your default explorer and with the URL generated by SAP and it should bring the login screen of SAP as shown below:



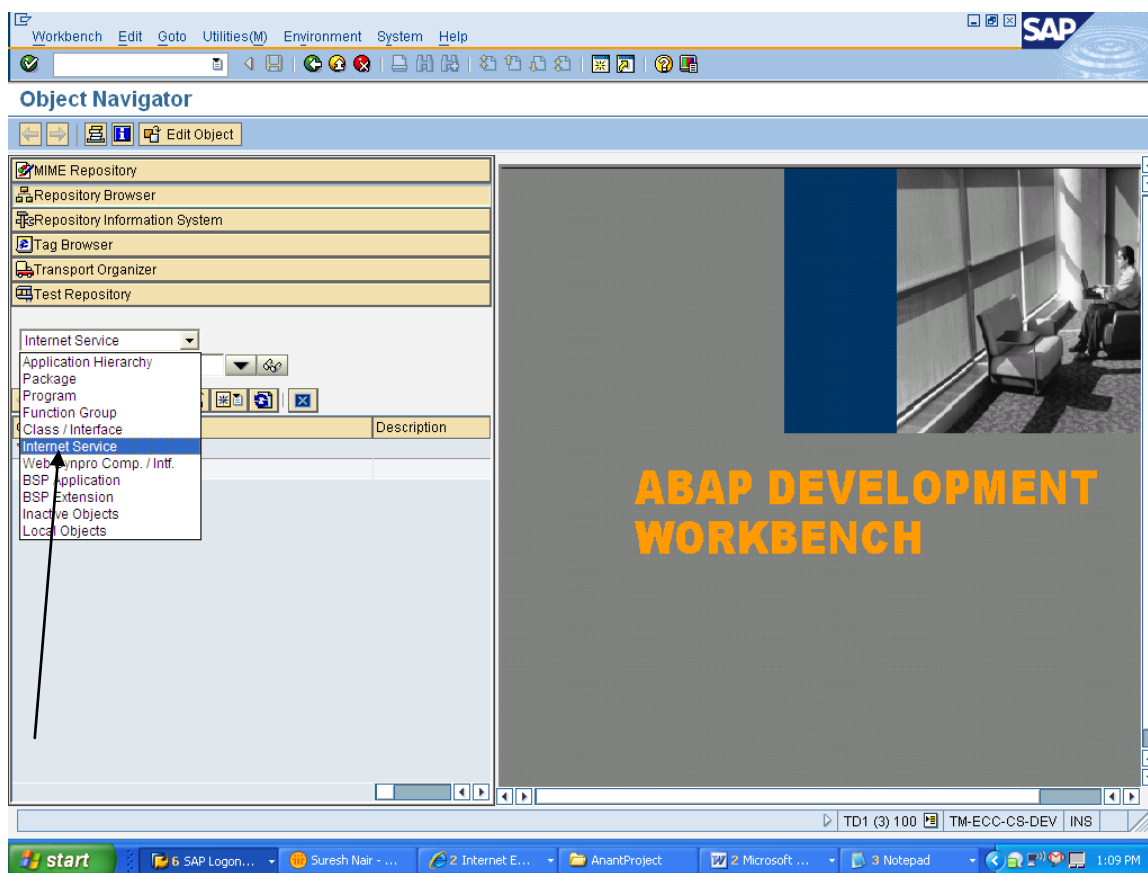
## Creation of Templates

Before creating templates certain steps are mandatory and need to be done. Need to Publish Services and Complete Services for SAP Internet Services following are they

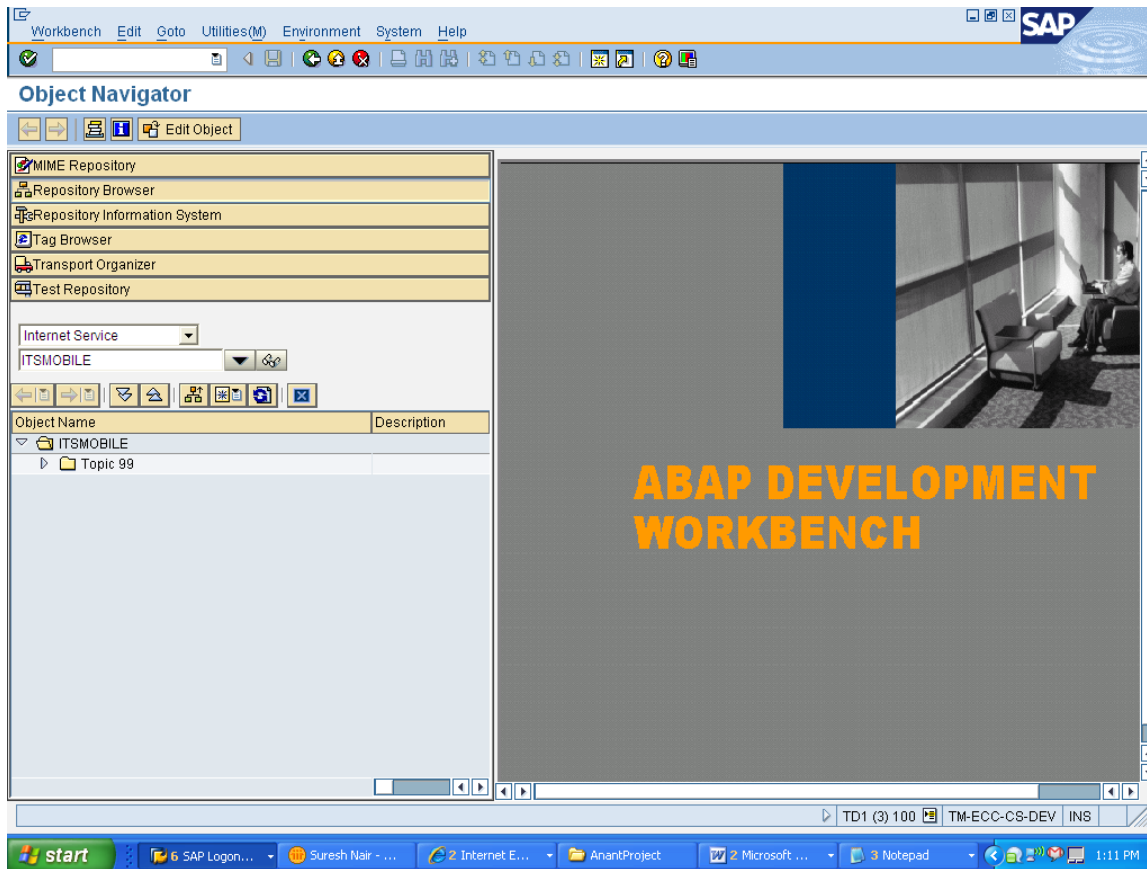
- 1) ITSMOBILE
- 2) ITSGENMOBILE
- 3) ITSGENMOBILE4
- 4) ITSGENMOBILEXV

Procedure for doing it .

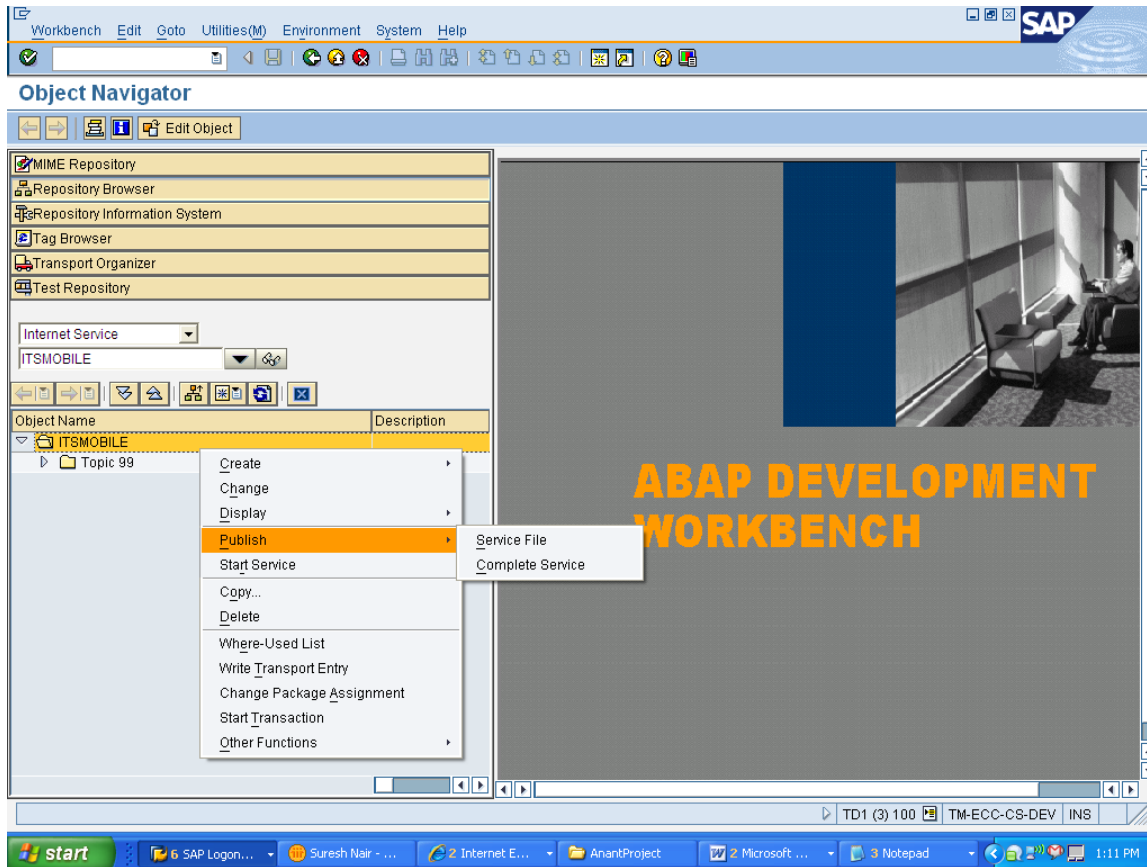
- 1) Enter Tcode SE80.
- 2) Select Internet Service as shown in the Image



## 3) Enter "ITSMOBILE"



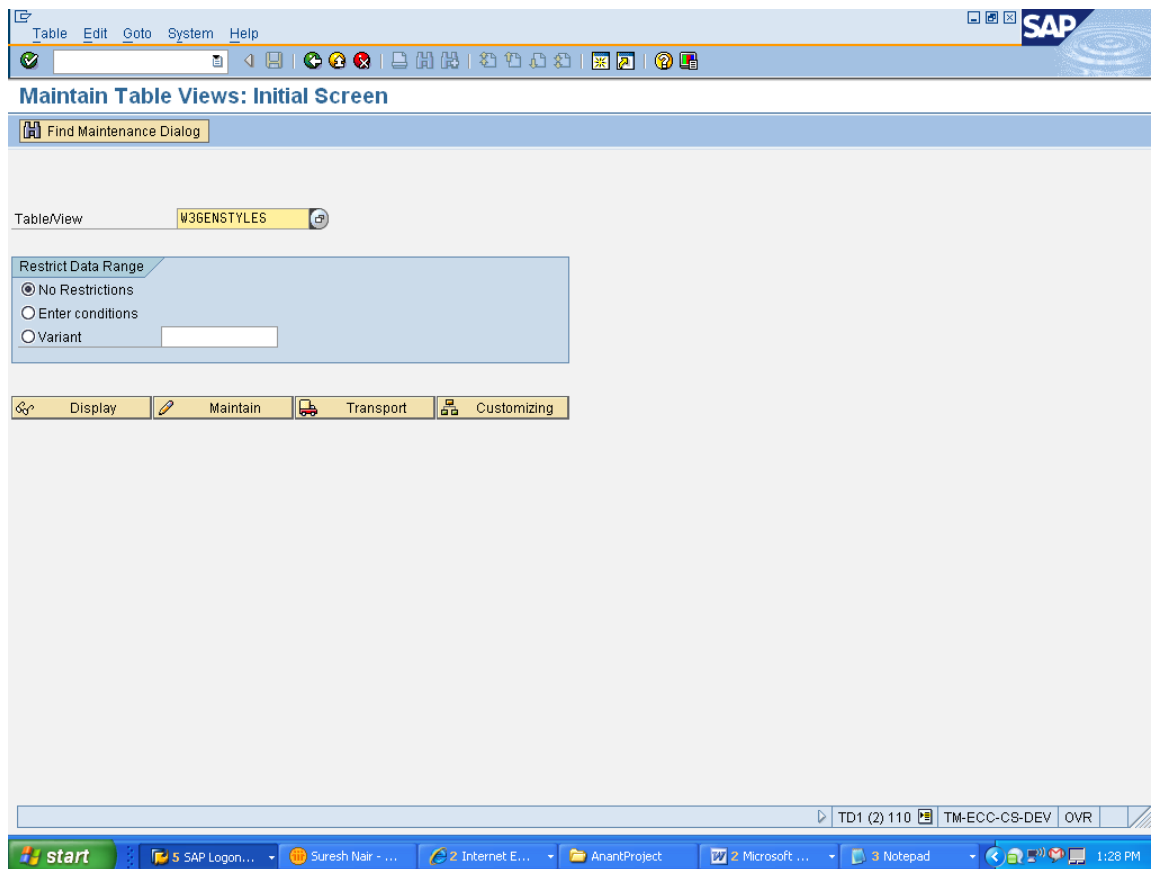
Right-click on ITSMOBILE



There are two options: first select **Service File**, secondly perform **Complete Service**. The same action has to be performed for the others also for eg: ITSGENMOBILE etc.

As we would be generating the templates through the New HTML generator we need to add certain data manually

- 1) Enter Tcode SM30
- 2) W3GENSTYLES



The screenshot shows the SAP Display View 'W3: Generation Styles for HTML Templates': Overview. The table contains the following data:

Style	Generation Class	Description
B:		Dummy, Business HTML implemented within p
C		Dummy, classic implemented within program
MOBILE	CL_ITS_GENERATE_HTML_MOBILE	For mobile device
MOBILE4	CL_ITS_GENERATE_HTML_MOBILE4	Without HTML Table
MOBILEXV	CL_ITS_GENERATE_HTML_XV_MOBILE	Mobile Geräte mit Spracheingabe
W		Dummy, Business WebGUI implemented withir

The 'MOBILE4' entry is highlighted with an arrow. The bottom status bar shows 'Entry 1 of 6'.

Enter the Style as **Mobile4** , Class as **CL\_ITS\_GENERATE\_HTML\_MOBILE4** and description

After performing the above action for all the four Standard Internet Service. Start creating your own Internet Service. The Internet service name should be same as the Services created. In our example as we have created ZZ\_SPX\_WM\_MENU as the service so the internet service should be also same .

- 1) Goto Tcode SE80 tcode
- 2) Select Internet Service



## 3) Enter "ZZ\_SPX\_WM\_MENU" and click on maintain

The screenshot displays the SAP ABAP Development Workbench interface. The top menu bar includes 'Workbench', 'Edit', 'Goto', 'Utilities(M)', 'Environment', 'System', and 'Help'. The 'Object Navigator' on the left shows a tree structure with 'ZZ' expanded. A dialog box titled 'Web Application Builder: Create Internet Servi...' is open, showing 'Internet Service' selected with 'ZZ\_SPX\_WM\_MENU' as the name and '\SPXTM\WM' as the transaction code. The 'ITS Mixed Mode' checkbox is unchecked. A list of transaction codes is visible below the dialog, including /SPXTMMP\_WM\_MIGO 100, /SPXTMMP\_WM\_OBP 100, /SPXTMMP\_WM\_PHI 100, /SPXTMMP\_WM\_STP 100, /SPXTMMP\_WM\_VL01N 100, /SPXTMMP\_WM\_Z1QMTD001 100, /SPXTMMP\_WM\_Z1QMTD001 102, /SPXTMMP\_WM\_Z1QMTD001 103, /SPXTMMP\_WM\_Z1QMTD001 104, /SPXTMMP\_WM\_ZLBL 100, /SPXTMMP\_WM\_ZLBL 101, /SPXTMMP\_WM\_ZLBL 102, and /SPXTMMP\_WM\_ZI RI 103. The background features a banner for 'ABAP DEVELOPMENT WORKBENCH' with an image of a person in a modern office setting. The bottom status bar shows 'TD1 (3) 100' and 'TM-ECC-CS-DEV INS'.

Enter the Tcode of your program, do not select ITS MIXED MODE and click on SAVE

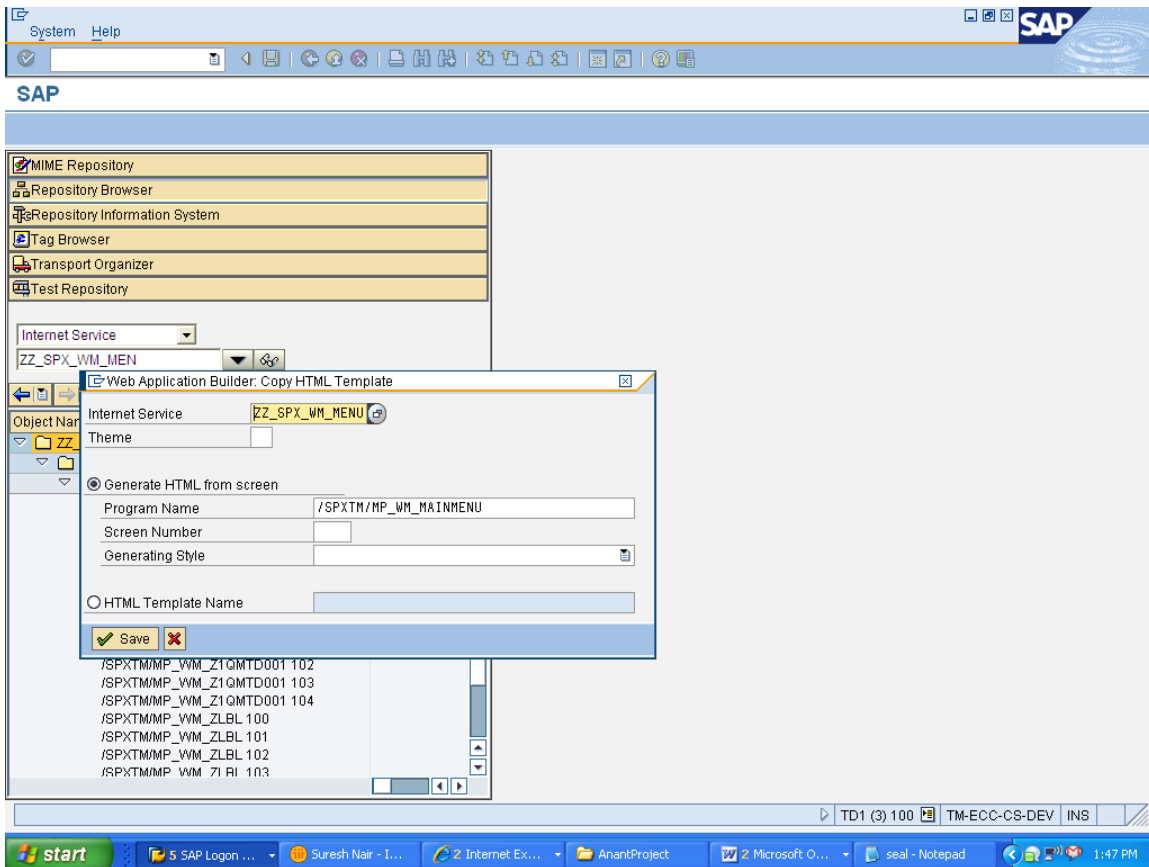
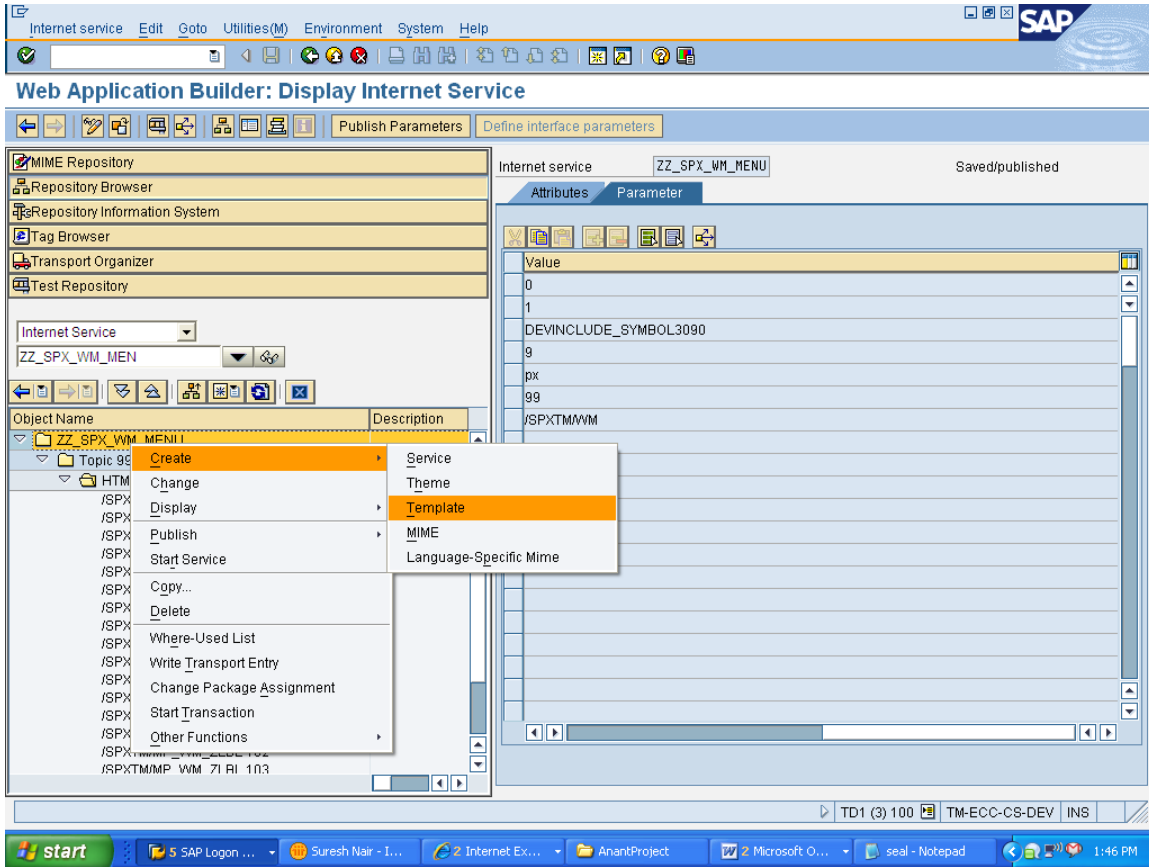
Double click on Internet Service name for parameters

The screenshot shows the SAP Web Application Builder interface. The left pane displays a tree view of the object hierarchy, with 'ZZ\_SPX\_WM\_MENU' selected. The main pane shows the 'Parameter' tab for the selected object, displaying a table of parameters.

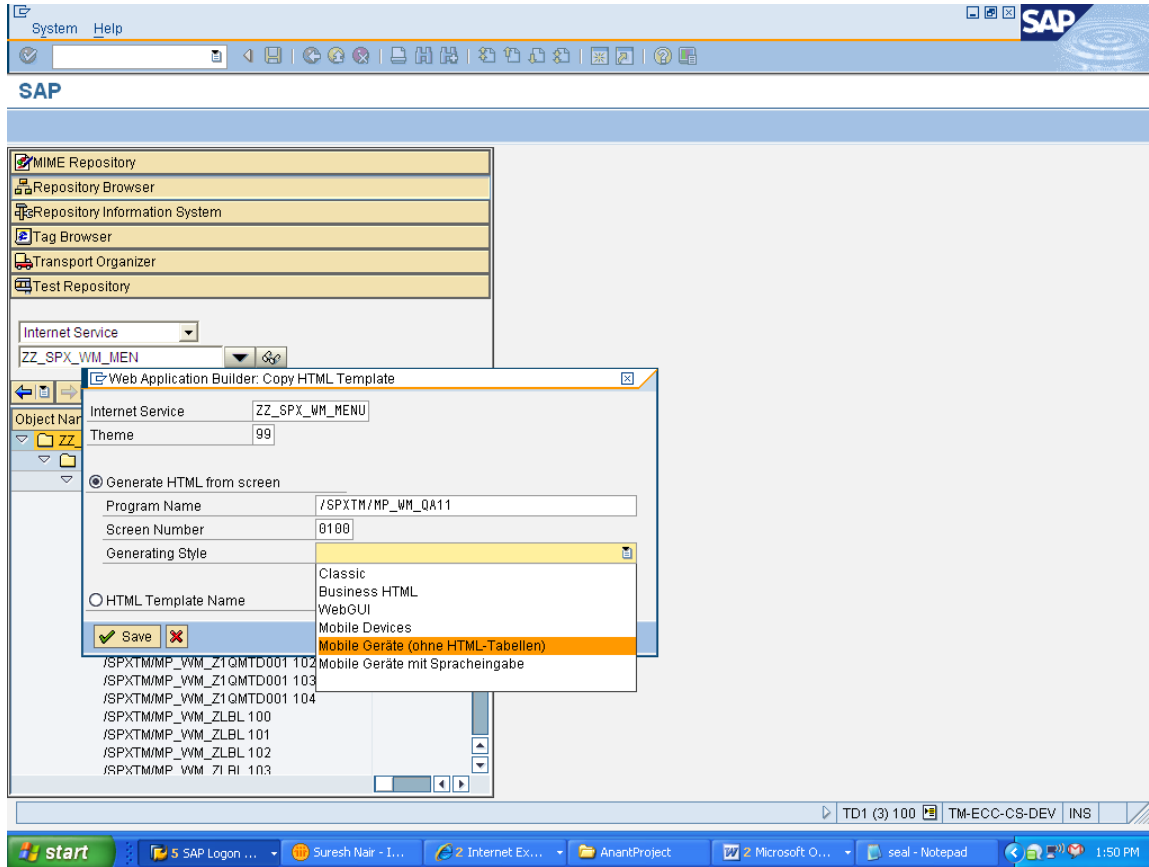
Parameter Name	Value
~GENERATEDYNPRO	0
~ITSMOBILE	1
~ITSMOBILEDEVICEINCLUDE	DEVINCLUDE_SYMBOL3090
~ITSMOBILEELEMFACTOR	9
~ITSMOBILEELEMUNITS	px
~THEME	99
~TRANSACTION	/SPXTM/WM

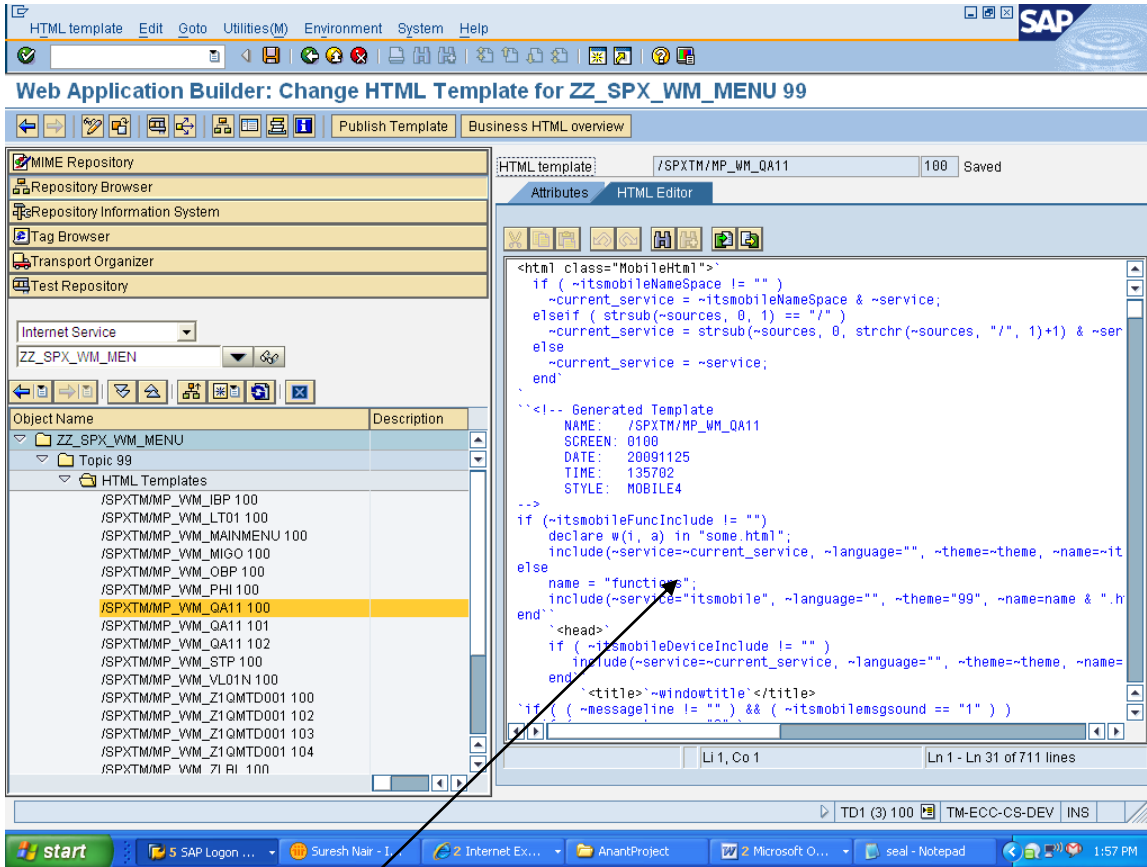
- 1) ~TRANSACTION : /SPXTM/WM
- 2) ~THEME : 99 it should be always '99'
- 3) ~ITSMOBILEDEVICEINCLUDE : DEVINCLUDE\_SYMBOL3090
- 4) ~ITSMOBILE : 1
- 5) ~GENERATEDYNPRO : 0

After performing the above action Right click on ZZ\_SPX\_WM\_MENU and create HTML pages



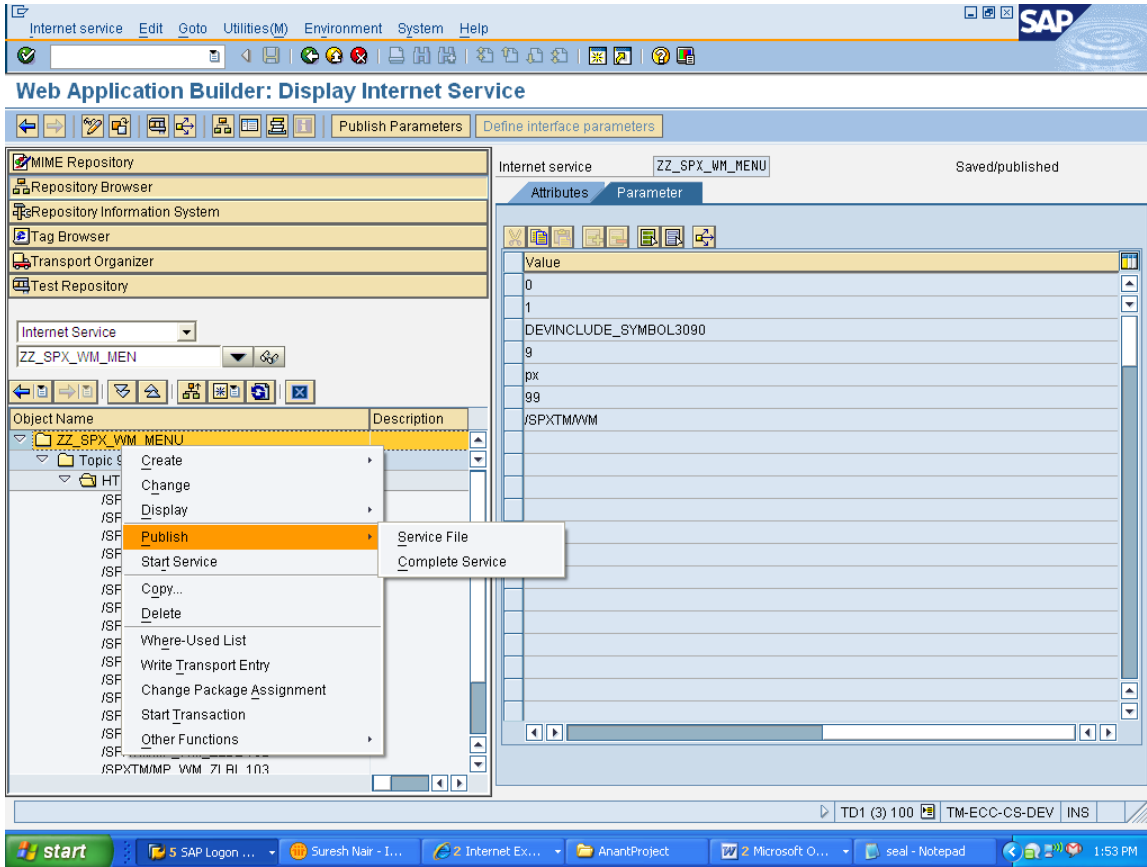
Select the Theme and enter the program name, screen no and select the generating style





HTML code generated by SAP

And click on Save Button like that you need to add all the module pool programs and screens. After adding just click on the Internet service “ZZ\_SPX\_WM\_MENU” and publish the Service as well as Complete the service



Publish the **Service File** and **Complete service**

## Check URL

For checking whether the URL is working or not

Goto **SCIF** tcod

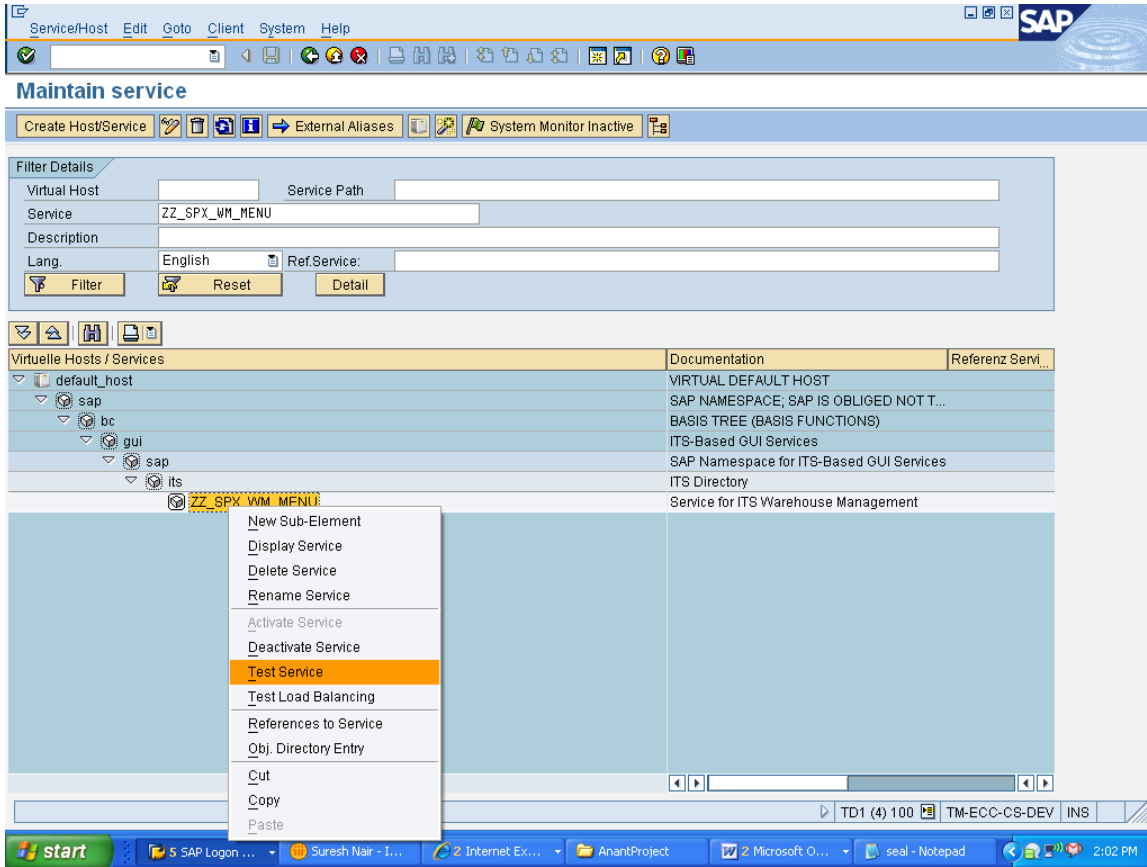
The screenshot shows the SAP 'Maintain Services' (SCIF) interface. The 'Filter for Calling ICF Hierarchy' section is active, with the following fields filled in:

Field	Value
Hierarchy Type	SERVICE
Virtual Host	
Service Path	
Service Name	ZZ_SPX_WM_MENU
PA_RFSRV	
Description	
Language	English

The 'Filter for Detail Information' section is also visible, with fields for Created By, Created On, Last Changed By, and Changed On, all currently empty.

An arrow points from the text 'Enter Service Name "ZZ\_SPX\_WM\_MENU" and click on execute / F8' to the 'Service Name' field.

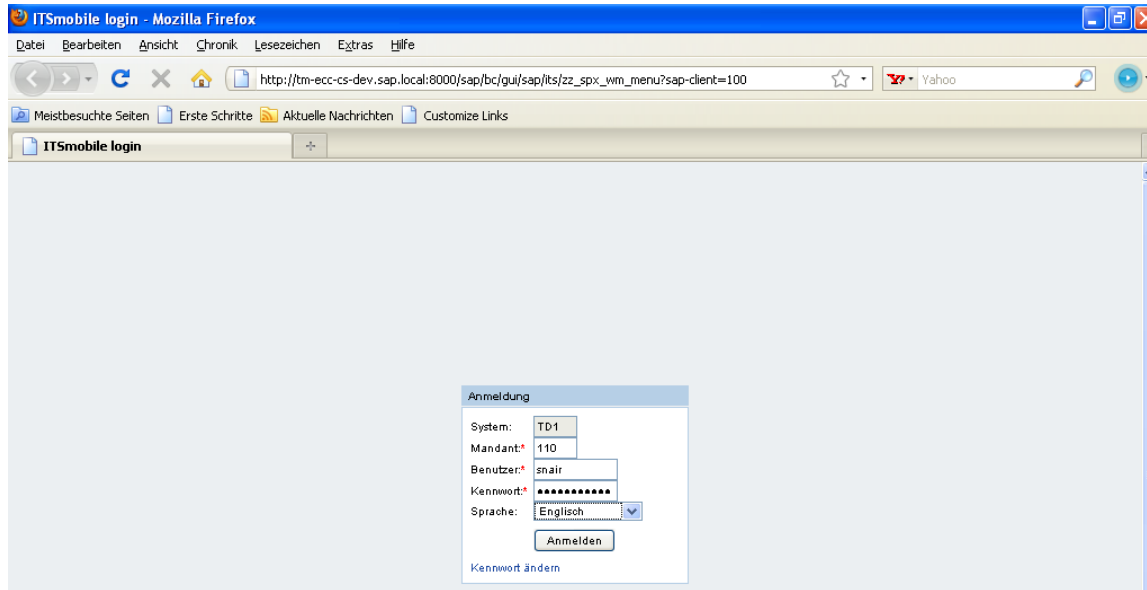
Enter Service Name "ZZ\_SPX\_WM\_MENU" and click on execute / F8



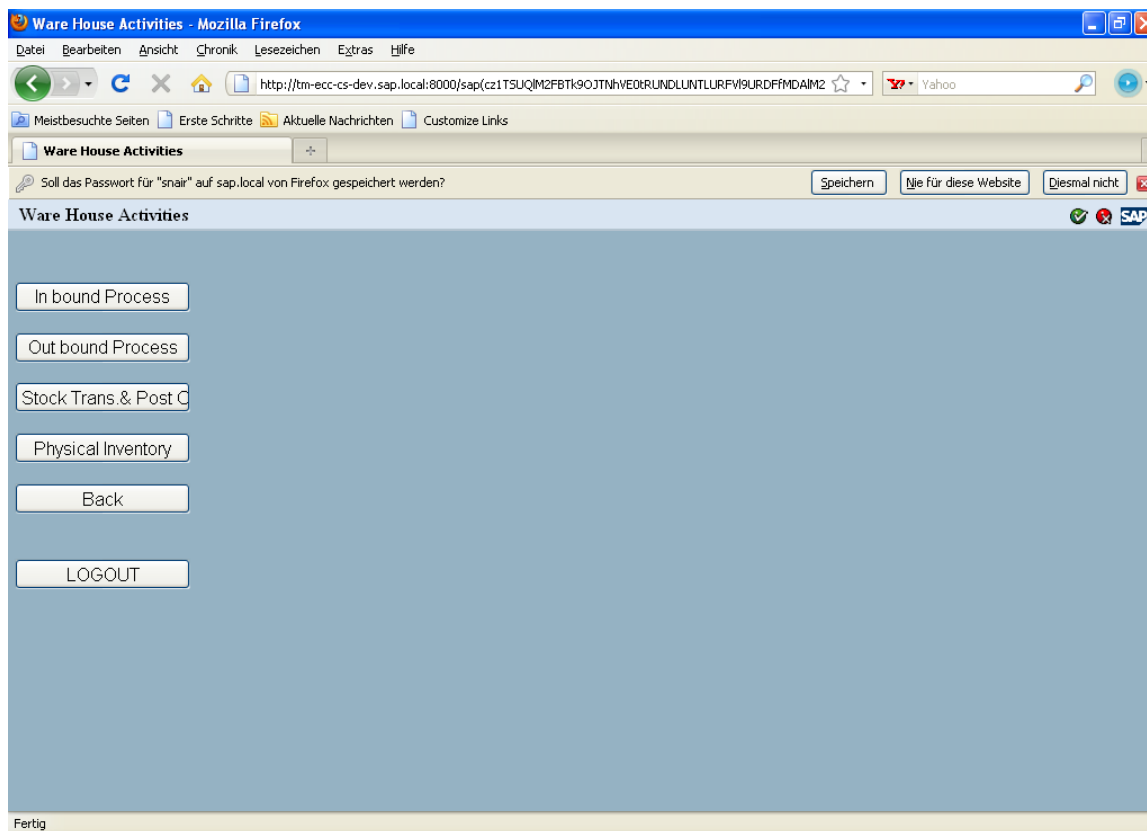
It should take you to the service, right click on the service, click on **TEST SERVICE**



This should open your default browser, ask for login/ID and password please select client, enter your SAP UserID and password



If everything is fine the page should look as follows



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