

SAP BASIS ADMINISTRATION PROCEDURE MANUAL

(This document is prepared test data from test server for understanding of concepts & transactions by core team members. Use actual data as per final configuration of the system for executing the same in your system)

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SAP BASIS

Objective

Objective of BASIS is

- A. Installing and Configuring SAP servers.
- B. Maintaining SAP servers landscape
- C. Maintaining Security of SAP servers. SAP ADD-ON_Phases
- D. Maintaining Users.
- E. Managing backup of SAP server.

Basic Definitions

BASIS

A set of middleware programs and tools that provide the underlying base that enable applications to be interoperable across operating systems. SAP Basis includes a RDBMS, GUI, and client server architecture. Beyond the interface aspect of Basis, it also includes such components as a data dictionary as well as user and system administration.

Basis is a business application software integrated solution. Simply, Basis is the administration of the SAP system.

PART I

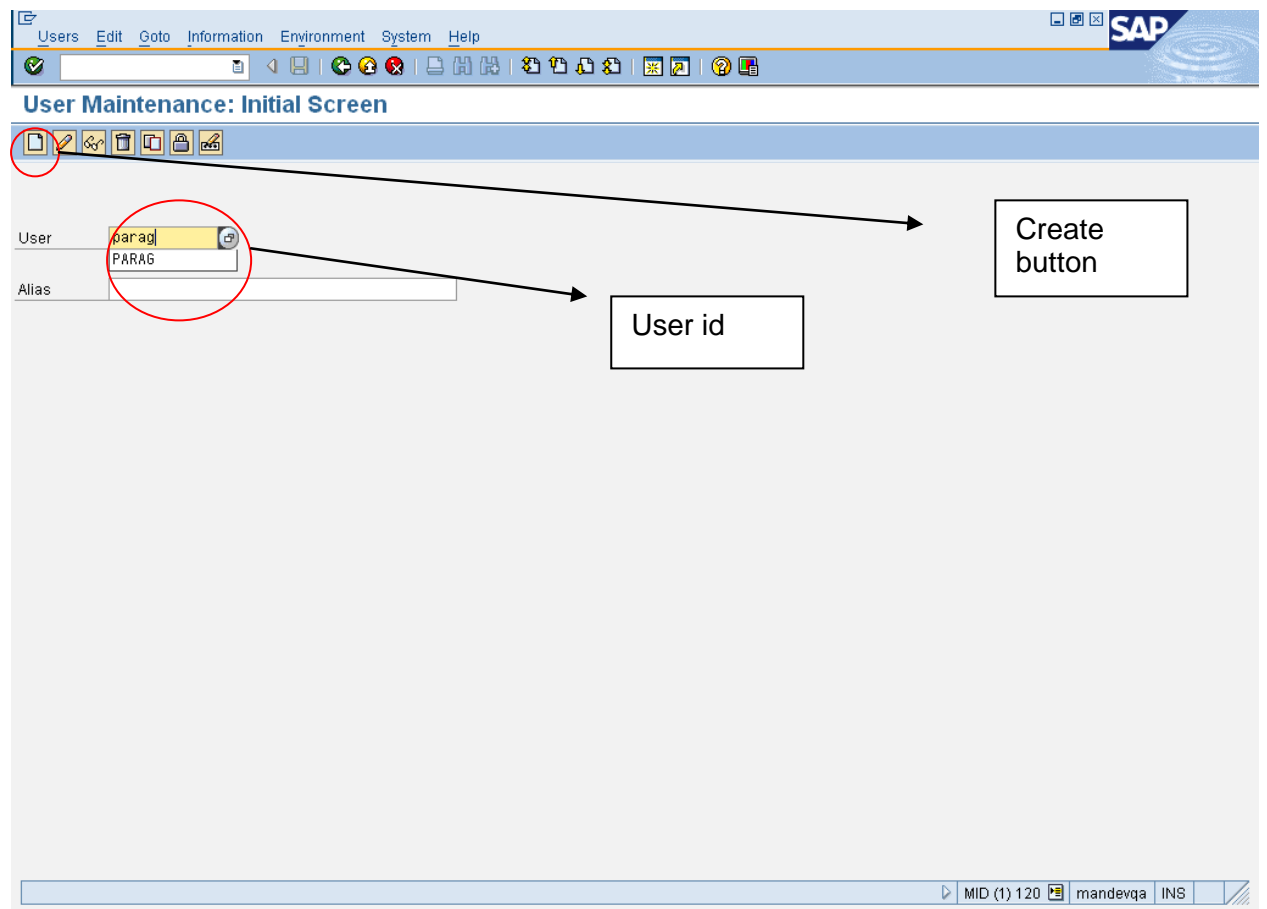
User Administration

A. Types of users:

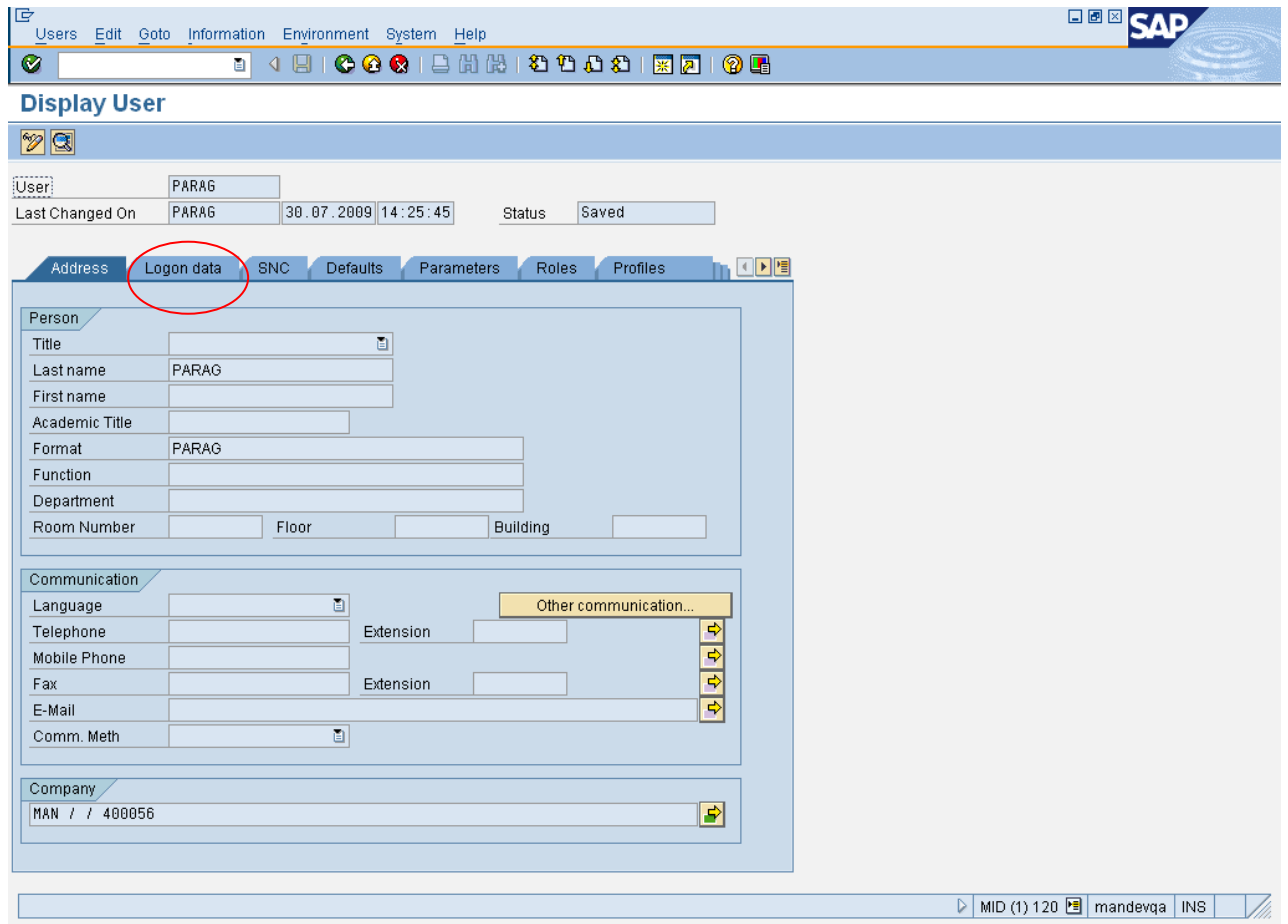
- 1) Dialog Users
- 2) System Users
- 3) Communication Users
- 4) Service User
- 5) Reference User

B. Transaction su01

Type user name which to be created
Click on create button



Provide data :
Last name
Department
Email id
And click on next tab logon data



The screenshot shows the SAP BASIS Admin Manual interface for displaying user data. The 'Logon data' tab is highlighted with a red circle. The user information is as follows:

Field	Value
User	PARAG
Last Changed On	PARAG 30.07.2009 14:25:45
Status	Saved

The 'Person' section includes fields for Title, Last name (PARAG), First name, Academic Title, Format (PARAG), Function, Department, Room Number, Floor, and Building.

The 'Communication' section includes fields for Language, Telephone, Extension, Mobile Phone, Fax, Extension, E-Mail, and Comm. Meth. There is also an 'Other communication...' button.

The 'Company' section shows 'HAN / / 400056'.

Enter initial password

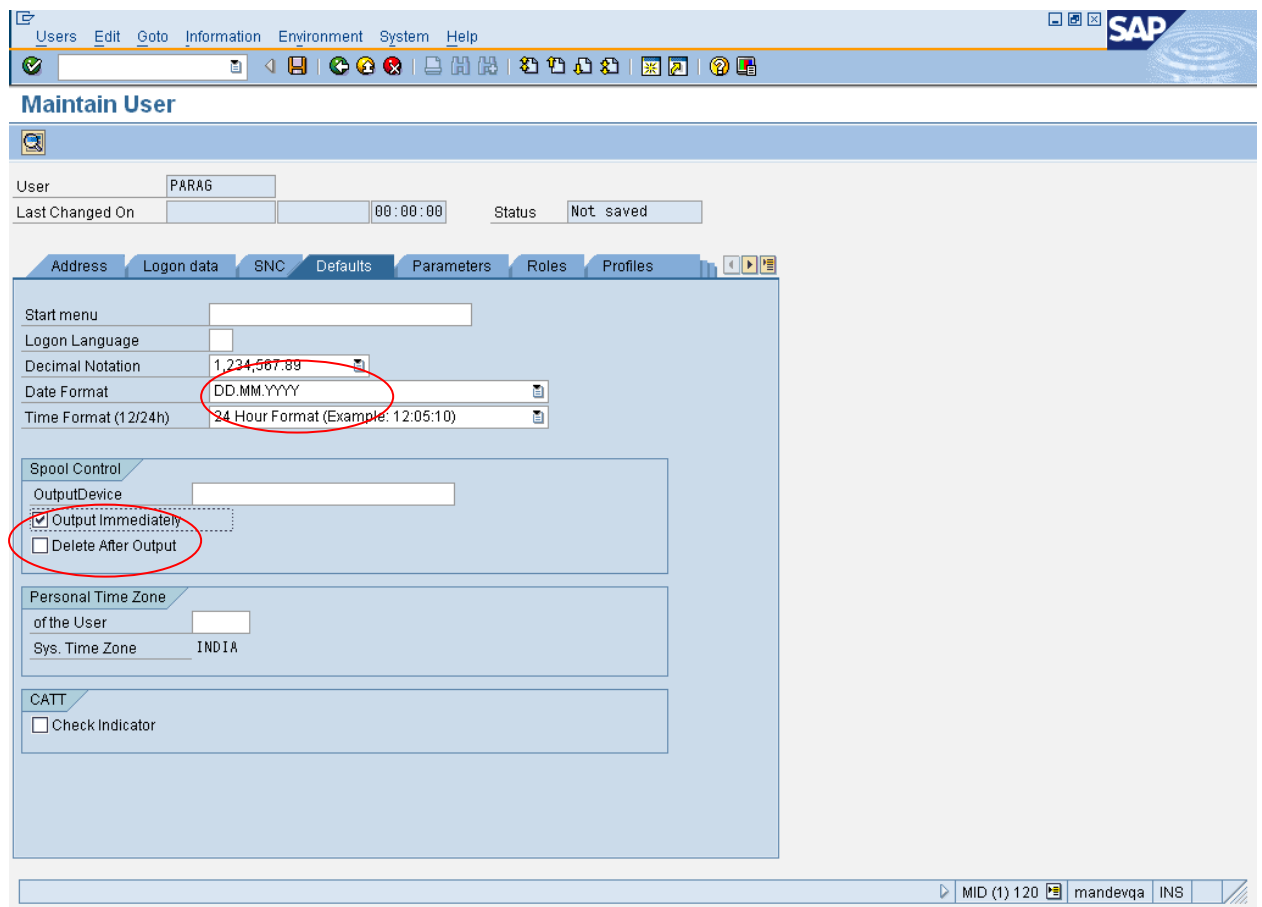
Repeat password

We can provide validity to restrict user for particular period

The screenshot shows the SAP 'Maintain User' dialog box. At the top, the 'User' field contains 'PARAG'. Below it, 'Last Changed On' is '00:00:00' and 'Status' is 'Not saved'. The 'Password' section is expanded, showing 'Initial password' and 'Repeat password' fields, both containing asterisks. A red oval highlights these two fields. Below the password fields is the 'Validity Period' section, with 'Valid from' and 'Valid through' fields. A red oval highlights the 'Valid through' field. At the bottom right, the status bar shows 'MID (1) 120', 'mandevqa', and 'INS'.

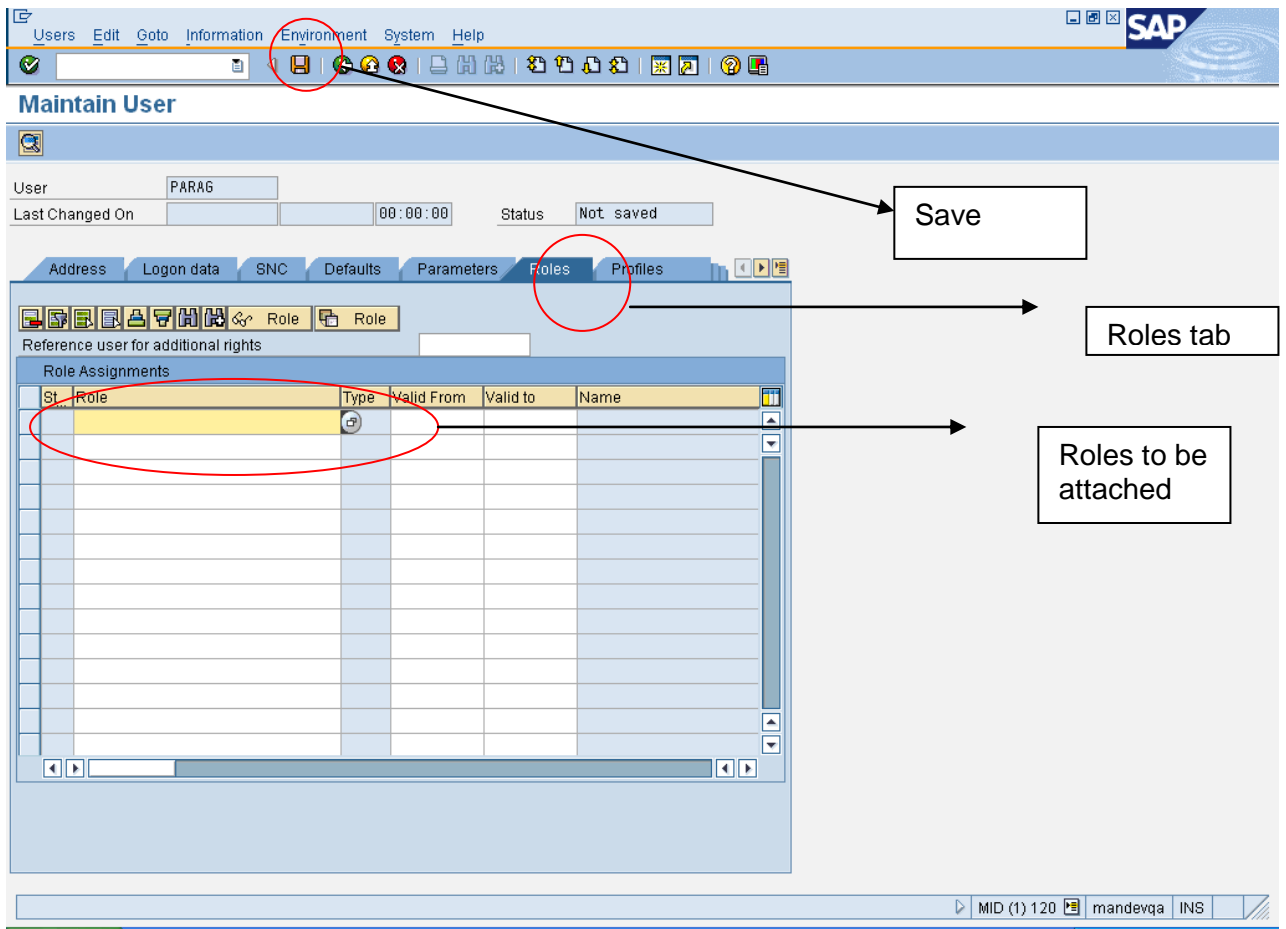
Make decimal notation to: 1,234,567.89

Click on output immediately check box



The screenshot shows the SAP 'Maintain User' transaction for user 'PARAG'. The 'Parameters' tab is active, displaying various user settings. The 'Decimal Notation' field is set to '1,234,567.89'. The 'Date Format' is 'DD.MM.YYYY' and the 'Time Format (1/2/24h)' is '24 Hour Format (Example: 12:05:10)'. In the 'Spool Control' section, the 'Output Immediately' checkbox is checked, and the 'Delete After Output' checkbox is unchecked. The status bar at the bottom indicates 'MID (1) 120 | mandevqa | INS'.

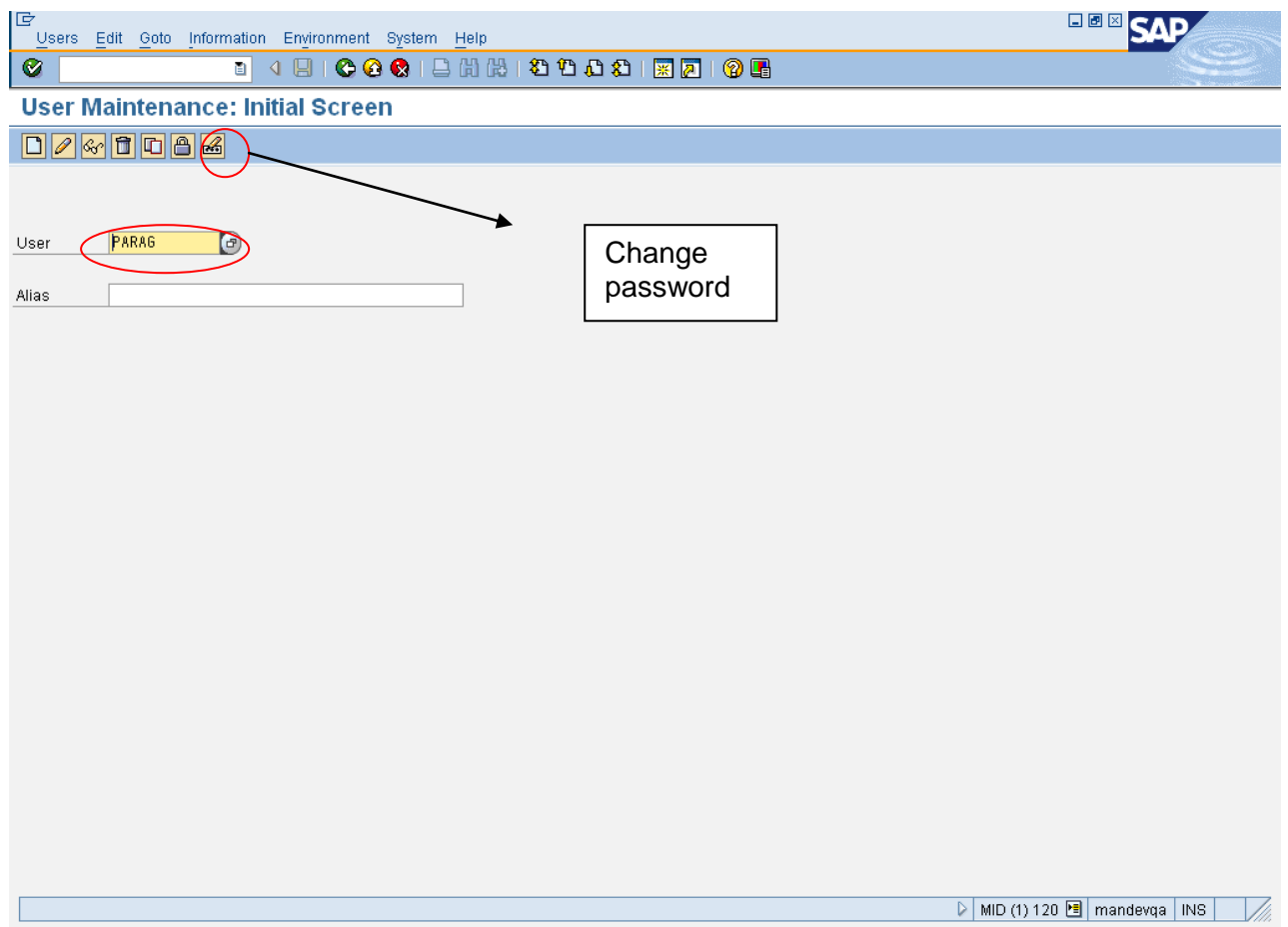
Go to Role tab an assign role to user



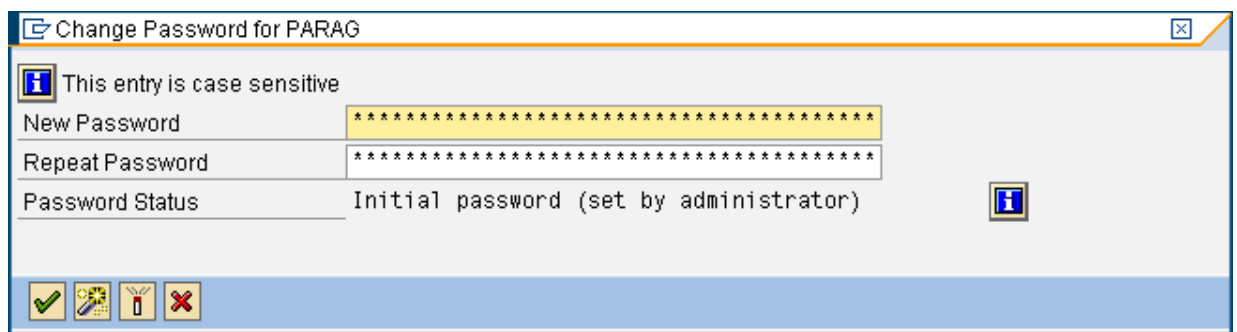
Click on save button

C. User id Maintenance


Password reset of user id: PARAG
Go to transaction su01
Select user id and click on change password tab



Provide New password








Change Password for PARAG

 This entry is case sensitive

New Password

Repeat Password

Password Status Initial password (set by administrator) 

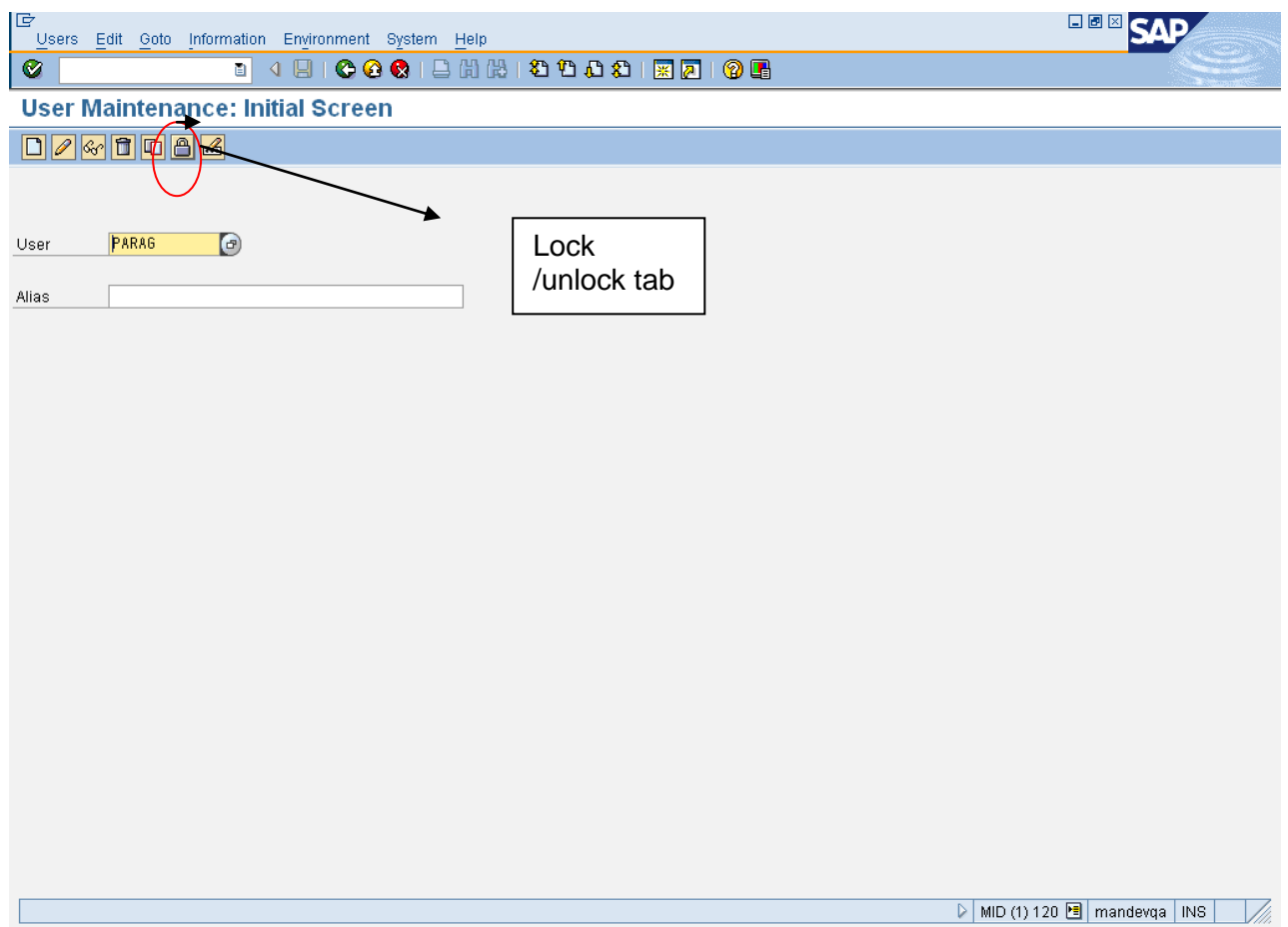
   

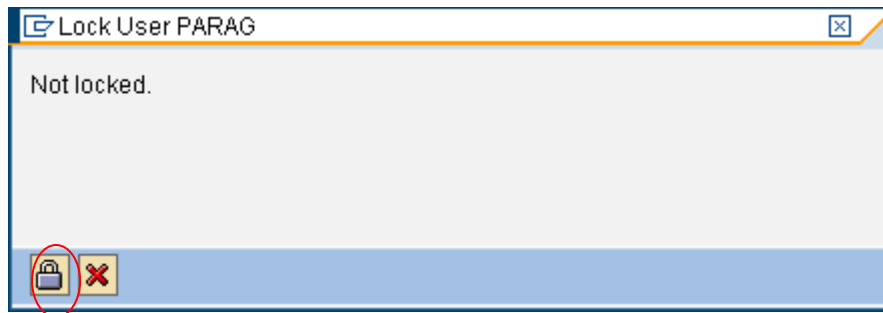
Lock/ unlock user

Go to transaction su01

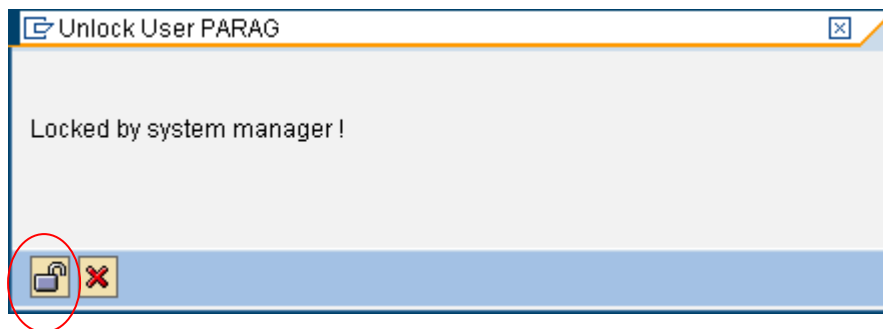
Type user id

Click on unlock tab

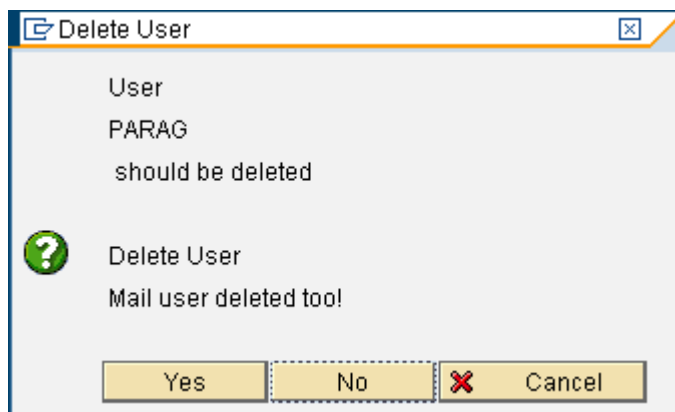
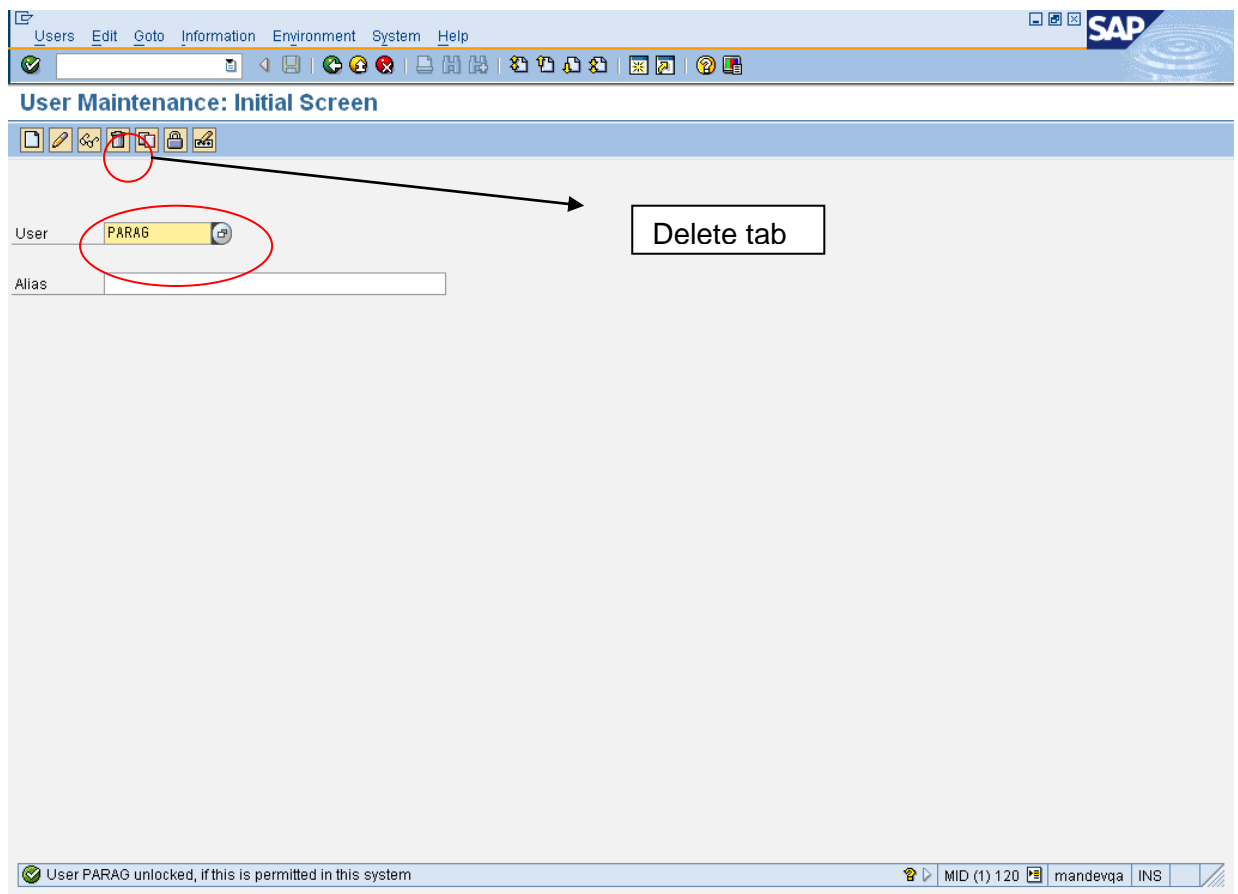




Now user id is lock if u again click tab it will unlock user id



Deleting Single User Id



Click on yes and user id will be deleted from system

D Mass user maintenance transaction su10

User Maintenance: Mass Changes Initial Screen

User selection

Address data Authorization data

User	Full Name
------	-----------

MID (1) 120 mandevqa INS

Select user id which need to Change, Delete or Create

User Maintenance: Mass Changes Initial Screen

User selection

Address data Authorization data

User	Full Name
AJAY	AJAY
BANDISH	BANDISH
BHAVIN	BHAVIN
DMSADMIN	DMSADMIN
DMSMAN01	DMSMAN01 DMSMAN01
DMSMAN02	MANAGEMENT
DMSMAN03	DMSMAN03 DMSMAN03
DMSMAN04	DMSMAN04 DMSMAN04
DMSMAN05	DMSMAN05 DMSMAN05
DMSMAN06	DMSMAN06 DMSMAN06
DMSMAN07	DMSMAN07 DMSMAN07
DMSMAN08	DMSMAN08 DMSMAN08
DMSMAN09	DMSMAN09 DMSMAN09
DMSMAN10	DMSMAN10 DMSMAN10
DMSMAN11	DMSMAN11 DMSMAN11
DMSMAN12	DMSMAN12 DMSMAN12
FIADMIN	FIDMIN
HCCABAP	HCCABAP
JAIDEEP	JAIDEEP
MAHESH	MAHESH
MANBASIS	MANBASIS

MID (1) 120 mandevqa INS

Select tab as per function

- 1) Create
- 2) Change
- 3) Delete
- 4) Lock
- 5) Unlock

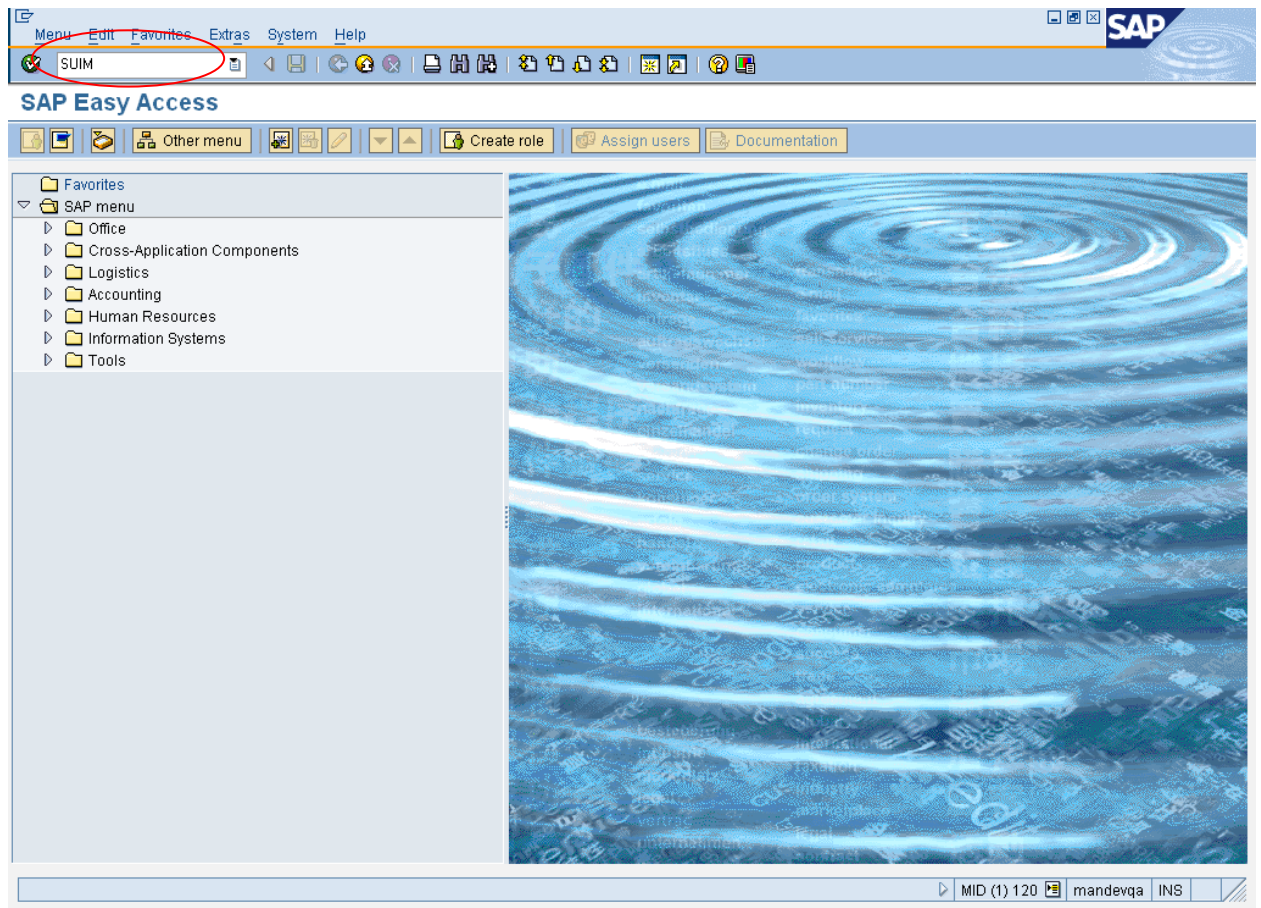
User Edit Goto Information Environment System Help

Address data Authorization data

User	Full Name
AJAY	AJAY
BANDISH	BANDISH
BHAVIN	BHAVIN
DMSADMIN	DMSADMIN
DMSMAN01	DMSMAN01 DMSMAN01
DMSMAN02	MANAGEMENT
DMSMAN03	DMSMAN03 DMSMAN03
DMSMAN04	DMSMAN04 DMSMAN04
DMSMAN05	DMSMAN05 DMSMAN05
DMSMAN06	DMSMAN06 DMSMAN06
DMSMAN07	DMSMAN07 DMSMAN07
DMSMAN08	DMSMAN08 DMSMAN08
DMSMAN09	DMSMAN09 DMSMAN09
DMSMAN10	DMSMAN10 DMSMAN10
DMSMAN11	DMSMAN11 DMSMAN11
DMSMAN12	DMSMAN12 DMSMAN12
FIADMIN	FIDMIN
HCCABAP	HCCABAP
JAIDEEP	JAIDEEP
MAHESH	MAHESH
MANBASIS	MANBASIS

MID (1) 120 mandevqa INS

E User administration using transaction SUIM



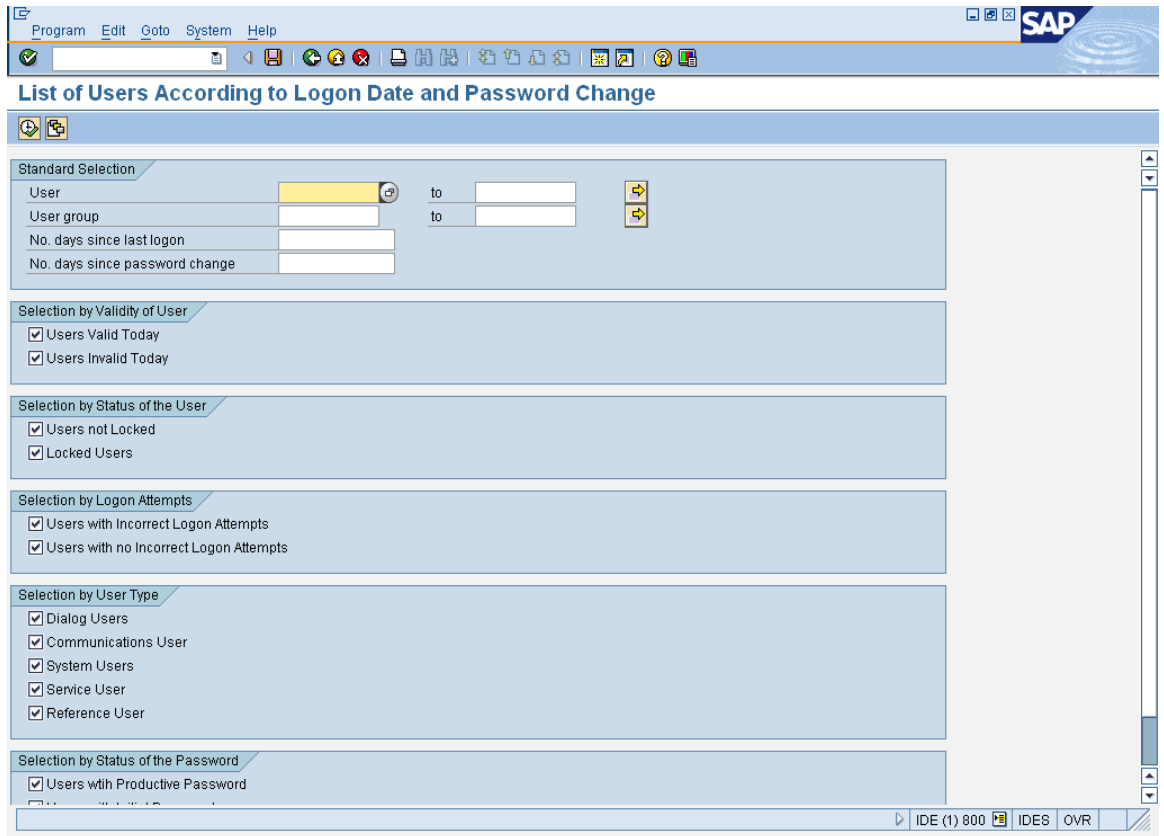
SELECT USER

The screenshot shows the SAP User Information System (UIS) interface. The title bar includes 'Structure', 'Edit', 'Goto', 'Utilities(M)', 'Additional Information', 'System', and 'Help'. The main content area displays a tree structure under 'User Information System'. The 'User' node is expanded, and the following options are listed:

- ↳ Cross-System Information (Central User Administration)
 - ↳ Users by Address Data
 - ↳ Users by Complex Selection Criteria
 - ↳ With Unsuccessful Logons
 - ↳ By Logon Date and Password Change
 - ↳ With Critical Authorizations
- ↳ Roles
- ↳ Profiles
- ↳ Authorizations
- ↳ Authorization Objects
- ↳ Transactions
- ↳ Comparisons
- ↳ Where-Used List
- ↳ Change Documents

Red circles highlight the 'User' node and the 'By Logon Date and Password Change' option. The status bar at the bottom right shows 'MID (1) 120', 'mandevqa', and 'INS'.

SELECT CHECK BOX AND EXECUTE THE REPORT

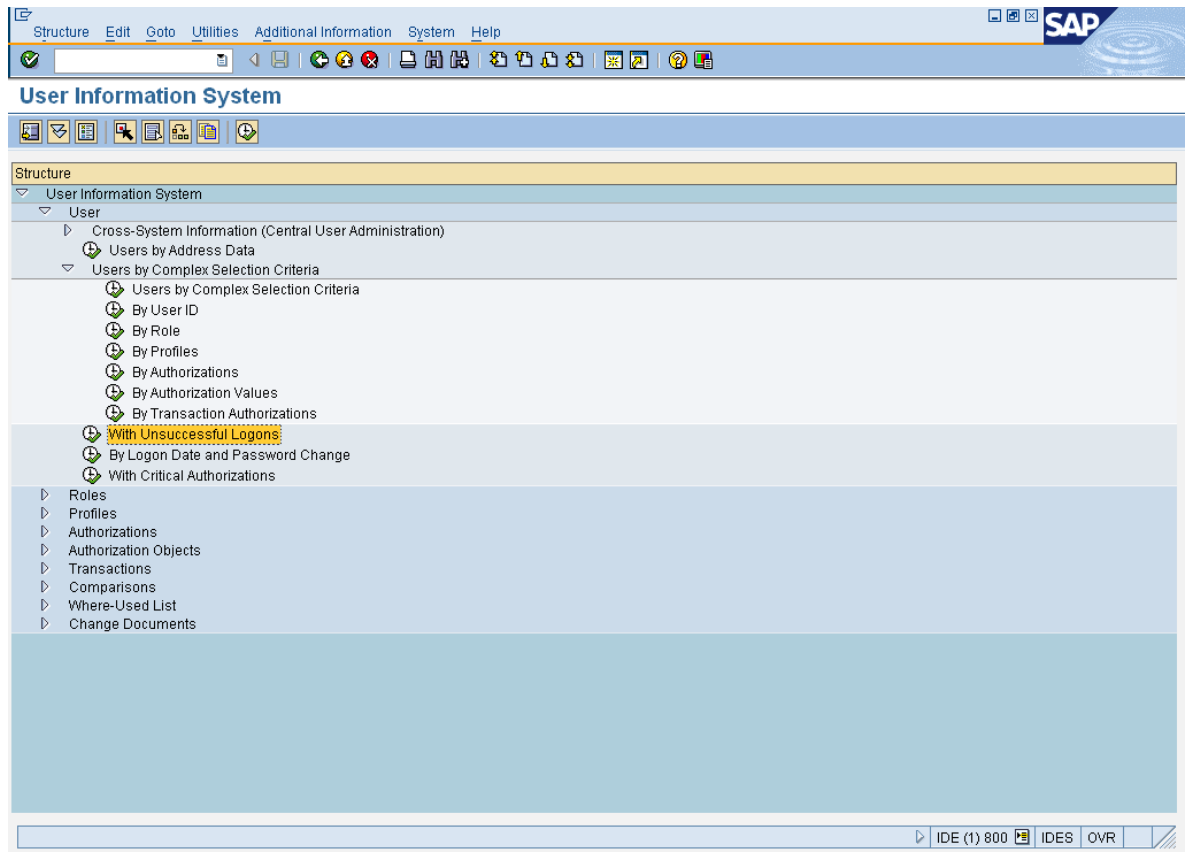


The screenshot shows the SAP report 'List of Users According to Logon Date and Password Change'. The interface includes a menu bar (Program, Edit, Goto, System, Help) and a toolbar. The report title is 'List of Users According to Logon Date and Password Change'. Below the title, there are several selection criteria sections, each with a sub-header and a list of options with checkboxes:

- Standard Selection**
 - User: [input field] to [input field]
 - User group: [input field] to [input field]
 - No. days since last logon: [input field]
 - No. days since password change: [input field]
- Selection by Validity of User**
 - Users Valid Today
 - Users Invalid Today
- Selection by Status of the User**
 - Users not Locked
 - Locked Users
- Selection by Logon Attempts**
 - Users with Incorrect Logon Attempts
 - Users with no Incorrect Logon Attempts
- Selection by User Type**
 - Dialog Users
 - Communications User
 - System Users
 - Service User
 - Reference User
- Selection by Status of the Password**
 - Users with Productive Password

The status bar at the bottom right shows 'IDE (1) 800', 'IDES', and 'OVR'.

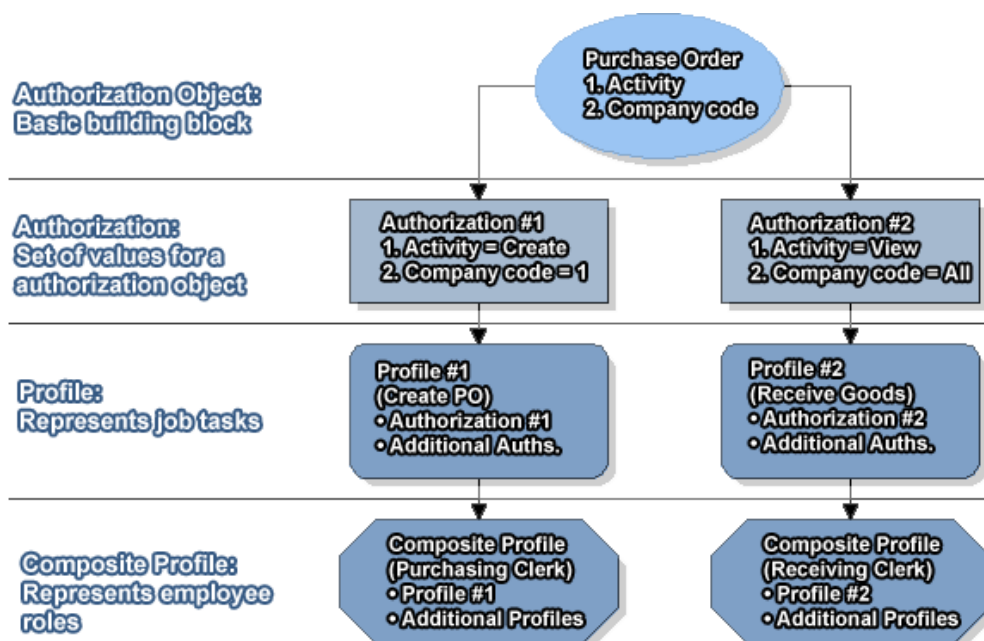
We can find information of about users by user id
By role
By profile
By authorization
By transactions



Authorization

C. What Is Authorization?

The SAP authorization concept is based upon the logical relationship between a user ID and the range of system authorizations with which it can be associated. The architecture of the authorization system is based upon the utilization of several individuals but related logical components: Profiles, Objects, Fields, and Authorizations. The user ID refers exclusively to profiles. Each profile grants a set of specific system access authorizations to user. Figure illustrates the hierarchical authorization concept in SAP.



Composite profiles refer to the various employee roles available in the corporation (for instance: Purchasing / Receiving Clerk or Accounts Agent).

As

the name suggests, composite profiles may contain multiple user IDs necessary

to perform all the business operations associated with a particular role. A composite profile may encapsulate another composite profile(s). In practice, a

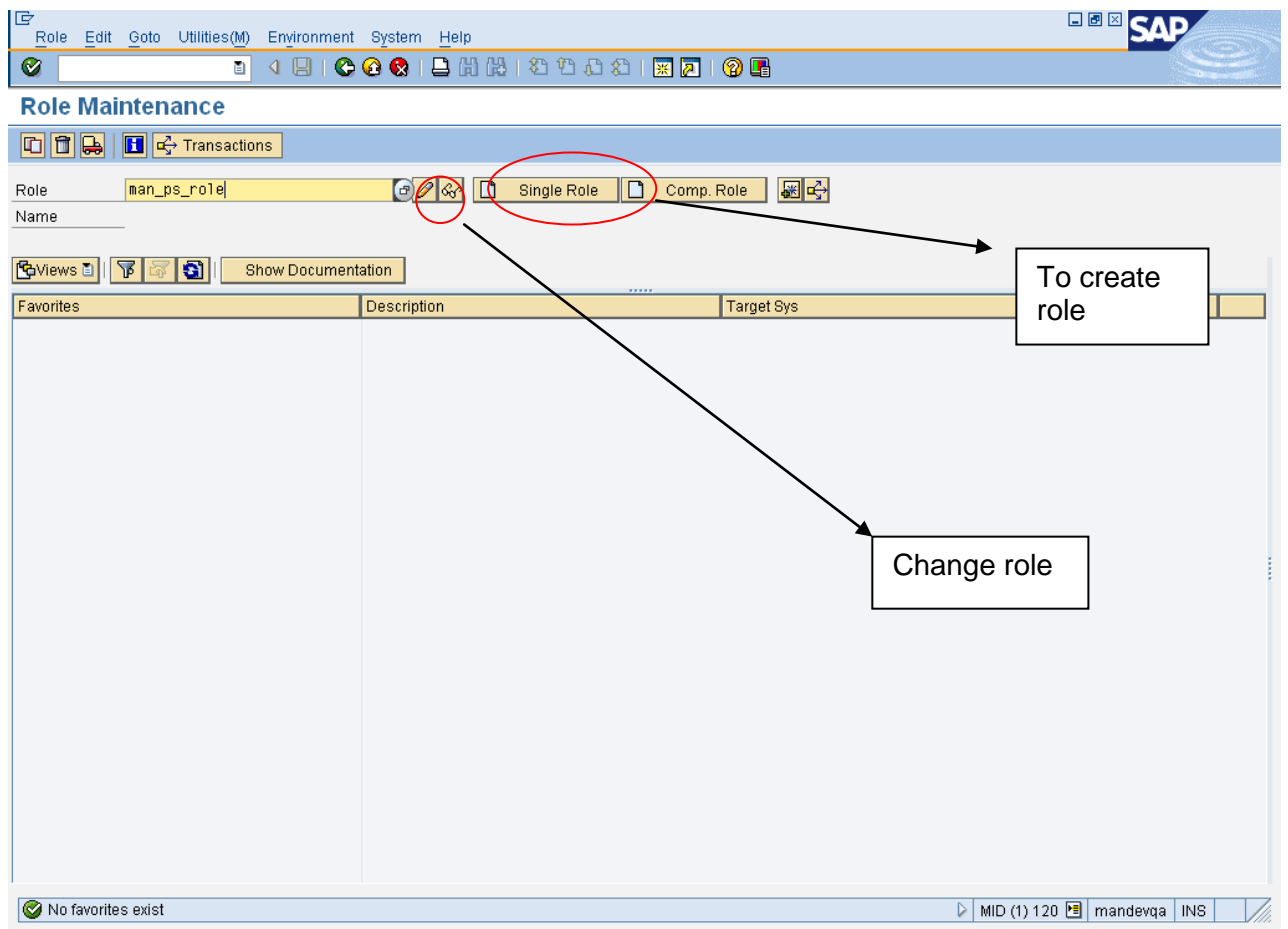
model composite profile should be recognized for each possible role in the organization, which may be used to produce hybrid composite profiles. The over existence of the hybrids can defy the very purpose of composite profiles and they

should be created only when specific needs arise.

Authorizations are the key building blocks of SAP security. Authorization is the process of assigning values to fields present in authorization objects. In SAP, access to all system functionality is achieved through a complex array of authorizations. Sometimes users find that they lack the necessary authorizations to perform a certain function in the system, in which case the message: "You are not authorized..." is displayed at the bottom of the screen. An authorization process may ask for second associated authorization process which in turn asks for third and so on. For example, the task of paying a vendor

D. Roles Creation

Type transaction PFCG

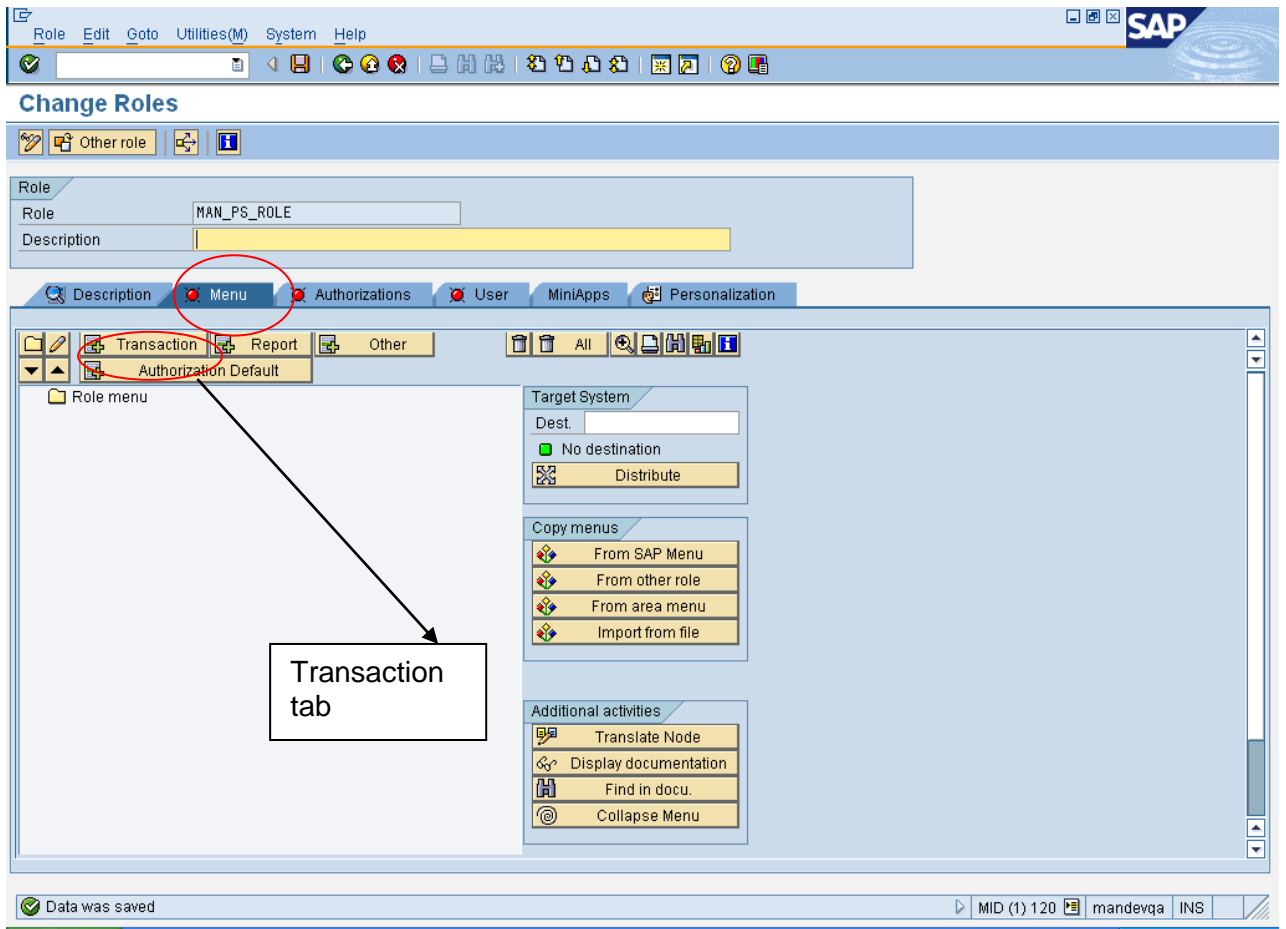


Role: role name

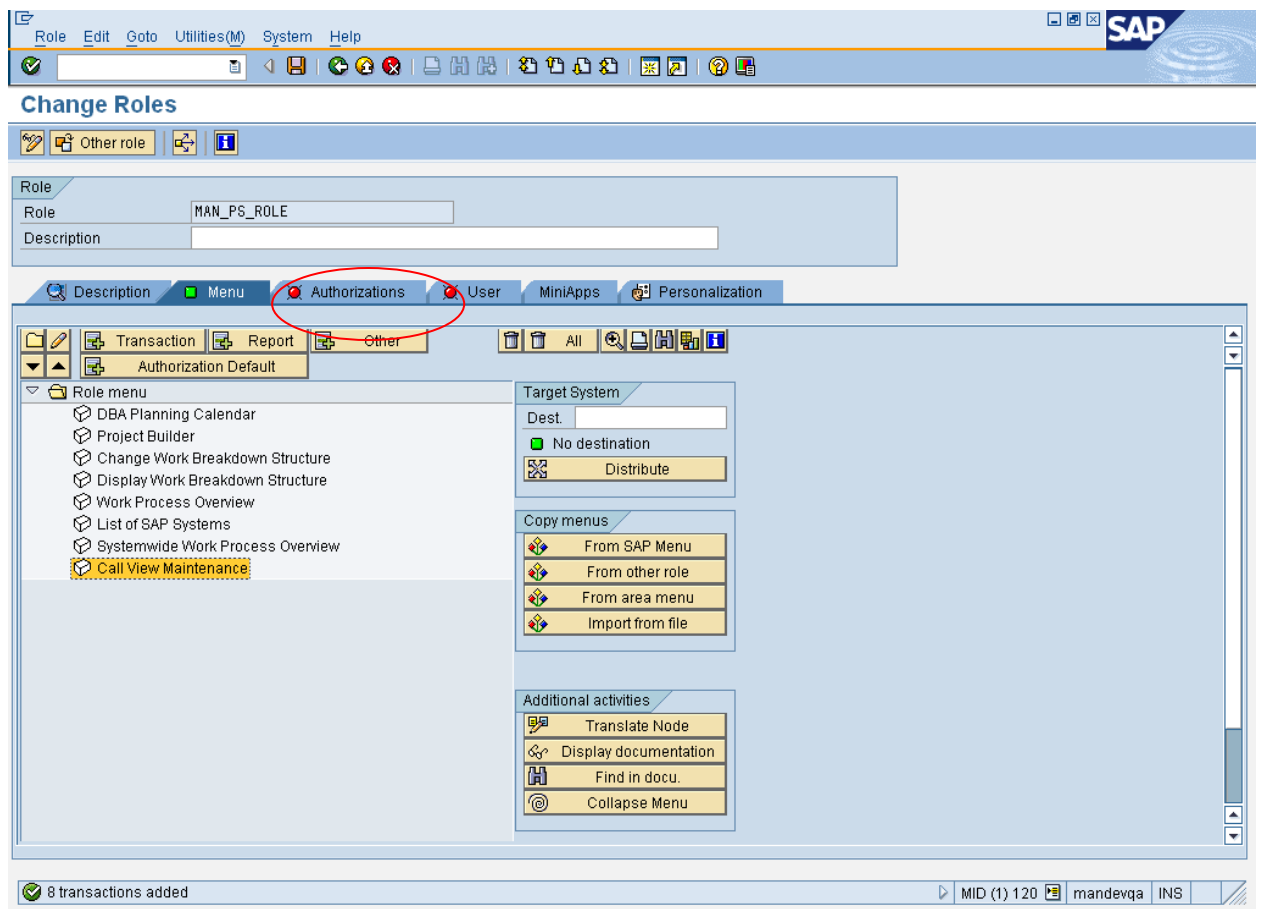
Click on single role to create new role or click on change to make changes in existing role

Select menu tab

Click on transaction



Assign transaction to role



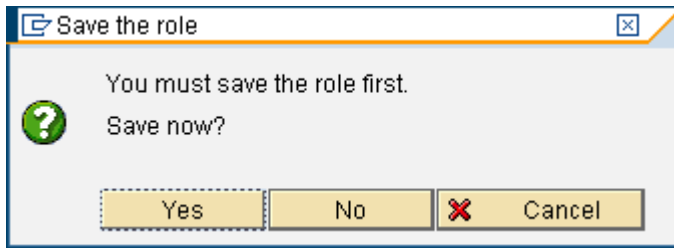
Select change authorizations data

The screenshot shows the SAP-ADMIN 'Change Roles' interface. At the top, there is a menu bar with 'Role', 'Edit', 'Goto', 'Utilities(M)', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main content area is titled 'Change Roles' and contains several sections:

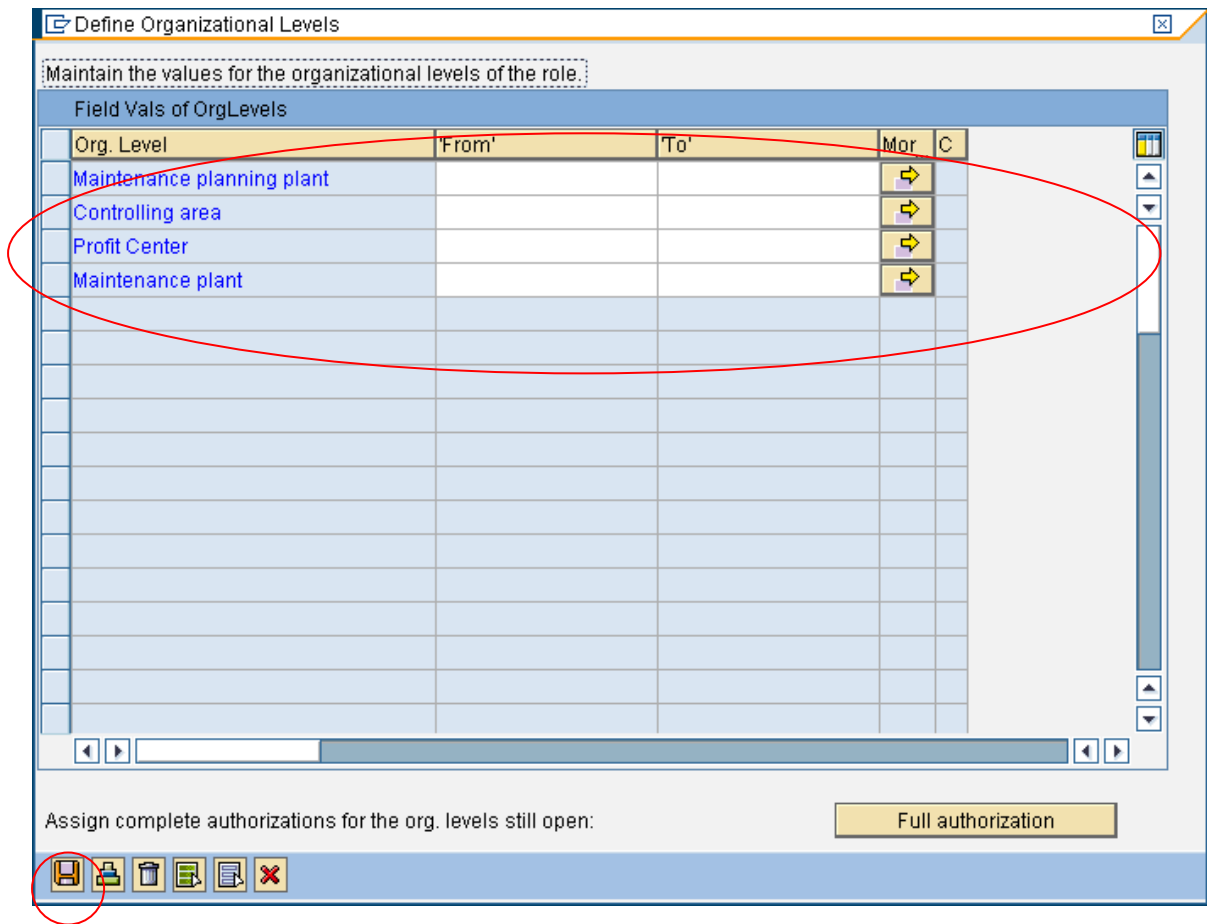
- Role:** A form with 'Role' set to 'MAN_PS_ROLE' and an empty 'Description' field.
- Navigation:** A set of tabs including 'Description', 'Menu', 'Authorizations', 'User', 'MiniApps', and 'Personalization'.
- Created by / Last Changed On/By:** Two sections with input fields for 'User', 'Date', and 'Time'.
- Information About Authorization Profile:** A section with 'Profile Name', 'Profile Text', and 'Status' (displaying 'No authorization data exists').
- Maintain Authorization Data and Generate Profiles:** A section with two options: 'Change Authorization Data' and 'Expert Mode for Profile Generation'. The 'Expert Mode for Profile Generation' option is circled in red, and an arrow points from it to a white box containing the text 'Click on this'.

At the bottom of the interface, there is a status bar showing 'MID (1) 120', 'mandevqa', and 'INS'.

Select yes



Enter organization data



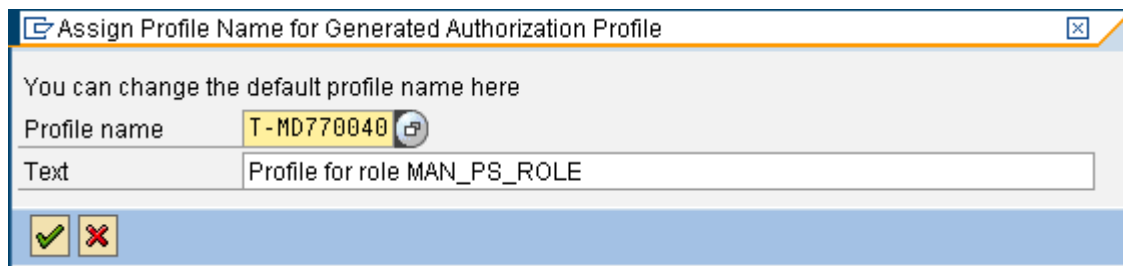
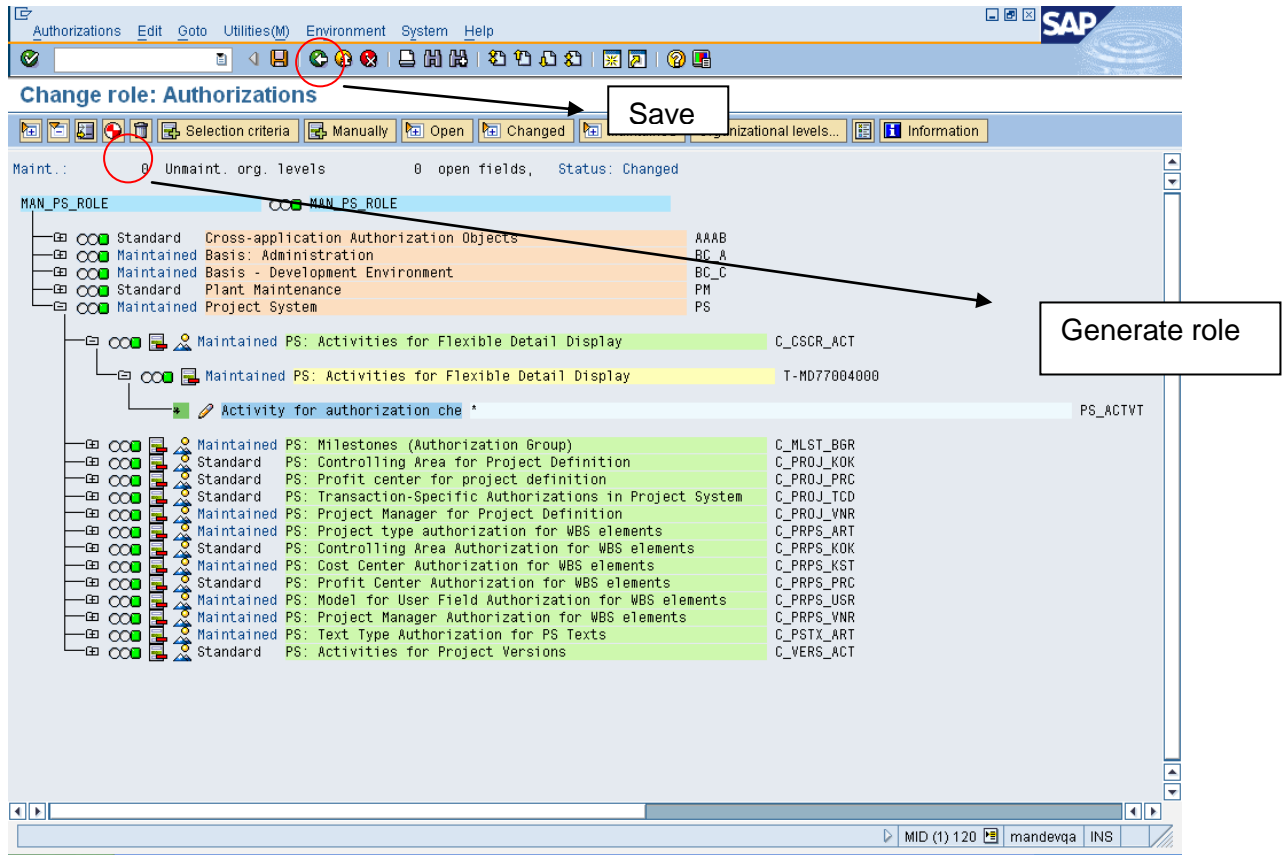
Provide activities

The screenshot shows the SAP Admin console interface for 'Change role: Authorizations'. The main window displays a tree view of authorization objects and activities for the role 'MAN_PS_ROLE'. The tree structure is as follows:

- MAN_PS_ROLE
 - Standard Cross-application Authorization Objects
 - Standard Basis: Administration
 - Standard Basis - Development Environment
 - Standard Plant Maintenance
 - Standard Project System
 - Standard PS: Activities for Flexible Detail Display (highlighted in yellow)
 - Standard PS: Activities for Flexible Detail Display (highlighted in yellow)
 - * Activity for authorization che (newly added)
 - Standard PS: Milestones (Authorization Group)
 - Standard PS: Controlling Area for Project Definition
 - Standard PS: Profit center for project definition
 - Standard PS: Transaction-Specific Authorizations in Project System
 - Standard PS: Project Manager for Project Definition
 - Standard PS: Project type authorization for WBS elements
 - Standard PS: Controlling Area Authorization for WBS elements
 - Standard PS: Cost Center Authorization for WBS elements
 - Standard PS: Profit Center Authorization for WBS elements
 - Standard PS: Model for User Field Authorization for WBS elements
 - Standard PS: Project Manager Authorization for WBS elements
 - Standard PS: Text Type Authorization for PS Texts
 - Standard PS: Activities for Project Versions

The status bar at the bottom indicates 'MID (1) 120' and the user 'mandevqa' is logged in.

Save the role and generate.



Click ok

Select user tab

The screenshot shows the SAP BASIS 'Change Roles' transaction. The 'User' tab is selected, and the 'User Assignments' table is displayed. The table has the following data:

User ID	User name	From	to	
PARAG	parag	06.08.2009	31.12.9999	

A red circle highlights the 'User comparison' button in the top right corner of the table area.

Assigns users to role

User id: parag

Save the role and click on user comparison

Complete comparison




Compare Role User Master Record

Last comparison	
User	
Date	
Time	00:00:00

Complete adjustment	
User	
Date	
Time	00:00:00

Information for user master comparison

Status User master record has not yet been completely compared

 Complete comparison  Information 

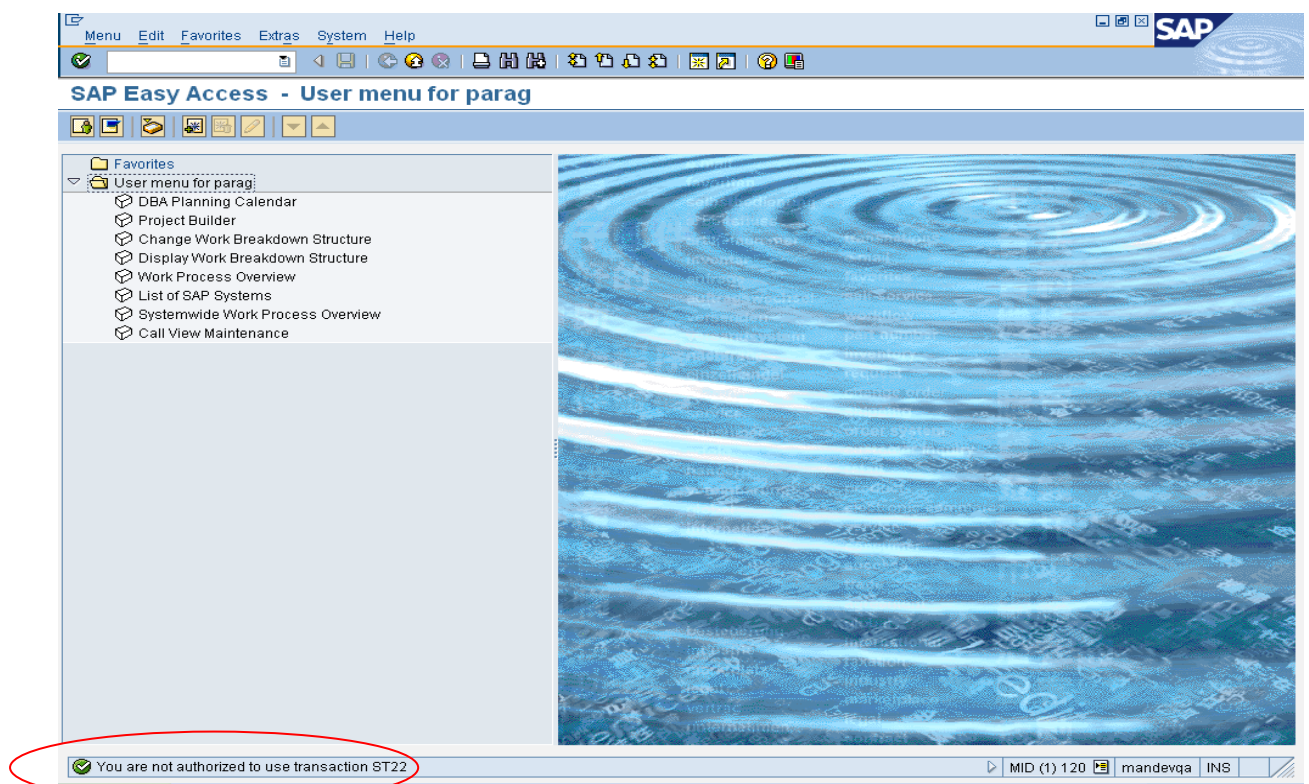
The screenshot displays the SAP-ADMIN 'Change Roles' window. At the top, there is a menu bar with 'Role', 'Edit', 'Goto', 'Utilities(M)', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area is titled 'Change Roles' and contains a form for role details. The 'Role' field is set to 'MAN_PS_ROLE'. Below the form are tabs for 'Description', 'Menu', 'Authorizations', 'User', 'MiniApps', and 'Personalization'. The 'User' tab is active, showing a 'User Assignments' table. The table has columns for 'User ID', 'User name', 'From', and 'to'. One entry is visible: 'PARAG' with user name 'parag', from date '06.08.2009', and to date '31.12.9999'. A status bar at the bottom indicates 'User master record for all roles adjusted' and shows system information: 'MID (1) 120 mandevqa INS'.

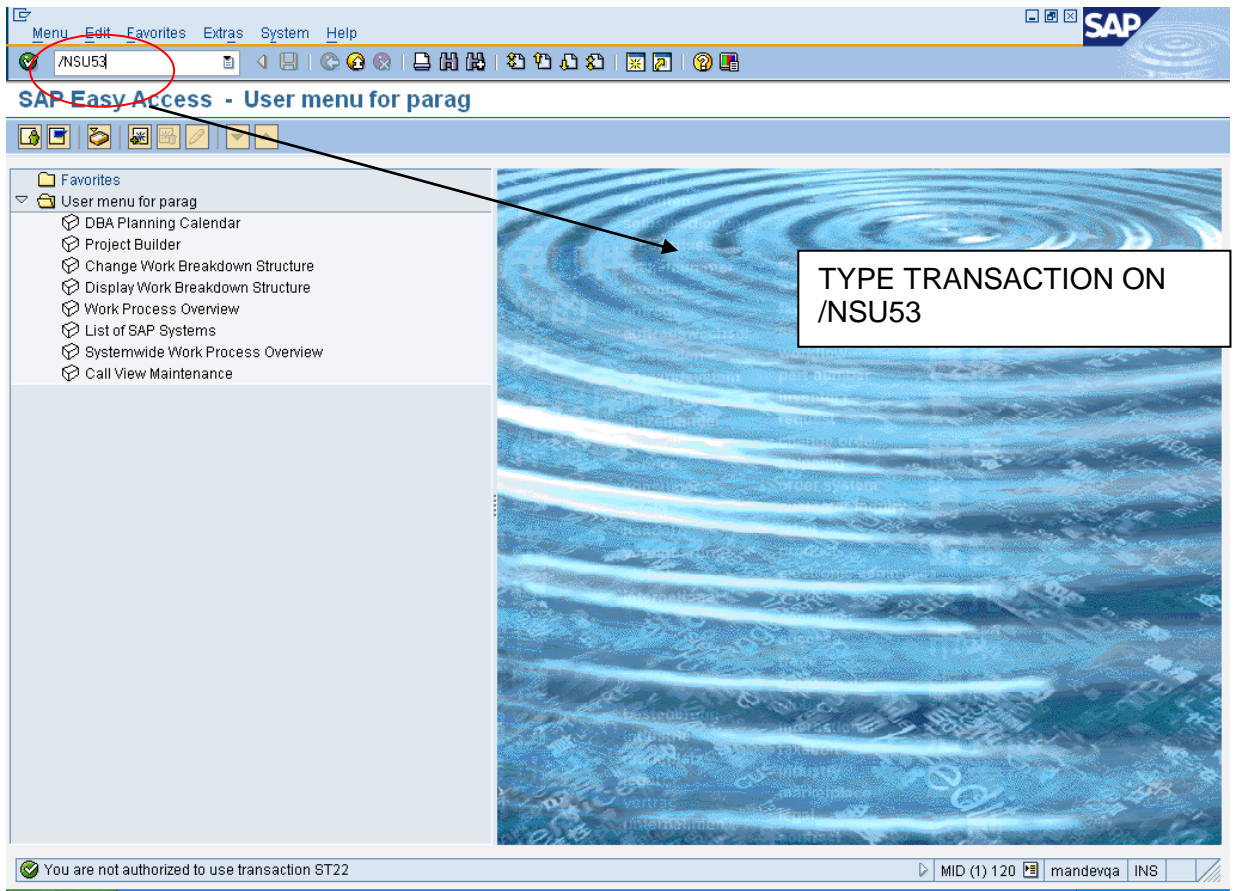
User ID	User name	From	to
PARAG	parag	06.08.2009	31.12.9999

E. Creation of authorization spool request

If user id not authorized for transaction code or object in transaction
Cerate spool request

User id not authorized for transaction EX: ST22





CLIKC ON TEXT VIEW

Authorization Values Edit Goto System Help

Display Authorization Data for User PARAG

Text View

Description	Authorization values
User Name	PARAG Authorization Object
System	MID Client
Date	06.08.2009 Time 14:17:42
Instnce	mandevqa Profile Parameter auth/new buffering 4

Authorization check failed	
Object Class AAB Cross-application Authorization Objects	
Authorization Obj. S_TCODE Transaction Code Check at Transaction Start	
Authorization Field TCD Transaction Code	ST22
User's Authorization Data PARAG	
Object Class AAB Cross-application Authorization Objects	
Authorization Object S_TCODE Transaction Code Check at Transaction Start	

MID (1) 120 mandevqa INS

Display Authorization Data for User PARAG

Evaluation of Last Failed Authorization Check of User PARAG

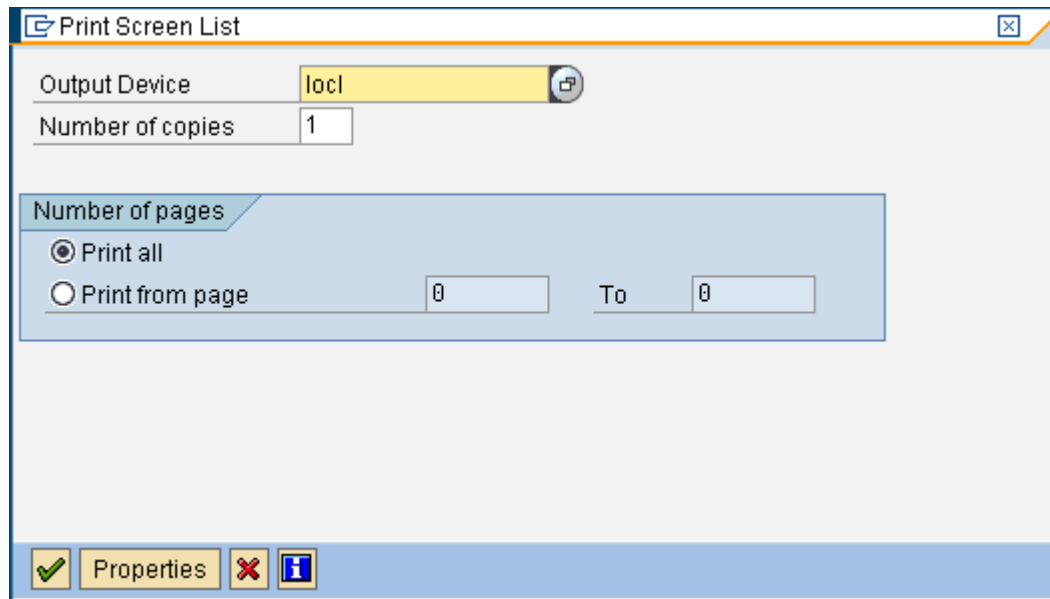
Description		Authorization values	
User Name	PARAG	Authorization Object	S_TCODE
System	MID	Client	120
Date	06.08.2009	Time	14:17:42
Instance	mandevqa	Profile Parameter	auth/new buffering 4
<ul style="list-style-type: none"> ▼ Authorization check failed <ul style="list-style-type: none"> ▼ Object Class AAAB Cross-application Authorization Objects <ul style="list-style-type: none"> ▼ Authorization Obj. S_TCODE Transaction Code Check at Transaction Start <ul style="list-style-type: none"> ▼ Authorization Field TCD Transaction Code <ul style="list-style-type: none"> ST22 ▼ User's Authorization Data PARAG <ul style="list-style-type: none"> ▼ Object Class AAAB Cross-application Authorization Objects <ul style="list-style-type: none"> ▼ Authorization Object S_TCODE Transaction Code Check at Transaction Start <ul style="list-style-type: none"> ▼ Authorizat. T-MD77004000 Transaction Code Check at Transaction Start <ul style="list-style-type: none"> Profile T-MD770040 Profile for role MAN_PS_ROLE <ul style="list-style-type: none"> Role MAN_PS_ROLE <ul style="list-style-type: none"> ▼ Authorization Field TCD Transaction Code <ul style="list-style-type: none"> CJ02, CJ03, CJ20N, DB13, SM30, SM50, SM51, 			

System: MID (1) 120 | Instance: mandevqa | INS

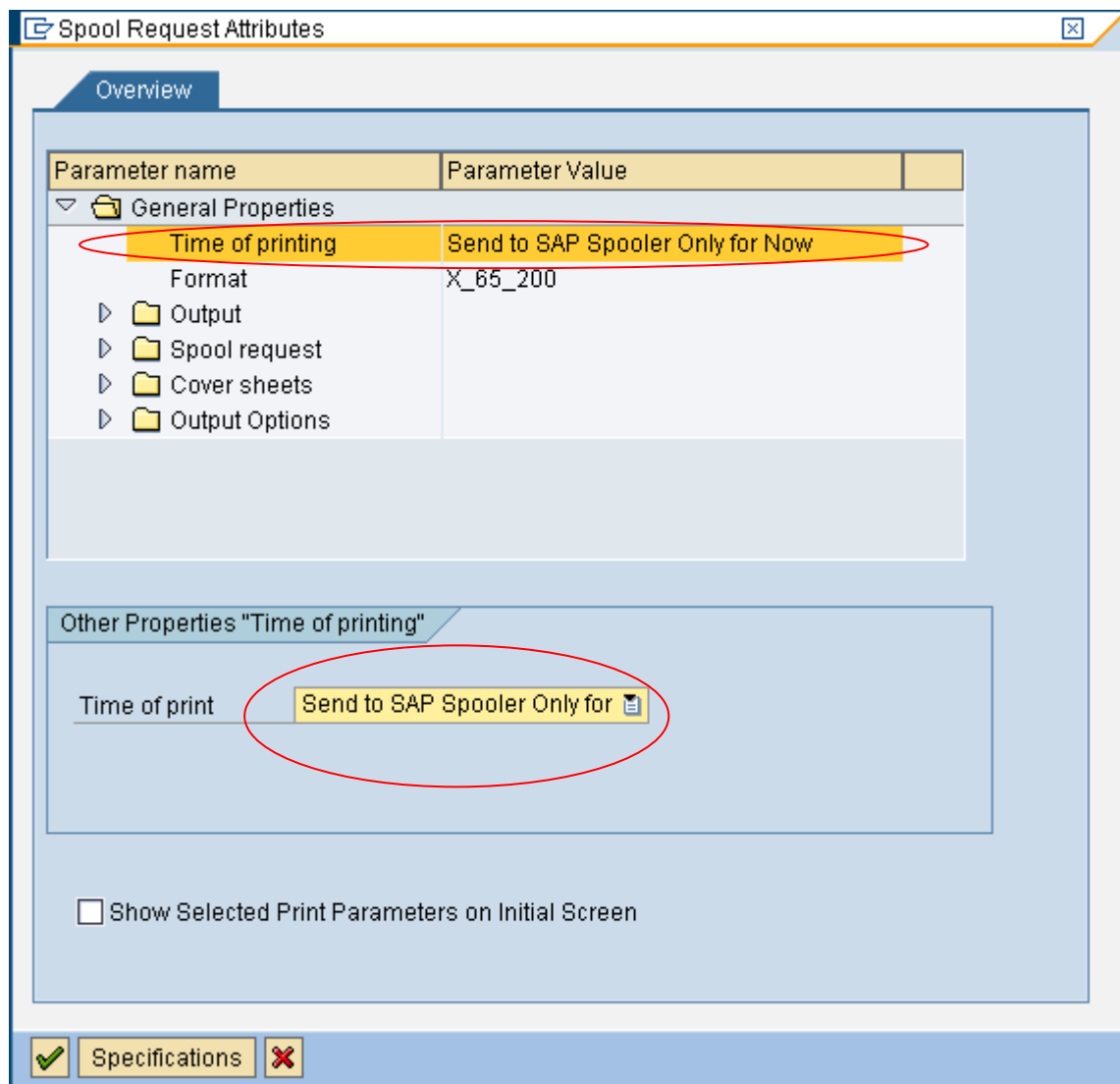
CLICK ON PRINT

Select printer LOCL

Go to properties



Select timing of print and change it to send to spooler only



Click ok

System Help SAP

Display Authorization Data for User PARAG

Evaluation of Last Failed Authorization Check of User PARAG

Description		Authorization values	
User Name	PARAG	Authorization Object	S_TCODE
System	MID	Client	120
Date	06.08.2009	Time	14:17:42
Instance	mandevqa	Profile Parameter	auth/new buffering 4

- ▼ Authorization check failed
 - ▼ Object Class AAAB Cross-application Authorization Objects
 - ▼ Authorization Obj. S_TCODE Transaction Code Check at Transaction Start
 - ▼ Authorization Field TCD Transaction Code
 - ST22
- ▼ User's Authorization Data PARAG
 - ▼ Object Class AAAB Cross-application Authorization Objects
 - ▼ Authorization Obj. S_TCODE Transaction Code Check at Transaction Start
 - ▼ Authorizat. T-MD77004000 Transaction Code Check at Transaction Start
 - Prof1. T-MD770040 Profile for role MAN_PS_ROLE
 - Role MAN_PS_ROLE
 - ▼ Authorization Field TCD Transaction Code
 - CJ02, CJ03, CJ20N, DB13, SM30, SM50, SM51,

CJ02, CJ03, CJ20N, DB13, SM30, SM50, SM51,

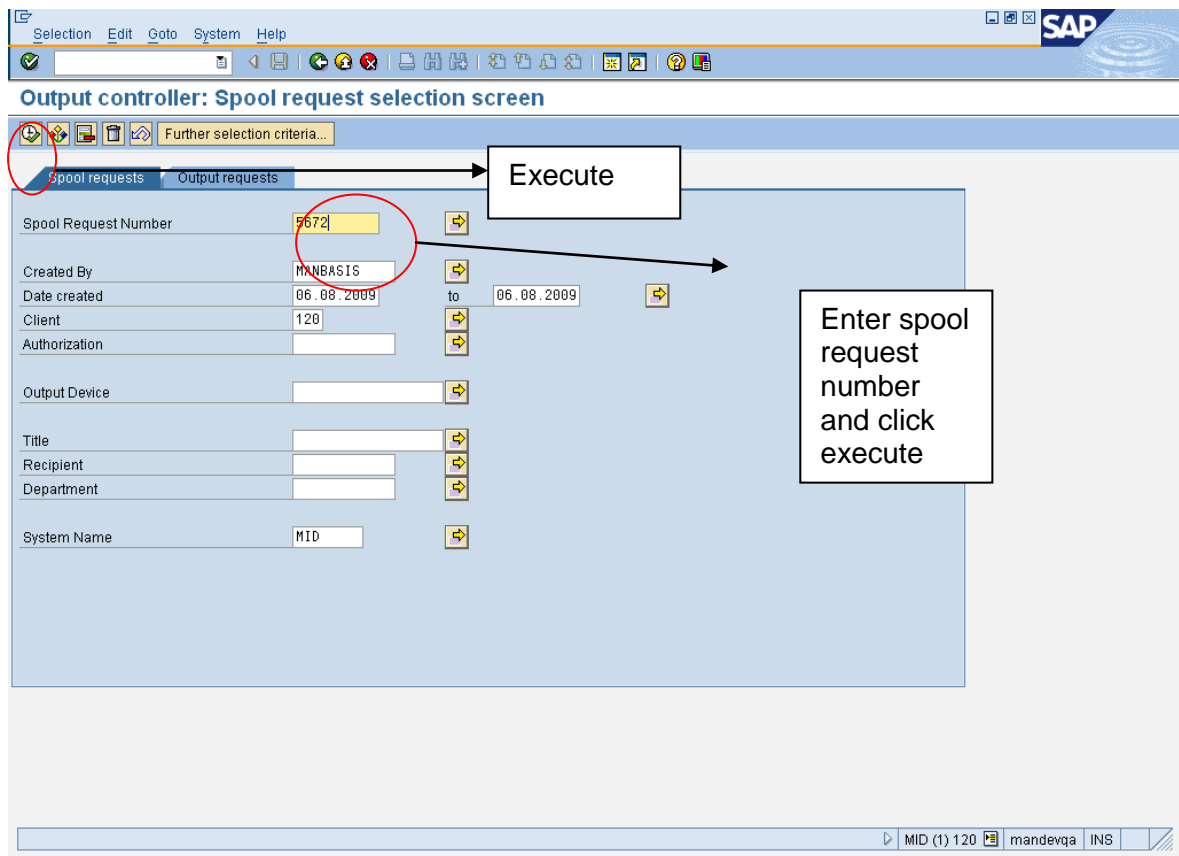
Spool request number will be generated
I.e.: 5672

Spool request (number 0000005672) created without immediate output

MID (1) 120 mandevqa INS

F. Resolving Authorization Problem

Go to transaction sp01



Spool Request Edit Goto Utilities(M) Settings System Help

Output Controller: List of Spool Requests

Spool no.	Type	Clt	User	Date	Time	Status	Pages	Title
5672	ABAP	120	PARAG	06.08.2009	10:58	-	1	LIST1S LOCL SAPMS016_PAR

1 spool request displayed

1 Spool request w/o output request

Click ABAP type list

MID (1) 120 mandevqa INS

Read following information and provide authorization for role in PFCG transaction

Display Authorization Data for User PARAG

Evaluation of Last Failed Authorization Check of User PARAG

Description	Authorization values
User Name	PARAG
system	MID
Date	06.08.2009
Instance	mandevqa
Authorization Object	S_TCODE
Client	120
Time	14:17:42
Profile Parameter	auth/new buffering
	4

Authorization check failed
 Object Class AAAB Cross-application Authorization Objects
 Authorization Obj. S_TCODE Transaction Code Check at Transaction Start
 Authorization Field TCD Transaction Code

User's Authorization Data PARAG
 Object Class AAAB Cross-application Authorization Objects
 Authorization Object S_TCODE Transaction Code Check at Transaction Start
 Authorizat. T-MD7700400 Transaction Code Check at Transaction Start
 Prof1. T-MD770040 Profile for role MAN_PS_ROLE
 Role MAN_PS_ROLE
 Authorization Field TCD Transaction Code

ST22

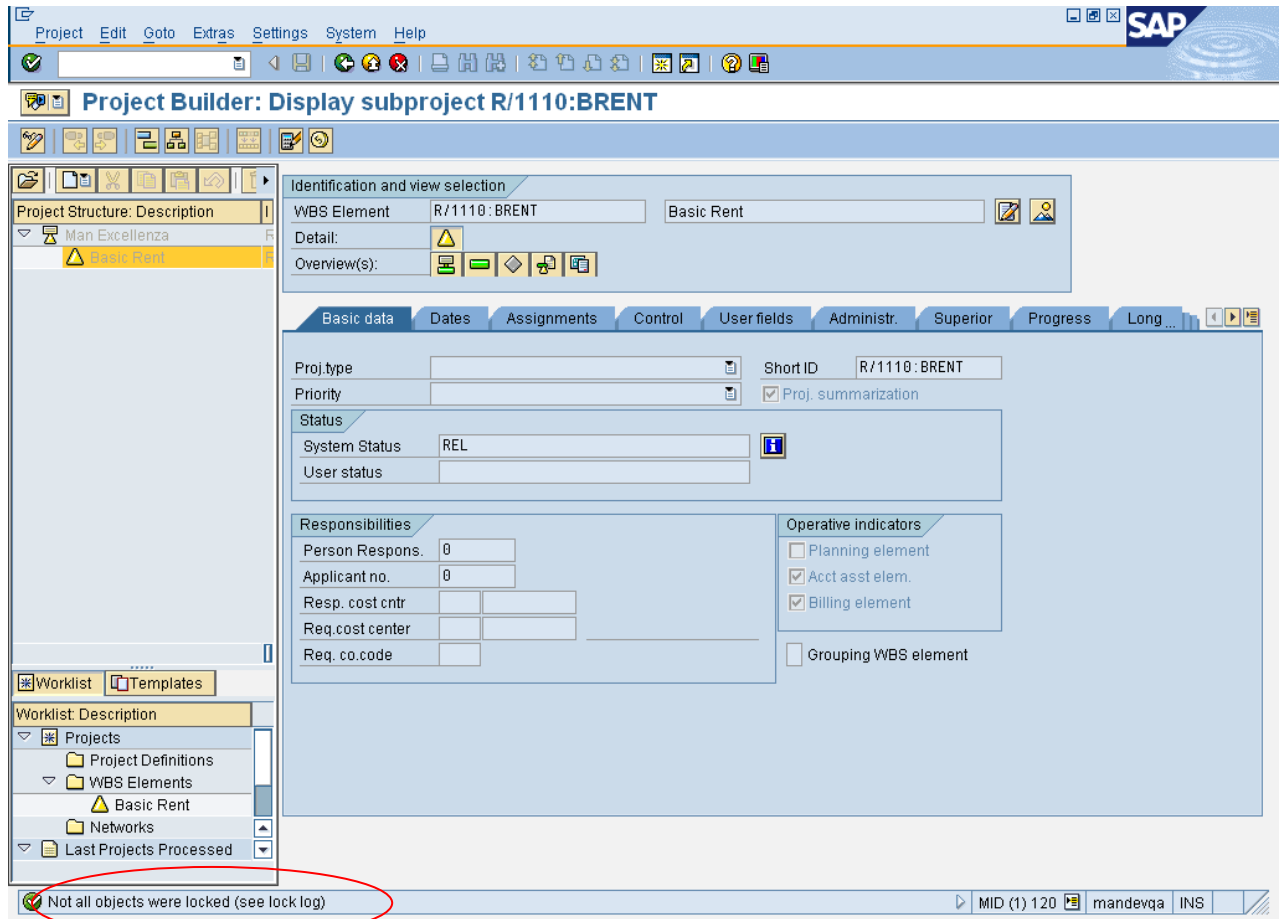
CJ02, CJ03, CJ20N, DB13, SM

Annotations:

- Red circles highlight: USER NAME, SYSTEM, DATE, AUTHORIZATION OBJECT.
- Red circle highlights: T CODE
- Red circle highlights: DETAILS OF MISSING AUTHORIZATION
- Red circle highlights: ROLE ASSIGNED TO USER

If object is missing

Follow same steps to create spool request and then go to PFCG transaction



After su53 spool request is as follow

System Help

Display Authorization Data for User PARAG

Evaluation of Last Failed Authorization Check of User PARAG

Description	Authorization value
User Name	PARAG
System	MID
Date	06.08.2009
Instnce	mandevqa
Authorization Object	C_PRPS_KST
Client	120
Time	14:37:51
Profile Parameter	auth/new buffering
	4

Authorization check failed
 Object Class PS Project System
 Authorization Object C_PRPS_KST PS: Cost Center Authorization for WBS elements
 Authorization Field PS_ACTVT Activity for authorization checks in Project System 28
 Authorization Field PS_FKOKR Controlling area of responsible cost center . .
 Authorization Field PS_FKSTL Responsible cost center . .

User's Authorization Data PARAG
 Object Class PS Project System
 Authorization Object C_PRPS_KST PS: Cost Center Authorization for WBS elements
 Authorization T-MD77004000 PS: Cost Center Authorization for WBS elements
 Prof1. T-MD770040 Profile for role MAN_PS_ROLE
 Role MAN_PS_ROLE
 Authorization Field PS_ACTVT Activity for authorization checks in Project System 02, 03, 41
 Authorization Field PS_FKOKR Controlling area of responsible cost center *
 Authorization Field PS_FKSTL Responsible cost center *

MID (1) 120

Value missing in authorizations

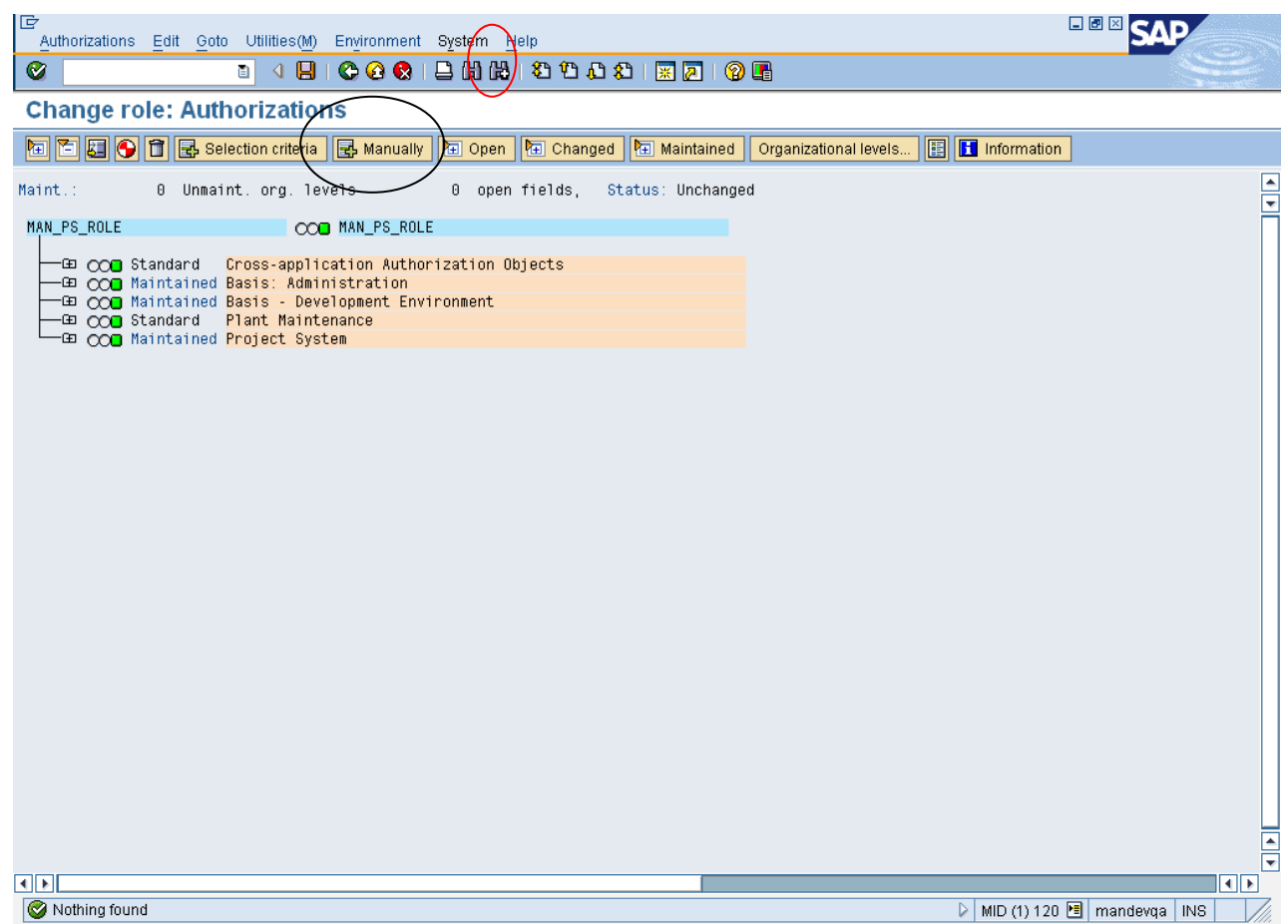
Value available in role

Go to PFCG transaction.
Select role click on change button

Authorization
Change authorization data

FIND MISSING OBJECT I.e. C_PRPS_KST'

If object is not available add object manually




Find Authorization Objects / Fields

Enter field or object name or text (*, + allowed)

Find Object

Authorization object


or object text


 Find Object

Find Field

Field name

or field text

 Find Field

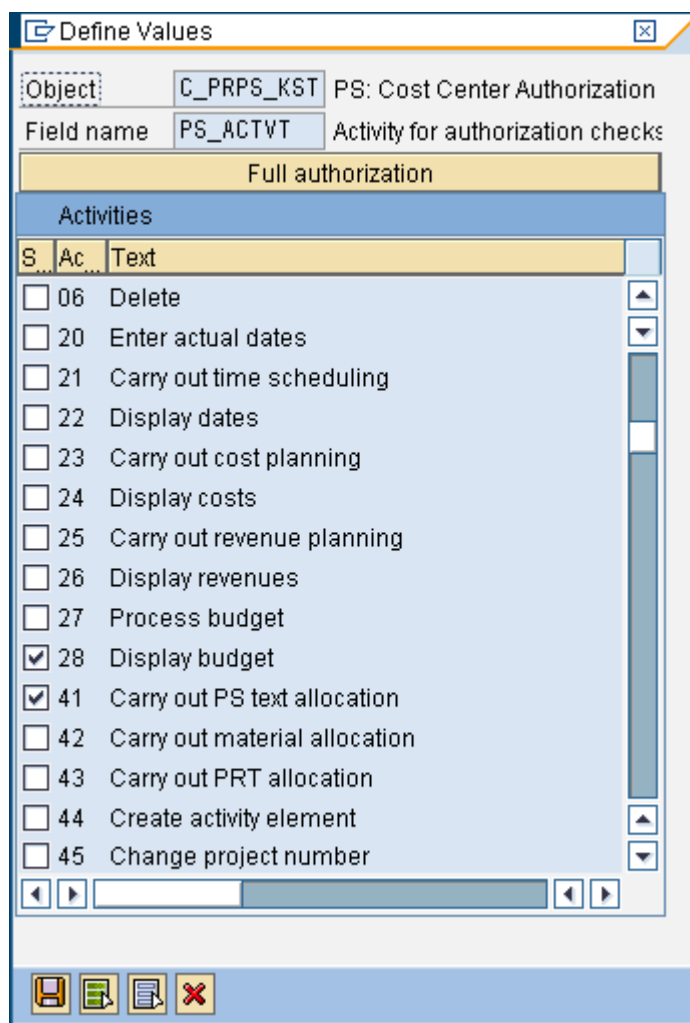


The screenshot shows the SAP Admin interface for 'Change role: Authorizations'. The main area displays a tree view of authorization objects. The object 'PS: Cost Center Authorization for WBS elements' is highlighted with a red circle and expanded to show its activity 'Activity for authorization check 02, 03, 41'. The status bar at the bottom indicates '1 auth. objects found'.

Object	Category	Object Name	Object Class
Standard	Cross-application Authorization Objects	AAAB	
Maintained	Basis: Administration	BC_A	
Maintained	Basis - Development Environment	BC_C	
Standard	Plant Maintenance	PM	
Maintained	Project System	PS	
Maintained	PS: Activities for Flexible Detail Display	C_CSCR_ACT	
Maintained	PS: Milestones (Authorization Group)	C_MLST_BGR	
Standard	PS: Controlling Area for Project Definition	C_PROJ_KOK	
Standard	PS: Profit center for project definition	C_PROJ_PRC	
Standard	PS: Transaction-Specific Authorizations in Project System	C_PROJ_TCD	
Maintained	PS: Project Manager for Project Definition	C_PROJ_VNR	
Maintained	PS: Project type authorization for WBS elements	C_PRPS_ART	
Standard	PS: Controlling Area Authorization for WBS elements	C_PRPS_KOK	
Maintained	PS: Cost Center Authorization for WBS elements	C_PRPS_KGT	
Maintained	PS: Cost Center Authorization for WBS elements	T-MD77004000	
	Activity for authorization check 02, 03, 41		PS_ACTVT
	Controlling area of responsibility	*	PS_FKOKR
	Responsible cost center	*	PS_FKSTL
Standard	PS: Profit Center Authorization for WBS elements	C_PRPS_PRC	
Maintained	PS: Model for User Field Authorization for WBS elements	C_PRPS_USR	
Maintained	PS: Project Manager Authorization for WBS elements	C_PRPS_VNR	
Maintained	PS: Text Type Authorization for PS Texts	C_PSTX_ART	
Standard	PS: Activities for Project Versions	C_VERS_ACT	

Click on activity for authorization check

Select check box 28 as shown in spool request



Generate and save the role

Transport

What is Transport ?

The CTS is the central tool for managing changes to Customizing and Repository data that you make in the IMG or ABAP Workbench. The CTS records all changes in change requests. The changes in change requests can be linked together logically, or can be completely independent of each other. Developers in a team can use a common request. You can create documentation for a change request, where you can describe your changes in more detail. This makes it easier to see which data was changed by which user, and to what purpose.

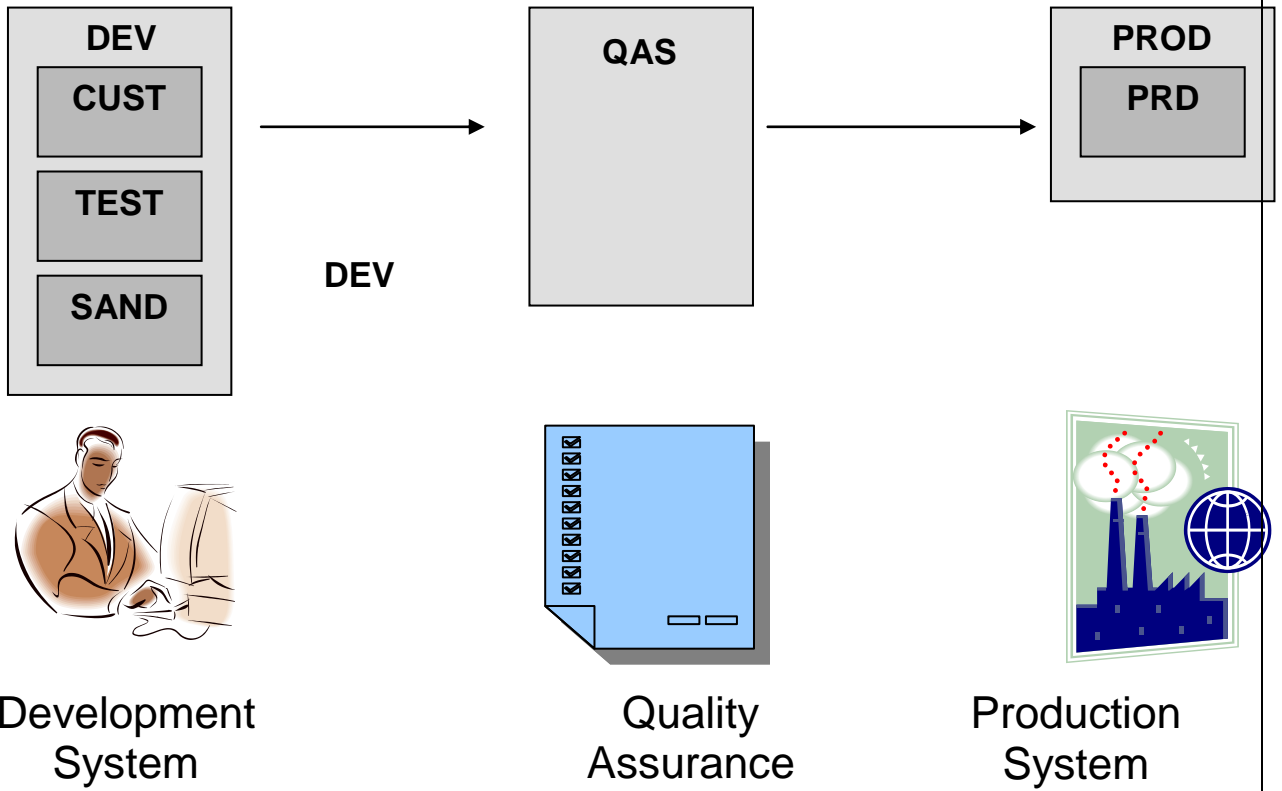
When you have finished your work in the IMG or ABAP Workbench, or have reached a certain stage, you can release the request. The change request is then used to copy the changes from this client to other clients or systems. This automatic procedure is known as a **transport**. Transports of changes by the CTS allow you to develop in one environment, test your development work in a test environment, and then, if the tests are successful, use it productively. This makes sure that productive operations are not placed at risk by faulty settings or program errors. Transports of changes between clients and systems are subject to rules that are set in the CTS configuration in the system landscape. One rule may be that changes are transported into a test environment before they can be copied to the production environment. All transports are logged, so that you can see when a change request was imported into a client or system, and whether there were any errors.

Application Data

In contrast to Customizing and Repository data, application data is not part of the configuration of the SAP software. Application data is the business data that the SAP applications process when you use them productively. It is split up into master data (such as material masters, customer masters and vendor masters) and movement data (such as contracts and financial documents). Application data is always client-specific.

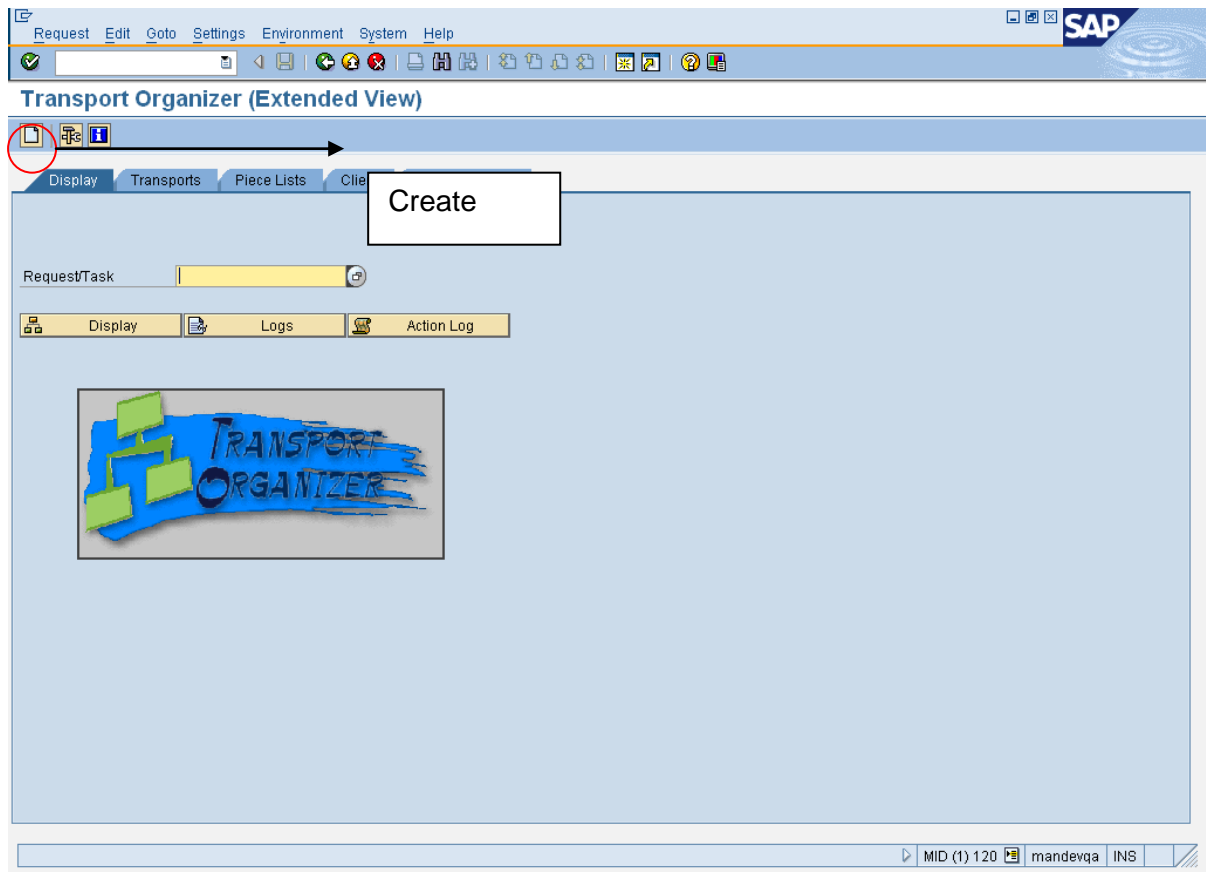
The CTS does not manage changes to application data. It is also impossible to use the CTS to

transport application data into other clients or systems. Creation of transport request



G. Creation and Release of Transport Request.

Type transaction se01



Select customizing request or workbench request

The screenshot shows a dialog box titled "Create Request" with a close button in the top right corner. It contains several radio button options:

- Customizing request
- Workbench request
- Transport of copies
- Relocation of objects w/o package change
- Relocation of objects with package change
- Relocation of Complete Package
- Piece List

At the bottom of the dialog, there are two buttons: a green checkmark and a red 'X'.

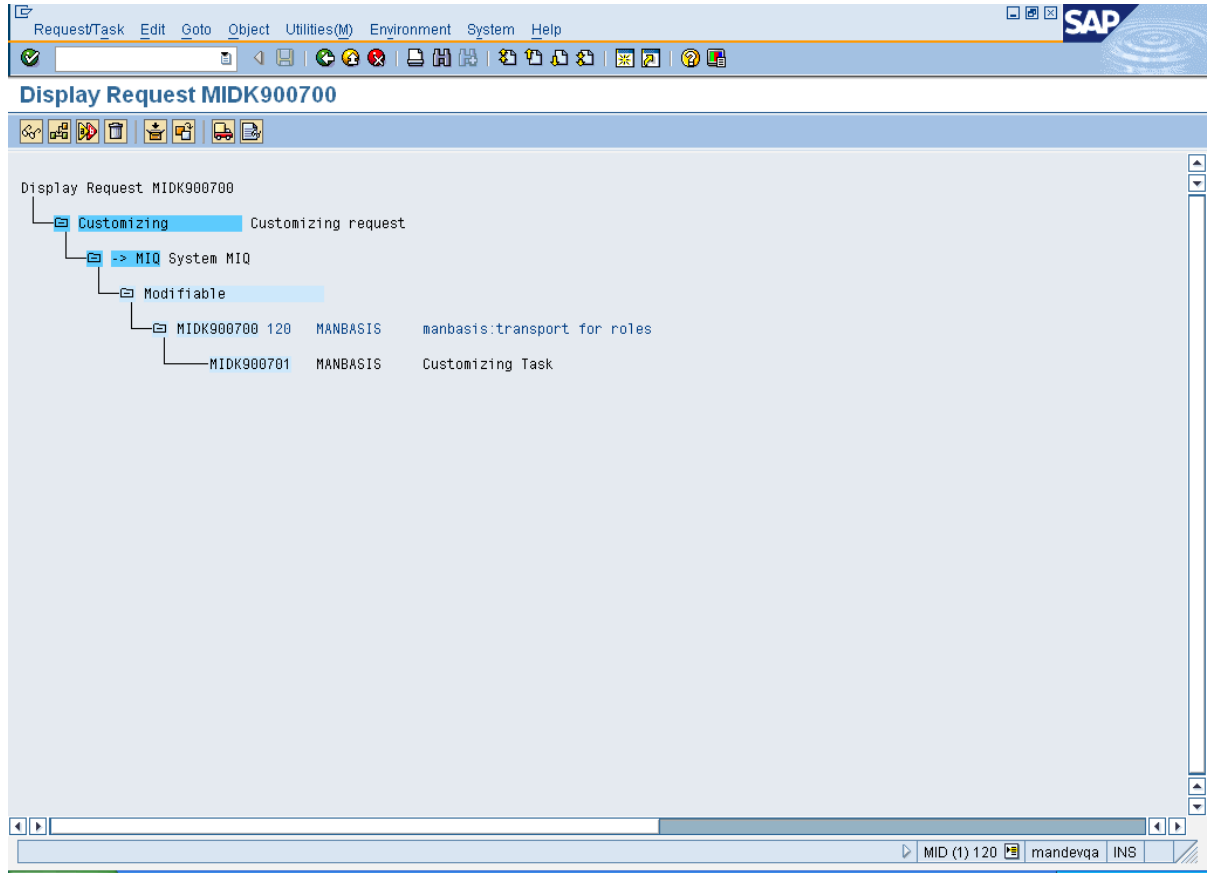
The screenshot shows the "Create Request" dialog box with the following fields and values:

- Request:** Customizing request
- Short Description:** manbasis:transport for roles
- Project:** (empty)
- Owner:** MANBASIS
- Status:** New
- Last changed:** 06.08.2009 17:22:36
- Source client:** 120
- Target:** MIQ

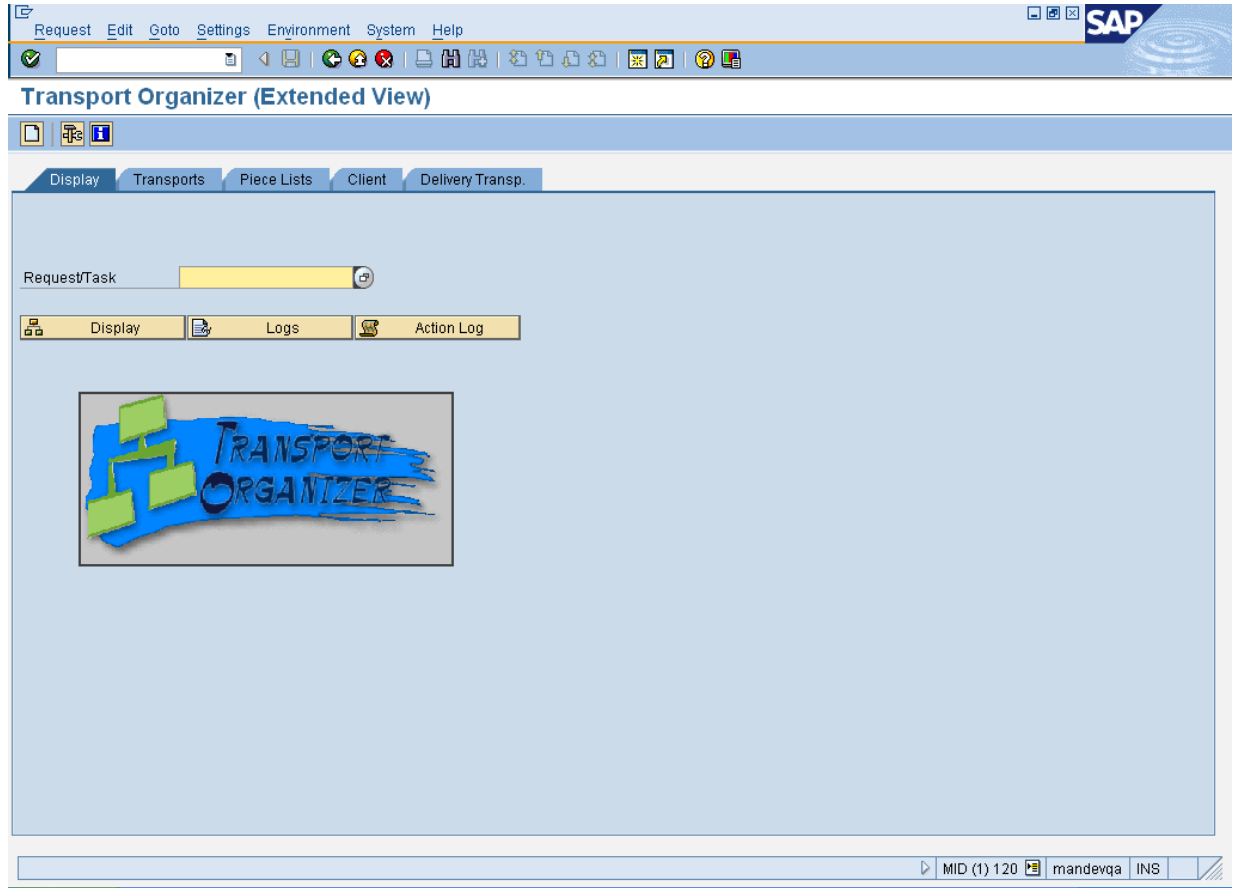
Under the "Tasks" section, there is a list box for "User" with the following entries:

- User
- MANBASIS
- (empty)
- (empty)
- (empty)
- (empty)

At the bottom of the dialog, there are three buttons: a save icon, a print icon, and a red 'X'.

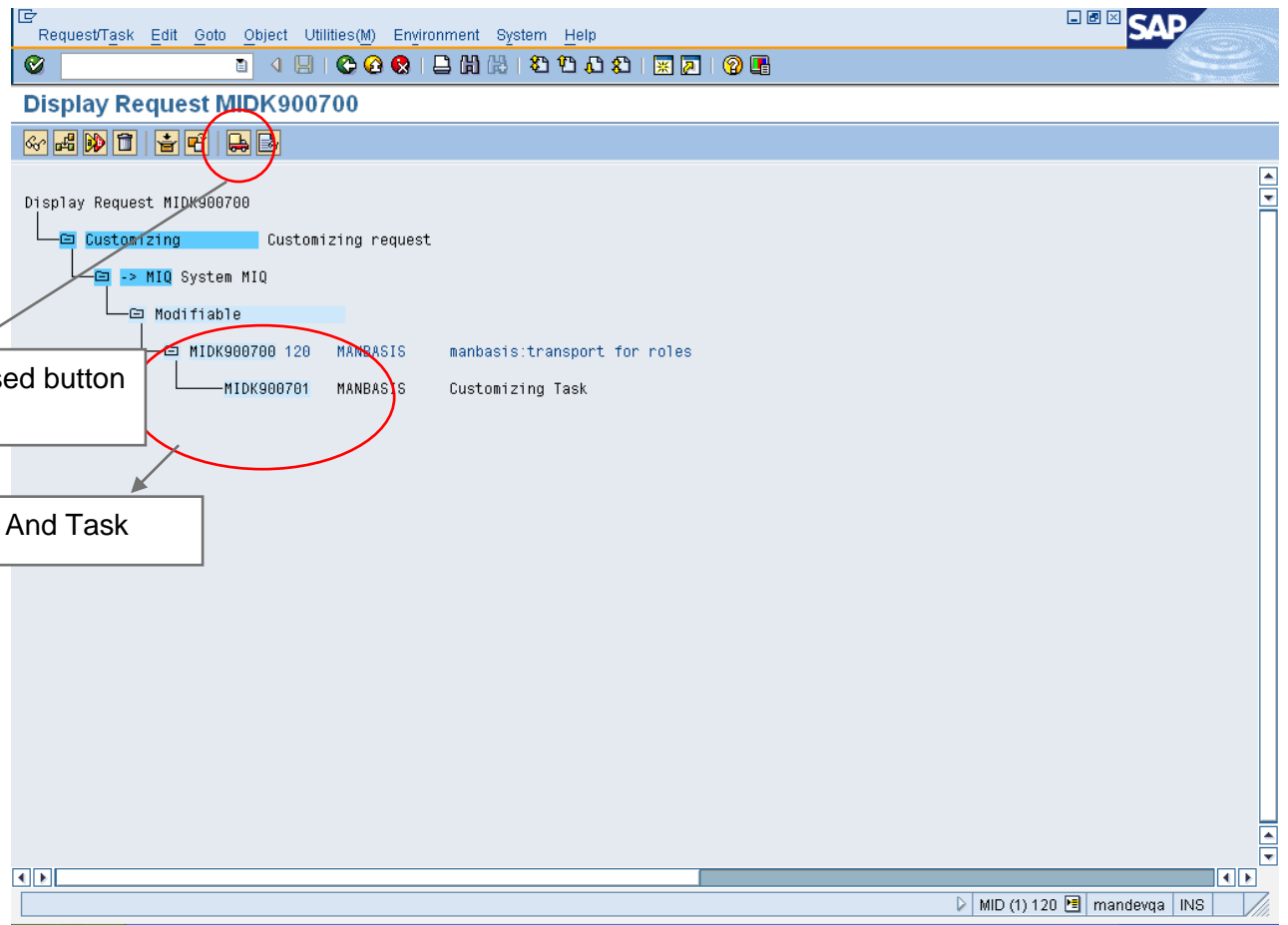


Go to se 01



Select request number and click on display

Select Task First and Release Task
Then Select Request and Released IT



H. Transporting Request To Other System or Client

Login to system in which transport need to be done

Transport route will be development to quality and quality and production

Go to transaction STMS

Overview Monitor Extras Environment System Help

Transport Management System

System MID System MID
Transp. Domain DOMAIN_MID Transport domain MID

TRANSPORT MANAGEMENT SYSTEM

i You are logged onto the domain controller

MID (1) 120 mandevqa INS

Select import overview button

Number of import queues: 3 31.07.2009 19:07:17

Queue	Description	Requests	Status
MID	System MID	0	
MIP	production	228	
MIQ	System MIQ	234	
		462	

MID (1) 120 mandevqa INS

Double click on MIQ SYSTEM (QUALITY SYSTEM)

Requests for MIQ: 234 06.08.2009 17:26:00

Number	Request	Owner	Short Text	St
205	MIDK900320	MMADMIN	MM_Edit PO Supplement Text in Invoice Verif. - 18/07/09	▲
206	MIDK900322	MMADMIN	MM_Configure Vendor-Specific Tolerances - 18/07/09	▲
207	MIDK900326	MMADMIN	MM_Set Check for Duplicate Invoices - 18/07/09	▲
208	MIDK900328	MMADMIN	MM_Define Document Life - 02/01/09	▲
	DK900330	MMADMIN	MM_Set Tolerance Limits - 18/07/09	▲
	DK900332	MMADMIN	MM_Activate Stochastic Block - 18/07/09	▲
	DK900358	MMADMIN	MM_Gain/loss from revaluation(UMB) - 20/07/09	▲
	DK900368	MMADMIN	MM_Change in stock account(BSV) - 18/07/09	▲
213	MIDK900370	MMADMIN	MM_Inventory posting(BSX) - 20/07/09	▲
214	MIDK900372	MMADMIN	MM_Offsetting entry for inventory posting(6BB) - 20/07/09	▲
215	MIDK900382	MMADMIN	MM_Cost (price) differences(PRD) - 20/07/09	▲
216	MIDK900384	MMADMIN	MM_External activity(FRL) - 20/7/09	▲
217	MIDK900386	MMADMIN	MM_6R/IR clearing account(WRX) - 20/07/09	▲
218	MIDK900388	MMADMIN	MM_Freight clearing(FR1) - 20/07/09	▲
219	MIDK900390	MMADMIN	MM_Freight provisions(FR2) - 20/07/09	▲
220	MIDK900394	MMADMIN	MM_Customs Clearing a/c. (FR3) - 20/07/09	▲
221	MIDK900468	MMADMIN	MM_Change View Output Types - 21/07/09	▲
222	MIDK900594	MMADMIN	MM_Change A/c Assignment Categories - 25/07/09	▲
223	MIDK900600	MMADMIN	MM_Define Message Types for Service Entry Sheet - 25/07/09	▲
224	MIDK900288	MMADMIN	MM_Define Access Sequence - 18/07/09	▲
225	MIDK900424	MMADMIN	MM_No. Range Object Type (SNRD) - 20/07/09	▲
226	MIDK900476	MMADMIN	MM_Access: Maintain (Price Services) - 21/07/09	▲
227	MIDK900676	MANBASIS	man roles creation and transport	▲
228	MIDK900678	MANBASIS	authorization for man	▲
229	MIDK900680	MANBASIS	man authorization role creation	▲
230	MIDK900682	MANBASIS	roles for man	▲
231	MIDK900684	DMSADMIN	DMS : Req for Common role for ZDMSMAN	▲
232	MIDK900686	MMADMIN	ES_Define Divisions - 05/08/09	▲
233	MIDK900688	MMADMIN	ES_Define Divisions - 06/08/09	▲
234	MIDK900700	MANBASIS	manbasis:transport for roles	■

SELECT REQUEST AND CLICK ON TRANSPORT BUTTON

Import Transport Request

Transport Request: MIDK900700 manbasis:transport for roles
 Target System: MIQ System MIQ
 Target Client: 240 Targ.Client=Source Client

Options

Start Date

Immediate
 At Start Time
 Planned Start: 06.08.2009 17:28:38
 No Start After: [] []
 After Event
 Event: []
 Parameters: []

[OK] [Cancel] [Help] [Close]

ENTER CLIENT I.e.: 240

Start import

The import is being executed with the following options
 Asynchronous:
 - Leave transport request in queue

Import transport request MIDK900700 into system MIQ
 client 240?

[!]

Yes No Info Cancel

Client administration and client copy

I. Clients and Their Roles

When you log on to an SAP System, you log on to a particular client of this system. Any activities you carry out in the system are always carried out in one client. When you plan your SAP system landscape, you must consider which clients you need for which activities. By assigning activities to be performed in a client, you give each client a particular role. This section describes the most important client roles. Since you need to adapt the SAP software for your own business needs, each SAP system landscape requires a client where Customizing settings, and possibly ABAP Workbench developments can be made. This client is known as the *Customizing and development client*, or *Customizing client* for short. The abbreviation CUST is used for this client. Before you can use the Customizing settings and Workbench developments productively, you need to test them extensively for errors. Any faulty settings can seriously disrupt productive operations, and at worst, lead to the loss of productive data. The integrated nature of the various SAP applications means that there are many dependencies between the different Customizing settings. Even an experienced Customizing developer may not discover these dependencies immediately. The correctness of the settings can only be guaranteed with extensive testing. The client where these tests are made is the *Quality Assurance Client*, QTST for short. A separate client is required for productive use of the SAP System. So that this client can be used without disruption, it is essential that no Customizing settings or Workbench developments are made here, and also that no tests are carried out. This client is known as the *Production Client*, PROD for short. These three clients, CUST, QTST and PROD, are the central clients that exist in every system landscape. Standard system landscapes have precisely one client for each of these client roles. We recommend that you make all your Customizing settings in a single Customizing client, and then use the CTS to transport them to the other clients. We also recommend that you do not make any Customizing settings or Workbench developments in the quality assurance or production clients. You can make sure of this by making appropriate

J. Client administration

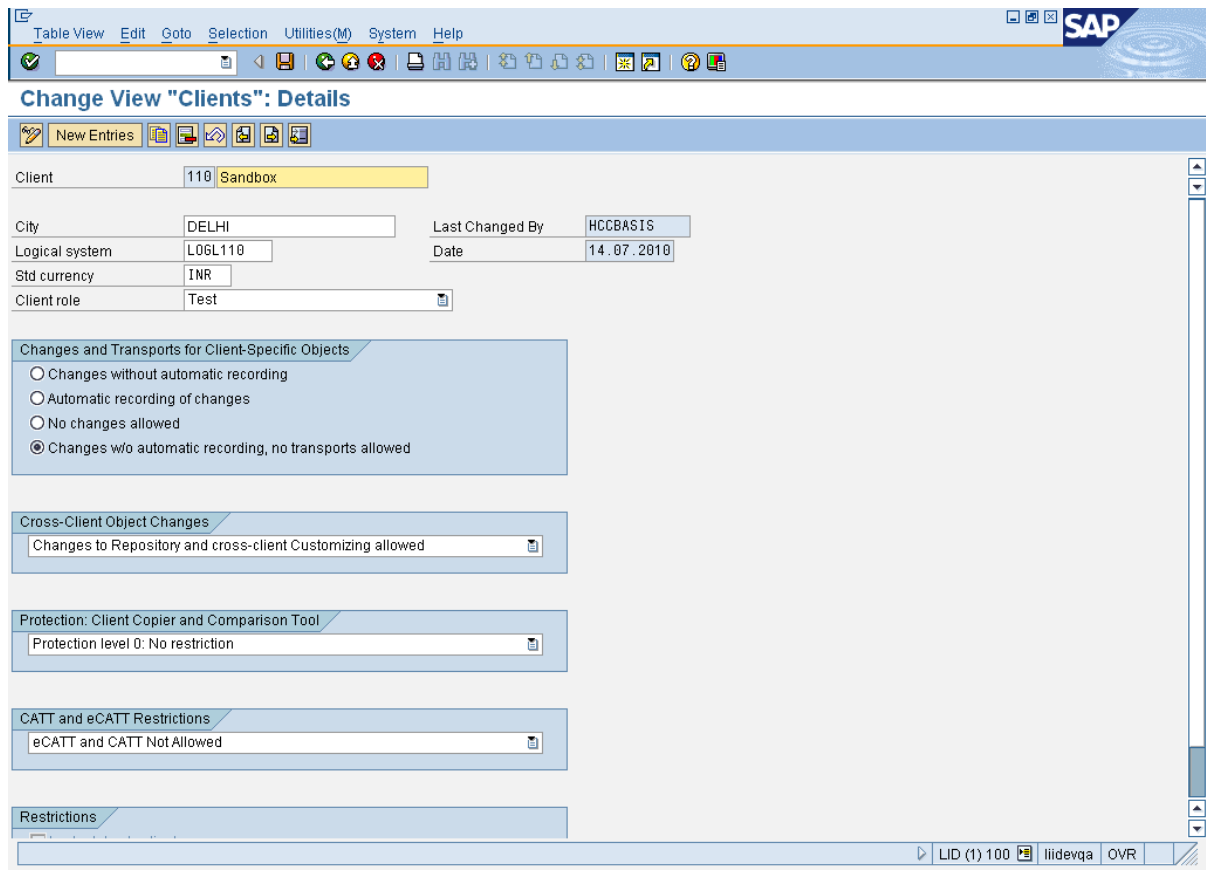
Execute transaction scc4

The screenshot shows the SAP SCS4 transaction interface. The title bar reads "Display View 'Clients': Overview". Below the title bar is a toolbar with several icons. The icon for changing a record (a document with a pencil) is circled in red. Below the toolbar is a table with the following data:

Client	Name	City	Crcy	Changed on
000	SAP AG	Walldorf	EUR	03.08.2010
001	Auslieferungsmandant R11	Kundstadt	USD	
066	EarlyWatch	Walldorf	EUR	21.07.2002
100	Golden Master	DELHI	INR	20.07.2010
110	Sandbox	DELHI	INR	14.07.2010
120	DEVELOPMENT	DELHI	INR	07.07.2010

At the bottom of the table, there is a status bar that says "Entry 1 of 6". Below the table is a "Position..." button. The bottom right corner of the window shows the SAP status bar with "LID (1) 100", "liidevqa", and "INS".

Click on change button



Changes and transport for client -specific objects

- 1) changes without automatic recording
- 2) automatic recording of changes
- 3) no changes allowed
- 4) changed w/o automatic recording ,no transport allowed

Cross-Client Object changes

- 1) Changes to repository and cross -client customizing allowed
- 2) No changes to cross -client customizing objects
- 3) No changes to repository objects
- 4) No change to repository and cross client customizing objects

Protection client copier and comparison tool

- 1) protection level 0 :no restriction
- 2) protection level 1:no overwriting
- 3) protection level 1:no overwriting ,no external availability

K. Client Copy tools :

There are various client copy tools available for performing the client copies.

Scope

This document is designed for Basis personnel and will highlight:


1. Local client copy.
2. Remote client copy
3. Client Export.
4. Post Client Import.
5. Client Deletion
6. Analysis and Trouble-shooting of the errors encountered during client copy.

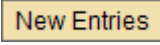
SCC4 - Client Maintenance

This is the transaction for client maintenance. A new client can be created using this transaction. By using this transaction , the client settings can be changed. Client settings like enabling or disabling the transport requests can be made by using this transaction.

To create a new client follow the steps below.

1. From initial SAP screen select *Tools* → *Administration* → *Administration* → *Client Admin.* → *Client Maintenance* → *Client Maintenance or Transaction SCC4.*

2. Click on Edit button . A message is displayed as Caution : The Table is cross-client. Click on “OK” to proceed.

3. Click on  button and make all necessary entries and save.

Now new client can be accessed using User Name : SAP* and password : PASS.

SCCL - Local Client Copy

A local client copy copies between clients within the same SAP System. The local client copy must be initiated from the target client using the following steps:

1. Log on to the target client as SAP* with the initial password PASS. Perform the client copy using the menu options found under *Tools* → *Administration* → *Administration* → *Client Admin.* → *Client Copy* → *Local Copy or Transaction SCCL.*
2. Select the data to be copied using a profile.
3. Assign the source client for Customizing data, application data, and user master records.

NOTE : Begin the client copy. As copying is a lengthy process, use background processing

SCC9 - Remote Client Copy

A remote client copy allows you to copy between clients in different SAP Systems. You can use a remote client copy to, for example, transport client-dependent as well client-independent Customizing data between SAP Systems

A remote client copy proceeds in the same way as a local copy, but sends the data through a remote function call (RFC) connection to the target client.

A remote client copy is easy to use, and does not require file system space on operating system level. The limitations of a remote client copy are as follows:

1. A remote client copy does not create a file at operating system level, so there is no "hard copy" of the client to be copied. Therefore, the same, identical client copy cannot be duplicated at a later date.
2. To be able to transport all data during the client copy, the structures of all copied or transported tables in both systems must be identical. During remote client copy, an automatic Repository consistency check is performed. If inconsistencies are detected, the client copy is terminated and an error message is displayed

The Remote client copy must be initiated from the target client using the following steps:

1. Log on to the target client as SAP* with the initial password PASS. Perform the client copy using the menu options found under *Tools* → *Administration* → *Administration* → *Client Admin.* → *Client Copy* → *Remote Copy or Transaction SCC9.*
2. Select the data to be copied using a profile.

3. Assign the source client for Customizing data, application data, and user master records.

SCC8 - Client Transport

1. A client transport differs from a remote client copy in that it does not use RFC. Like a remote client copy, however, a client transport is used to copy data between different SAP Systems.
2. A client transport consists of two steps. First, a client export extracts client data from the source client to files at the operating system level. Second, the data is imported from the operating system files into the target client.
3. To perform a client export, proceed as follows: Log on to the source client. From the SAP System initial screen, choose *Tools* → *Administration* → *Administration* → *Client Admin.* → *Client Transport* → *Client Export*. Select the data to be copied using profile.
4. Indicate the target system to which the client will be copied. (The target system must be defined in TMS as part of the transport domain.)
5. Begin the client export. As copying is a lengthy process, use scheduled background processing.
6. The client export performed in the source system <S-SID>, exports the client data asynchronously by calling the transport program tp at the operating system level.
This export process will generate up to 3 data files at operating system level:
 - RT< number >; this file contains client-specific data
 - RO< number >; this file contains Cross-client data
 - RX< number >; this file contains SAPscript texts

SCC7 - Post Import

1. Depending on the type of data selected through the client transport profile, the client copy command files added to the buffer of the target system are
2. <S-SID>KO<number>; this file is for cross-client data
3. <S-SID>KT<number>; this file is for client-specific data
4. <S-SID>KX<number>; this file is also for client-specific data
5. The client export change requests are not imported when an Import all takes place. Therefore, you must import these requests into the target

client using TMS. You must import the data in the following order: first cross-client data, then client- specific data.

6. After the import process has completed, post-import activities are required possible for object generation steps. After completing the import, log on to the target client. From the SAP System initial screen, choose *Tools* → *Administration* → *Administration* → *Client Admin.* → *Client Transport* → *Import Editing*.
7. To display client transport logs, use the Transport Organizer.
8. During client transport, a Repository consistency check can be performed by clicking the RFC system check button in Transaction SCC8. If inconsistencies are detected, a list of the ABAP Dictionary tables definitions missing in the target system is generated. This will help your recognize in advance formal problems that may occur during the import of the source data.

SCC5 - Delete Client

To delete a client from within SAP System:

1. Log on to the client to be deleted.
2. Use the menu option use Transaction code SCC5 or from the SAP System initial screen choose *Tools* → *Administration* → *Administration* → *Client admin* → *Special functions* → *Delete client*.
3. Start the deletion of the client, preferably using background processing.
4. When you delete a client entry from table T000 with client maintenance (Transaction SCC4), you can no longer log on to the client or update it using change requests. The deletion process, however, does not eliminate the data belong to the client. This means the client-dependent data remains in your SAP System, occupying space in the database. Therefore, to eliminate an SAP client entirely, that is, to delete both the client and the client-dependent data, use the client delete functionality (Transaction SCC5).

Deleting a client entry with client maintenance (Transaction SCC4) allows you to temporarily lock the client. The deletion procedure preserves the data for the client but prevents users from logging on to the client or accessing the data belonging to the client. To restore the client and allow logon, recreate the client entry using client maintenance.

The amount of time required for the deletion of a client can be reduced by performing the deletion using parallel processes.

SCC3 - Client Copy Logs

All client copy logs can be seen by transaction SCC3.

Important Things to remember :

- To ensure data consistency, you may not logon to the target client during a client copy.
SAP also recommends that you do not work in the source client during a client copy.
- Note that SAP delivers the software with standard clients 000 and 001. You may not work in client 000, but may use client 001. However, SAP recommends that you begin SAP System implementation by creating a new client as a copy of client 000.
- When performing client copy error analysis, check not only the copy log, but also the system log, which tells you whether database problems are responsible for the client copy error. Correct any database problems before restarting the client copy.
- When a client copy run terminates abnormally, the Restart option is proposed by default, which continues the run from the point at which it terminated. If the original run was recent, as indicated by the status line, it is advisable to choose Restart. Alternatively, to start the run from the beginning, choose Restart <-> New start.
- To avoid the problem of insufficient free space in the database, perform a simulation test run or a resource check.
- A simulation test run estimates the space required by reading all records to be copied without updating them in the database.
- A resource check estimates the space required by counting the records to be copied.
- Client copies ignore tables in the local development class \$TMP. If you want to copy these tables, modify the development class in the object directory.
- If, when checking the copy log or the system log, you notice problems with user exits delivered by SAP, contact the SAP Hotline.
- On error analysis with client copy tools, see also SAP Notes 22514 and 69444 in SAPNet.

To perform a client copy or transport, you need the appropriate authorizations:

- S_TABU_CLI allows you to maintain cross-client tables.
- S_TABU_DIS allows you to maintain table V_CCCFLOW.

- S_CLIENT_IMP allows data import when performing a client copy.
- S_DATASET_ALL allows you to write logs to the file system.
- S_TABU_RFC allows client comparison and copy: Data Export with RFC

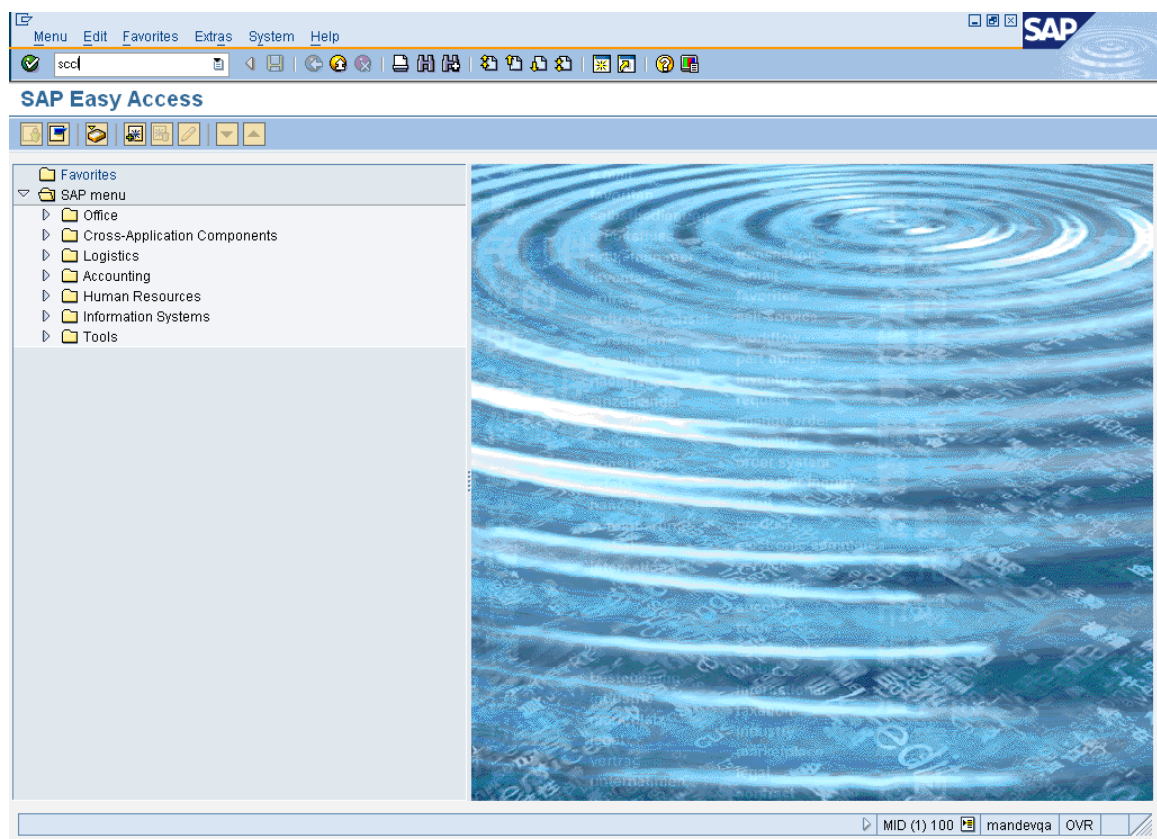
To copy user profiles or user master records, you need the following authorizations:

- S_USER_PRO for user profiles
- S_USER_GRP for user master records

If you want to export a client, or if you want to copy object lists between two clients, you need the transport authorization S_TRNSPRT. This allows you to use the Workbench Organizer, the Customizing Organizer,

L. Local Client Copy Screen Shots

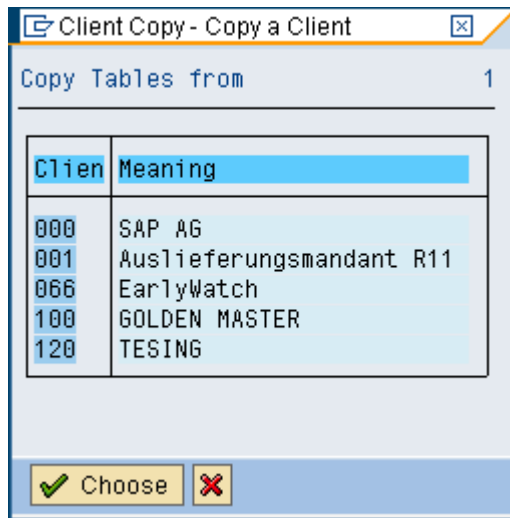
Type transaction SCC1



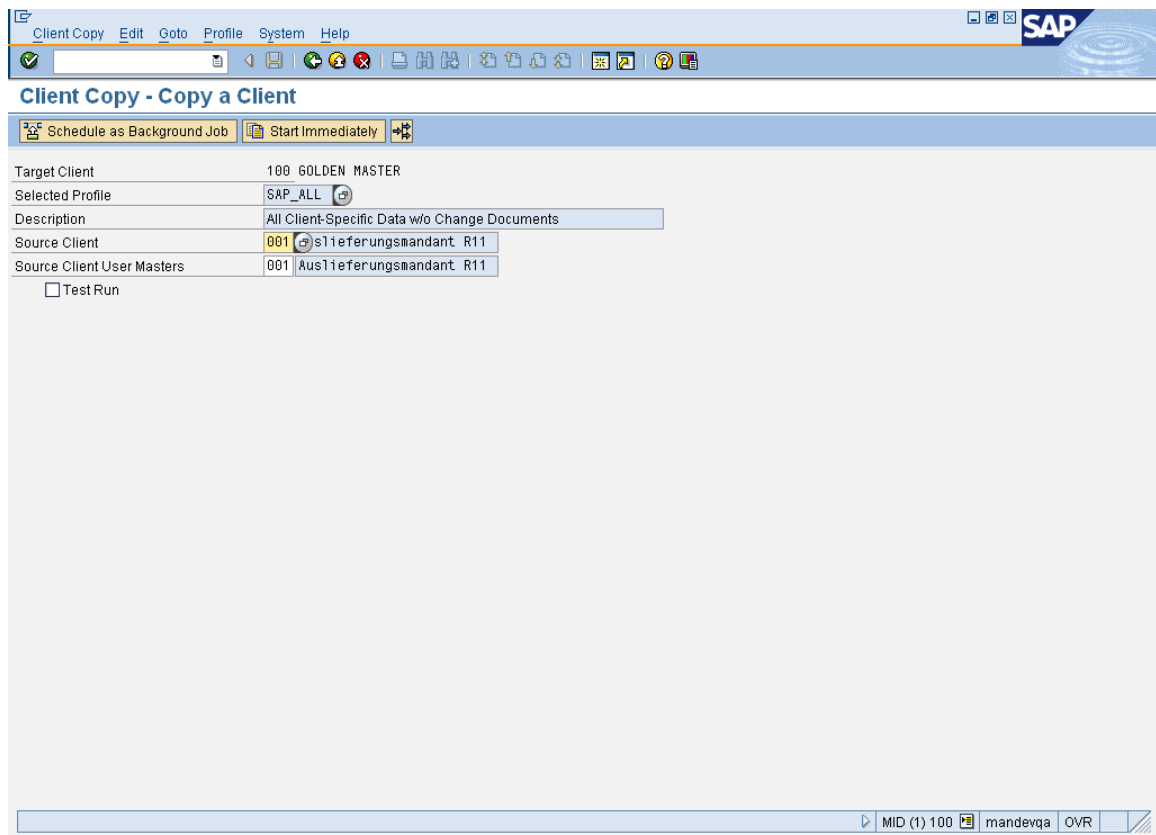
Select profile

Profiles	Meaning	Value
SAP_ALL	All Client-Specific Data w/o Change Documents	→
SAP_APPL	Customizing and Application Data w/o Change Docs	→
SAP_APPX	SAP_APPL w/o Authorization Profiles and Roles	
SAP_CUST	Customizing	
SAP_CUSV	Customizing and User Variants	→
SAP_CUSX	Customizing w/o Authorization Profiles and Roles	
SAP_PROF	Only Authorization Profiles and Roles	
SAP_UCSV	Customizing, User Master Records and User Variants	→
SAP_UCUS	Customizing and User Master Records	→
SAP_UONL	User Without Authorization Profiles and Roles	
SAP_USER	User Master Records and Authorization Profiles	→

Select source client



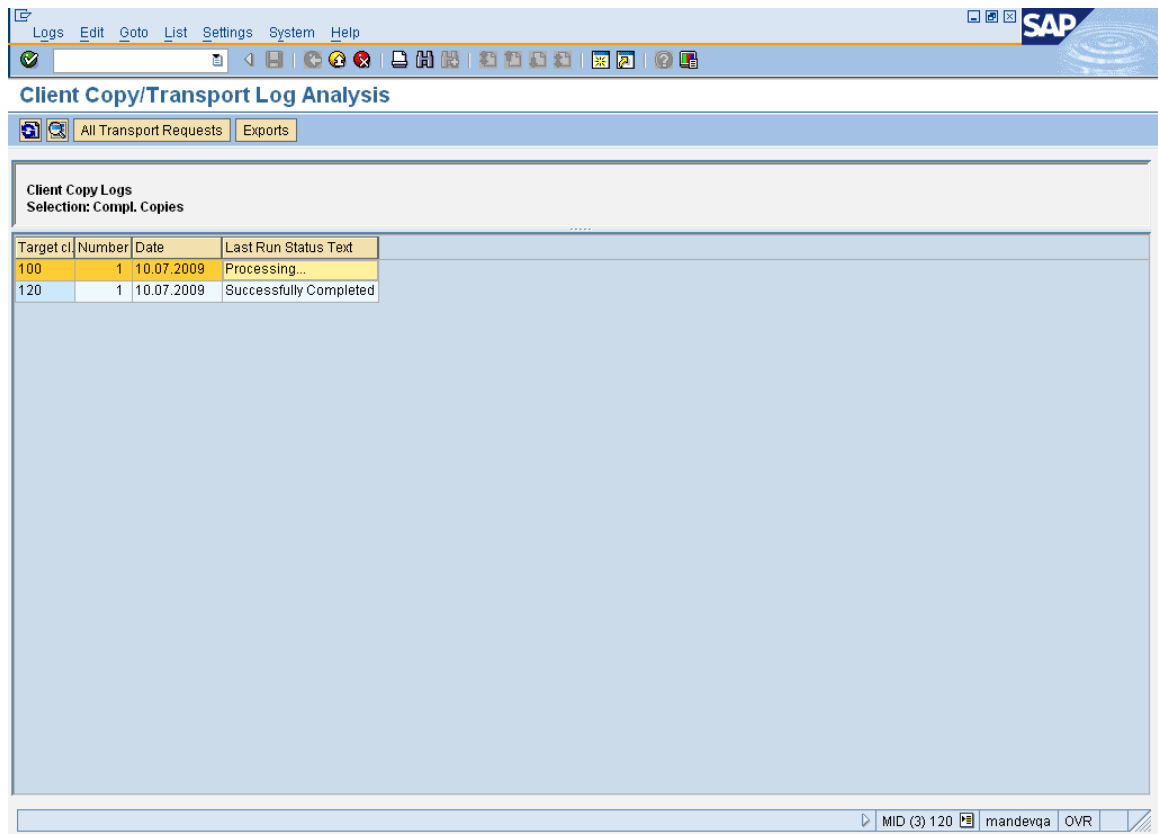
Select start immediately or schedule in background





Go to SCC3

To see client copy logs



The screenshot shows the SAP Client Copy/Transport Log Analysis window. The title bar includes 'Logs Edit Goto List Settings System Help' and the SAP logo. Below the title bar, there are buttons for 'All Transport Requests' and 'Exports'. The main content area is titled 'Client Copy Logs' with a selection of 'Compl. Copies'. A table displays the log entries:

Target cl	Number	Date	Last Run Status Text
100	1	10.07.2009	Processing...
120	1	10.07.2009	Successfully Completed

The status bar at the bottom shows 'MID (3) 120 mandevqa OVR'.

The screenshot shows the SAP Client Copy/Transport Log Analysis window. The window title is "Client Copy/Transport Log Analysis". The main content area displays the following information:

Target Client	100
Source Client (incl. Auth.)	001
Source Client User Master	001
Copy Type	Local Copy
Profile	SAP_ALL
Status	Processing...
User	SAP*
Start on	10.07.2009 / 14:01:39
Last Entry on	10.07.2009 / 15:55:16
Current Action:	Copy/Delete Tables
- Table Being Edited:	TIVLMCN
Statistics for this Run	
- No. of Tables	44905 of 54573
- Deleted Lines	18
- Copied Lines	4651018

The window also shows a menu bar (Log, Edit, Goto, List, System, Help) and a toolbar with various icons. The status bar at the bottom indicates "MID (3) 120 mandevqa OVR".

The screenshot shows the SAP Client Copy/Transport Log Analysis window. The window title is "Client Copy/Transport Log Analysis". It has a menu bar with "Log", "Edit", "Goto", "List", "System", and "Help". Below the menu bar is a toolbar with various icons. The main content area is divided into two tabs: "Details" (selected) and "File Log".

The "Details" tab displays the following information:

Target Client	100
Source Client (incl. Auth.)	001
Source Client User Master	001
Copy Type	Local Copy
Profile	SAP_ALL
Status	Successfully Completed
User	SAP*
Start on	10.07.2009 / 14:01:39
Last Entry on	10.07.2009 / 16:21:33
Statistics for this Run	
- No. of Tables	54573 of 54573
- Deleted Lines	20
- Copied Lines	5115026

At the bottom of the window, the status bar shows "MID (3) 120", "mandevqa", and "OVR".

Remote Function Call (RFC)

M. What is RFC ?

Communication between applications in different systems in the SAP environment includes connections between SAP systems as well as between SAP systems and non-SAP systems. Remote Function Call (RFC) is the standard SAP interface for communication between SAP systems. RFC calls a function to be executed

in a remote system.

N. Types OF RFC

Synchronous RFC

The first version of RFC is synchronous RFC (sRFC). This type of RFC executes the function call based on synchronous communication, meaning that the systems involved must both be available at the time the call is made.

Transactional RFC (tRFC)

Transactional RFC (tRFC, previously known as asynchronous RFC) is an asynchronous communication method that executes the called function module just once in the RFC server. The remote system need not be available at the time when the RFC client program is executing a tRFC. The tRFC component stores the called RFC function, together with the corresponding data, in the SAP database under a unique transaction ID (TID).

If a call is sent, and the receiving system is down, the call remains in the local queue. The calling dialog program can proceed without waiting to see whether the remote call was successful. If the receiving system does not become active within a certain amount of time, the call is scheduled to run in batch.

tRFC is always used if a function is executed as a Logical Unit of Work (LUW).

Within a LUW, all calls

are executed in the order in which they are called

are executed in the same program context in the target system

run as a single transaction: they are either committed or rolled back as a unit.

Implementation of tRFC is recommended if you want to maintain the transactional sequence of the calls.

Disadvantages of tRFC

tRFC processes all LUWs independently of one another. Due to the amount of activated tRFC processes, this procedure can reduce performance significantly in both the send and the target systems.

In addition, the sequence of LUWs defined in the application cannot be kept. It is therefore impossible to guarantee that the transactions will be executed in the

sequence dictated by the application. The only thing that can be guaranteed is that all LUWs are transferred sooner or later.

Queued RFC (qRFC)

To guarantee that multiple LUWs are processed in the order specified by the application, tRFC can be serialized using queues (inbound and outbound queues).

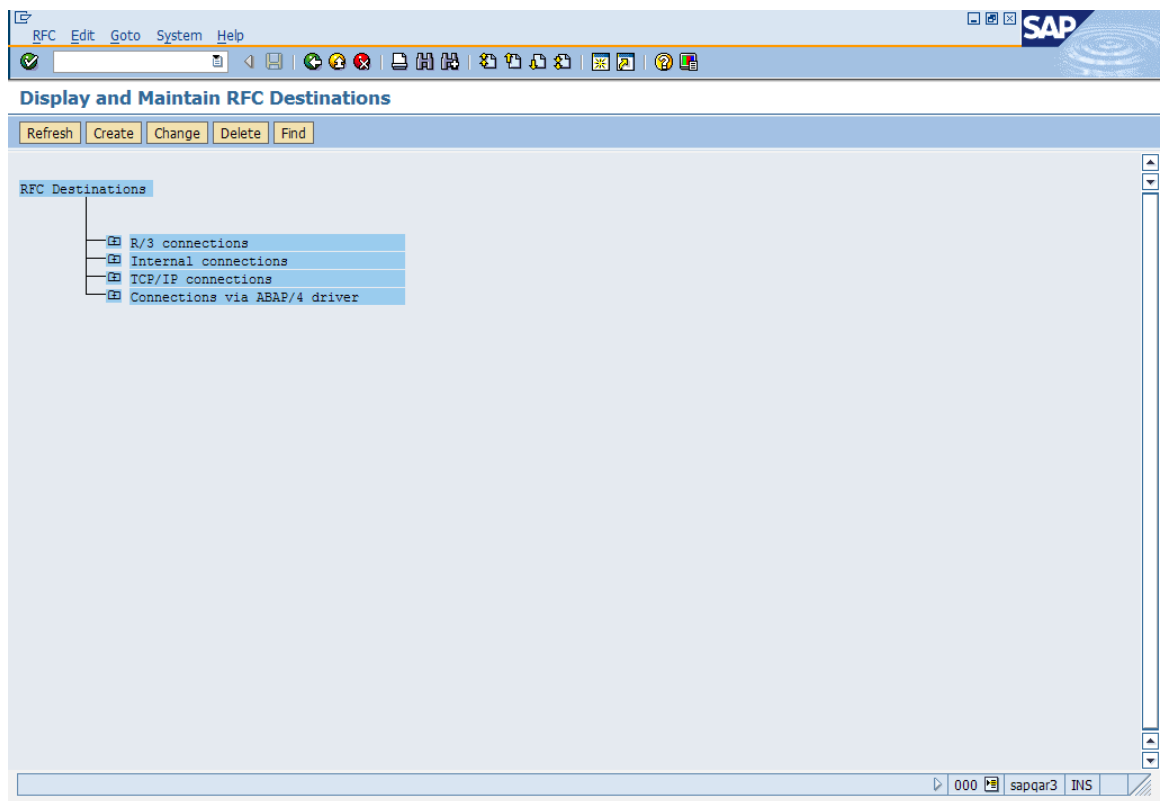
This type of RFC is called queued RFC (qRFC).

qRFC is therefore an extension of tRFC. It transfers an LUW (transaction) only if it has no predecessors (based on the sequence defined in different application programs) in the participating queues.

Implementation of qRFC is recommended if you want to guarantee that several transactions are processed in a predefined order.

O. Creation of RFC

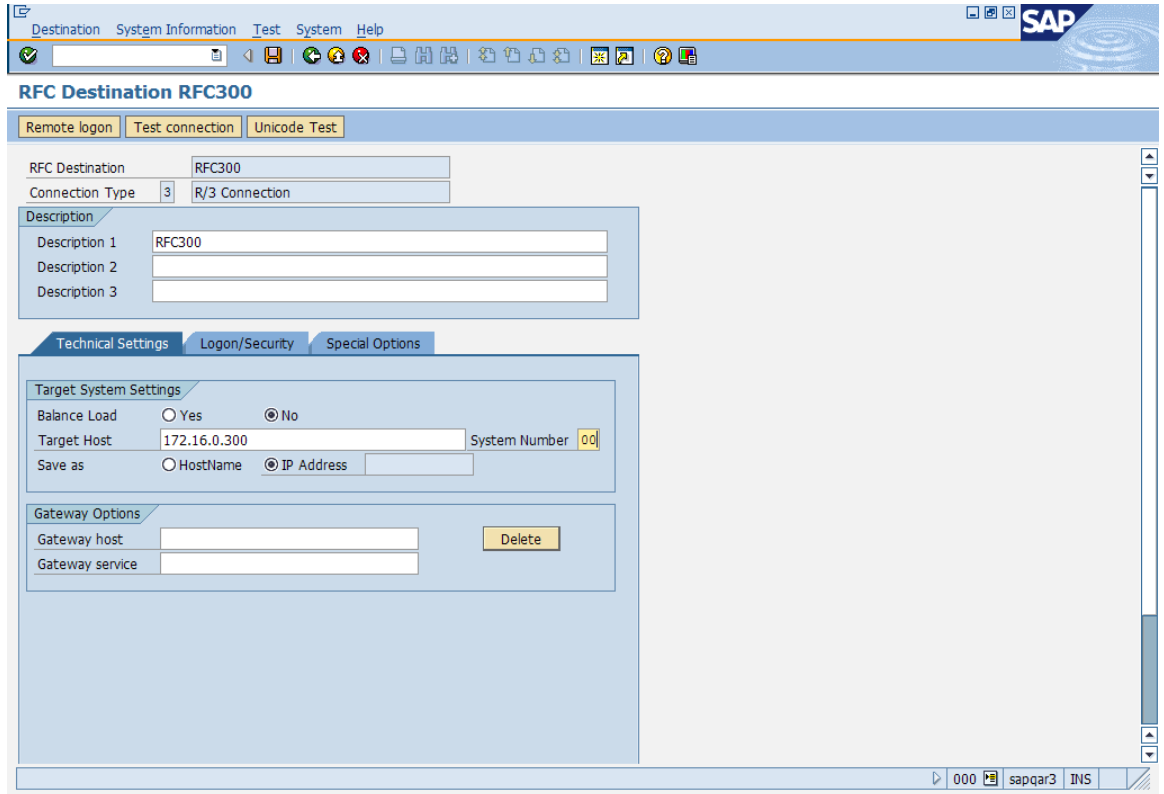
- 1 Go to transaction code SM59



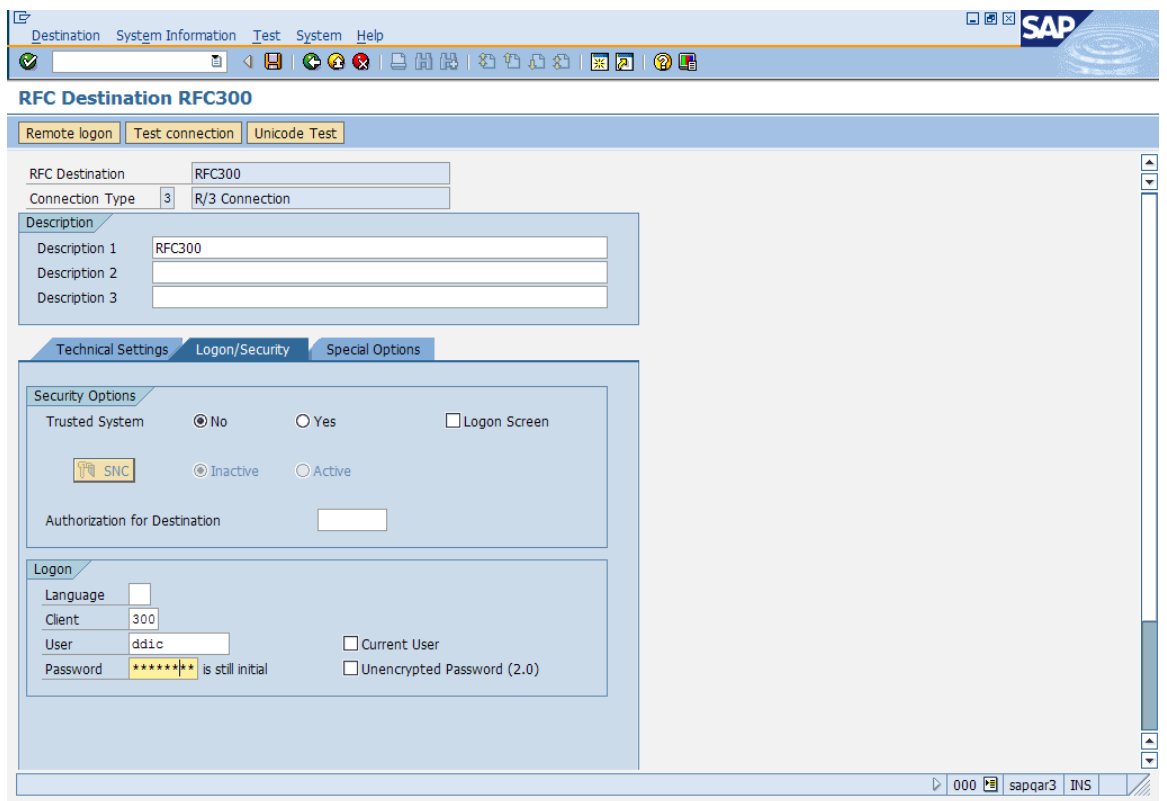
- 2 Click on “Create” for RFC creation.
Give suitable name for the RFC Destination
- 3 Select the type of the RFC to be created.
 - I Connection to application server with same database
 - 3 Connection to R/3 System
 - 2 Connection to R/2 System
 - T Start an external program via TCP/IP
 - L Reference entry (refers to another destination)
 - S Start an external program via SNA or APPC
 - X RFC via special ABAP/4 driver routines
 - M CMC connection
 - H HTTP Connection to R/3 System
 - G HTTP Connection to External Server

For connection to R/3 systems type “3” is selected.
Give some description and press “Enter”

Enter the Host IP and SAP system no of the system to be connected and
press “Enter”



- 4 Go to the Logon/security Tab and enter the client no, user name and password.



- 5 Click on “Save” button.
- 6 Click on “Test connection” to test the RFC connection to the client.

PART II

System monitoring

A. The System Log (SM21)

The SAP System logs all system errors, warnings, user locks due to failed logon attempts from known users, and process messages in the system log. There are two different types of logs created by the system log:

- Local Logs
- Central Logs

Use transaction SM21 to access the system log output screen. With this transaction, you can read any of the messages that are contained in the system logs. You can modify the view to meet your needs.

Local Logs

Each SAP System application server has a local log that receives all the messages output by this server. The system log records these messages in a circular file on the server. When this log file reaches the maximum permissible length, the system log overwrites it, starting over from the beginning. (The location of the local log is specified in the `rslg/local/file` profile parameter.)

Central Logs

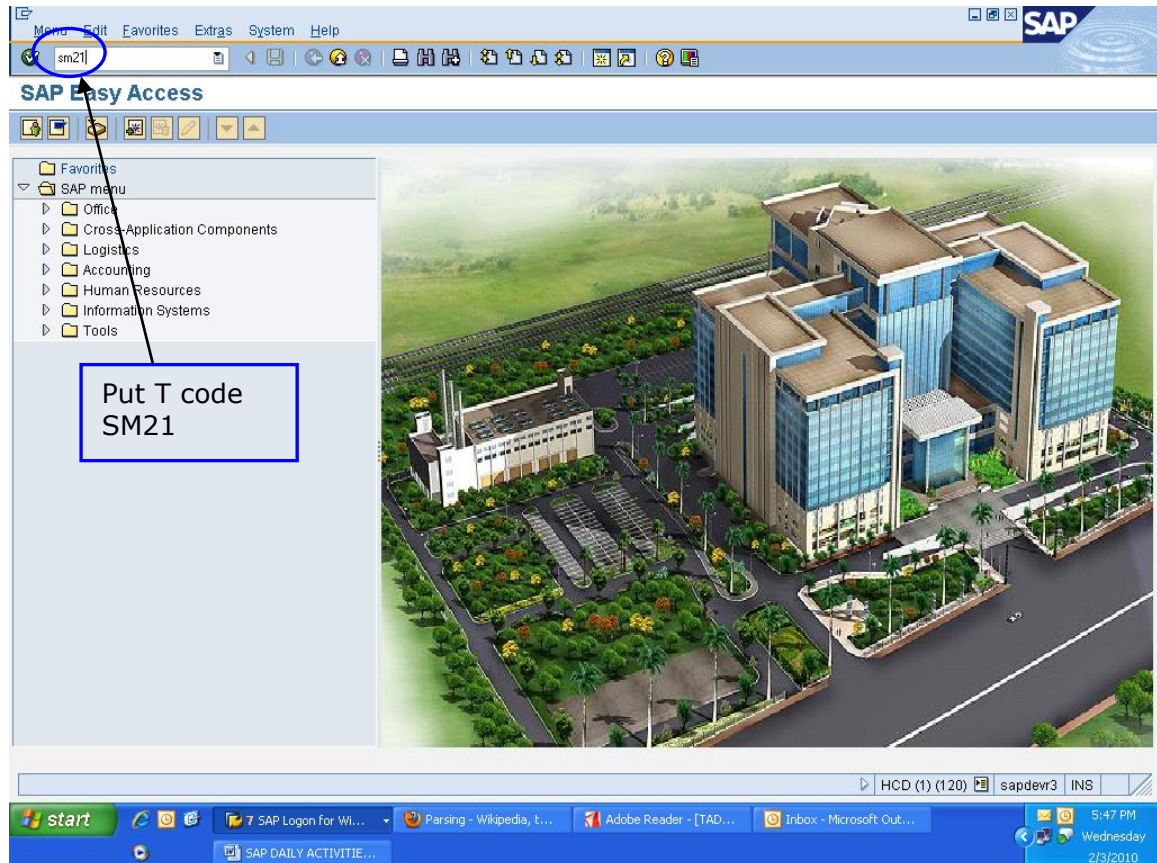
We recommend that you also maintain a central log file on a selected application server. Each individual application server then sends its local log messages to this server. The server that you designate to maintain the central log collects the messages from the other application servers and writes these messages to the central log.

The central log consists of two files: the active file and the old file. (The location of the active file is specified in the `rslg/central/fileprofile` parameter; the location of the old file is specified in the `rslg/central/old_file`.)

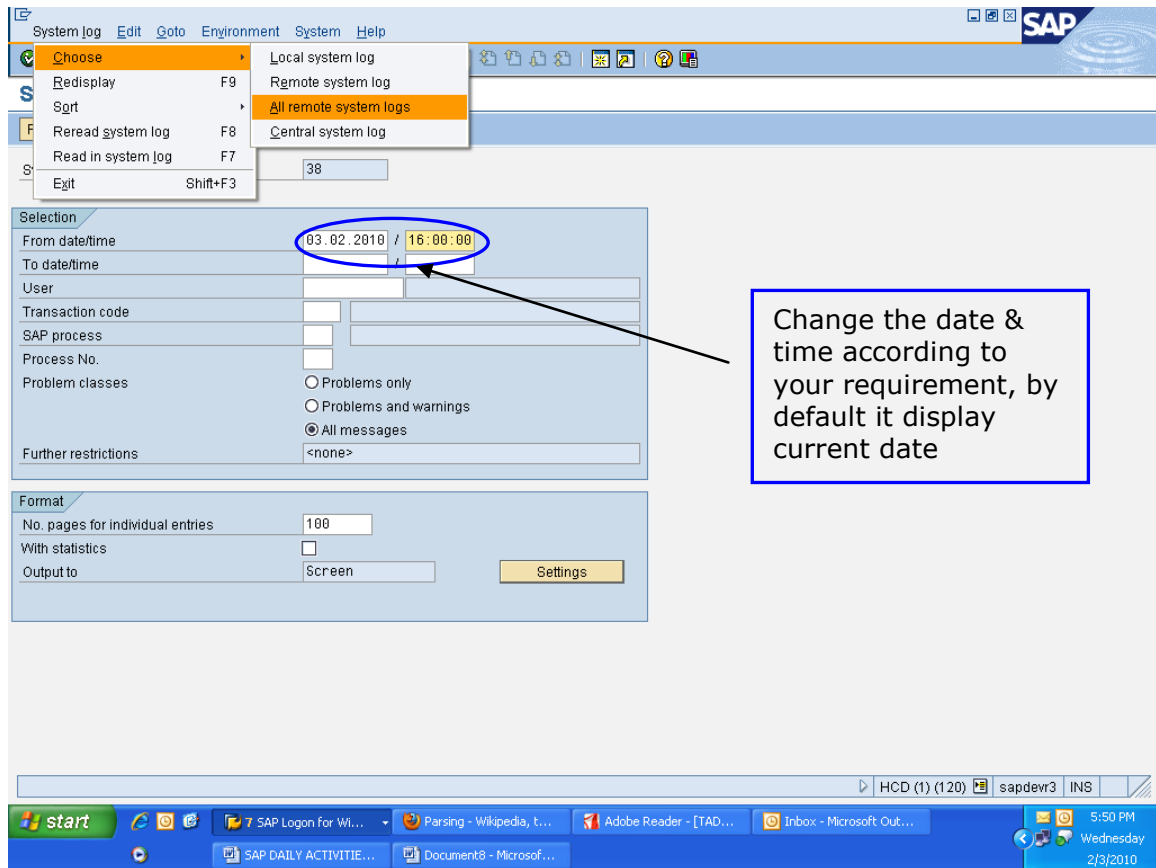
The active file contains the current log. When it reaches the maximum size, the system performs a "log file switch". It deletes the old log file, makes the previously active file the "old" file, and creates a new active file. The switch occurs when the size of the active log file is half the value as specified in the `rslg/max_diskspace/central` parameter. (Note: the SAP System does not support the saving of old system log files. If you want to save old logs, then you must archive them yourself.)

Checking System Logs

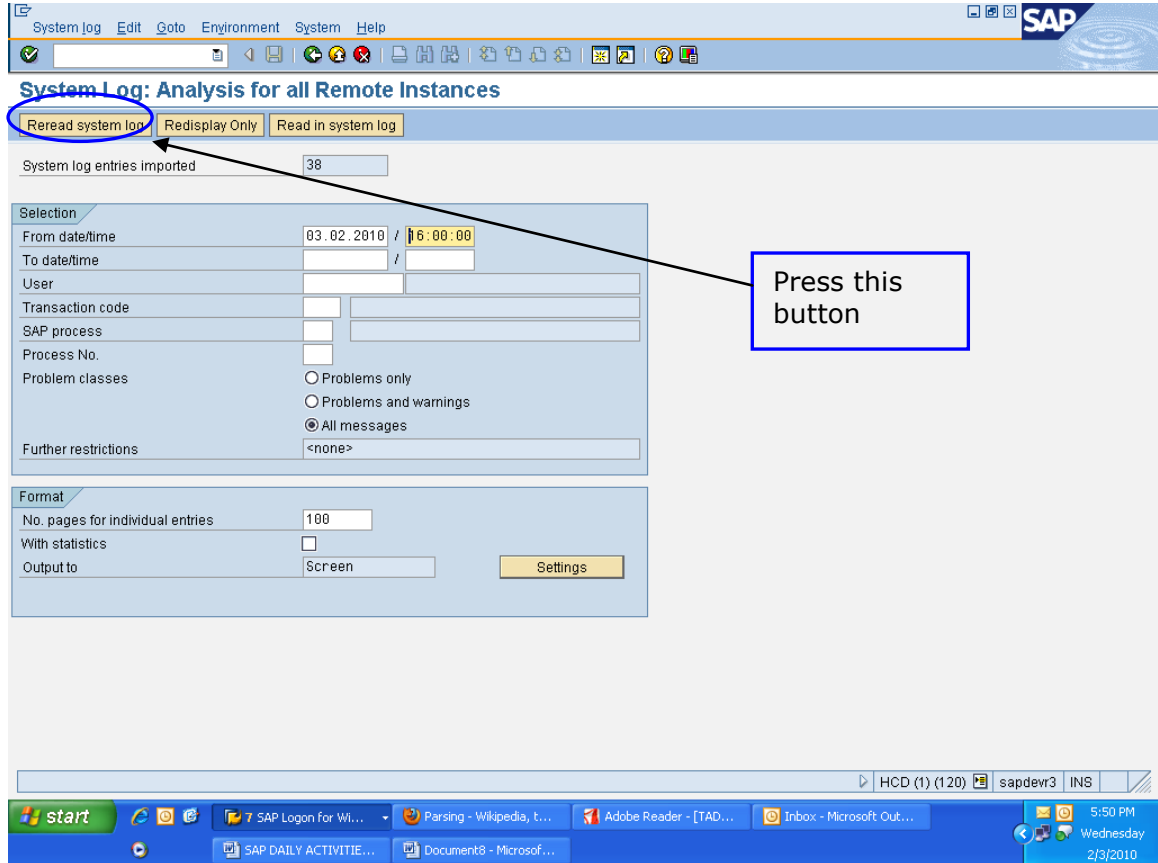
To check the system log put t code **SM21**



Select system log -> choose -> all remote system logs



Click on Reread system log button



In this screen you get all logs, to know more details double click on individual log

System Log: Analysis for all Remote Instances

Time	Instance	Ty	Nr	Cl	User	Tcod	MNo	Text	Date : 03.02.10
16:07:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	
16:08:20	sapdevr3_HCD_00	DIA	001	120	AMIT.S	SE38	AB0	Run-time error "RAISE_EXCEPTION" occurred	
16:08:20	sapdevr3_HCD_00	DIA	001	120	AMIT.S	SE38	AB1	> Short dump "100203 160820 sapdevr3 AMIT.S " generated	
16:17:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWCOND)	
16:27:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	
16:29:11	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB0	Run-time error "RAISE_EXCEPTION" occurred	
16:29:11	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB1	> Short dump "100203 162911 sapdevr3 RAKESH.S " generated	
16:37:36	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB0	Run-time error "RAISE_EXCEPTION" occurred	
16:37:36	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB1	> Short dump "100203 163736 sapdevr3 RAKESH.S " generated	
16:37:37	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB0	Run-time error "RAISE_EXCEPTION" occurred	
16:37:37	sapdevr3_HCD_00	BTC	017	120	RAKESH.S	ME54	AB1	> Short dump "100203 163737 sapdevr3 RAKESH.S " generated	
16:38:24	sapdevr3_HCD_00	DIA	003	120	AMIT.S	SE38	AB0	Run-time error "RAISE_EXCEPTION" occurred	
16:38:24	sapdevr3_HCD_00	DIA	003	120	AMIT.S	SE38	AB1	> Short dump "100203 163824 sapdevr3 AMIT.S " generated	
16:47:43	sapdevr3_HCD_00	BTC	018	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWCOND)	
16:47:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	
17:07:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	
17:17:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWCOND)	
17:27:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	
17:40:32	sapdevr3_HCD_00	BTC	017	120	SREEDHAR.S	ME52	AB0	Run-time error "RAISE_EXCEPTION" occurred	
17:40:33	sapdevr3_HCD_00	BTC	017	120	SREEDHAR.S	ME52	AB1	> Short dump "100203 174033 sapdevr3 SREEDHAR.S " generated	
17:47:43	sapdevr3_HCD_00	BTC	018	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWCOND)	
17:47:43	sapdevr3_HCD_00	BTC	017	120	WF-BATCH	D01		Transaction Canceled DB 612 (#000000000000 RSWWERE)	

Reading:
 Number of records read..... 2777
 Number of records selected..... 38
 Old records skipped..... 2739

Further selection:
 Number of records read..... 38
 Number of records selected..... 22

Double click on individual log for more details

B. ABAP Dump Analysis ST22

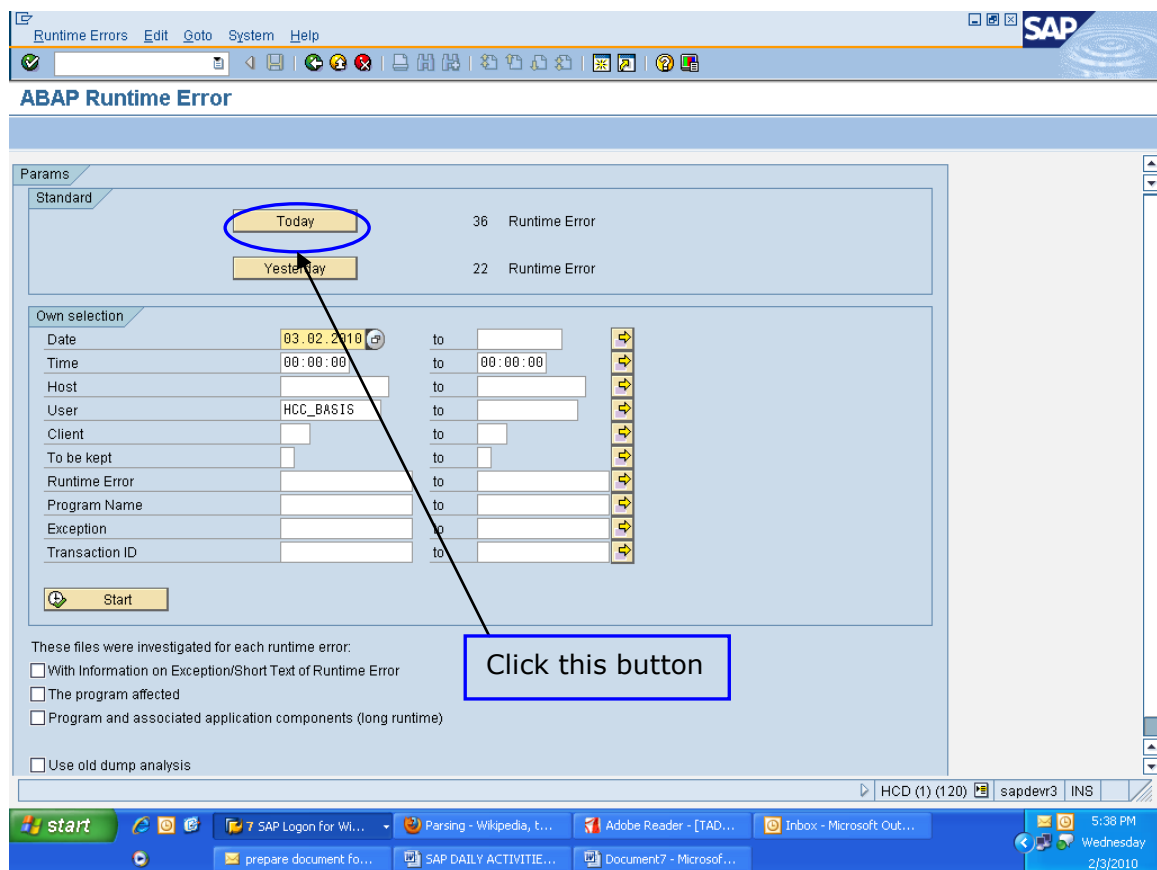
An error in an ABAP program that is running in a background generally causes an immediate termination of the background job. If an ABAP program terminates, an ABAP dump is usually generated. This dump contains a description of the precise cause of the error.

Dump Analysis

To monitor the abap runtime errors use t-code ST22



Click on **today** button, to get today's runtime errors

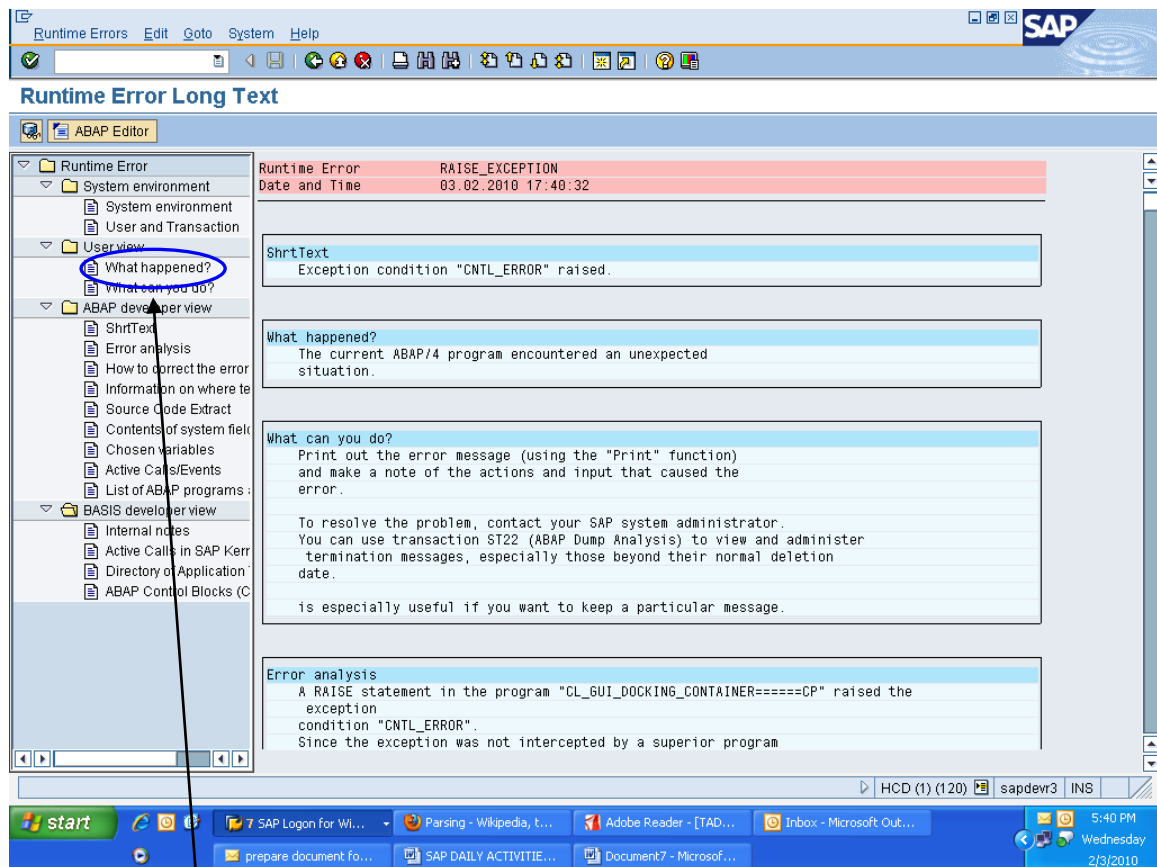


In this screen you get list of runtime errors, double click on individual runtime errors

The screenshot shows the SAP 'List of Selected Runtime Errors' window. The window title is 'Runtime Errors' and it includes a menu bar with 'Runtime Errors', 'Edit', 'Goto', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main area displays a table of runtime errors. The table has columns for 'Current Date', 'Time', 'Host', 'Name', 'Cli...', 'Name of runtime error', 'Exception', and 'Appl. component'. The first row is highlighted in yellow and circled in blue, with a blue callout box containing the text 'Click on individual runtime error to get more details' pointing to it. The table contains 20 rows of error data.

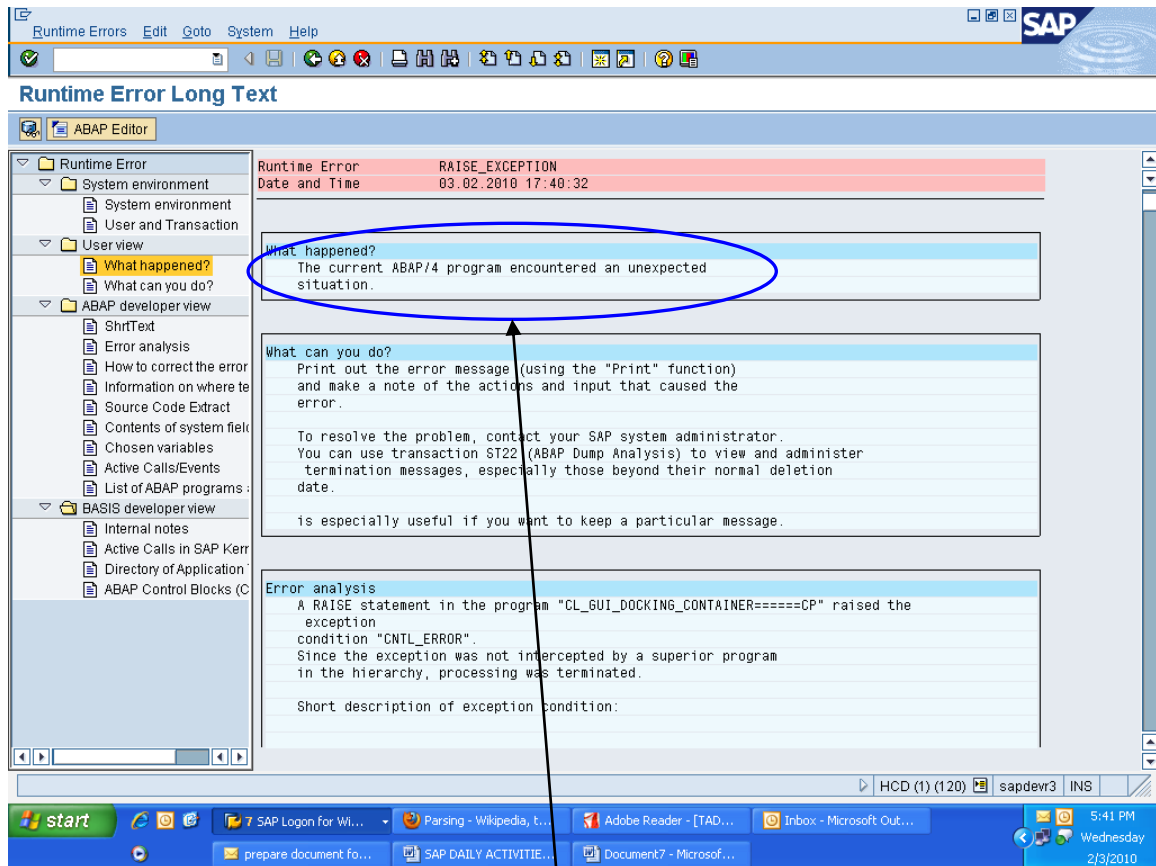
Current Date	Time	Host	Name	Cli...	Name of runtime error	Exception	Appl. component
03.02.20...	17:40:32	sapdevr3	SREEDHAR.S	120	RAISE_EXCEPTION		
03.02.2010	16:38:24	sapdevr3	AMIT.S	120	C RAISE_EXCEPTION		
03.02.2010	16:37:37	sapdevr3	RAKESH.S	120	C RAISE_EXCEPTION		
03.02.2010	16:37:36	sapdevr3	RAKESH.S	120	C RAISE_EXCEPTION		
03.02.2010	16:29:11	sapdevr3	RAKESH.S	120	C RAISE_EXCEPTION		
03.02.2010	16:08:20	sapdevr3	AMIT.S	120	C RAISE_EXCEPTION		
03.02.2010	15:43:58	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	15:36:21	sapdevr3	ABAPCONSL01	120	C LOAD_PROGRAM_LOST		
03.02.2010	15:25:57	sapdevr3	ABAPCONSL02	120	C LOAD_PROGRAM_LOST		
03.02.2010	15:16:02	sapdevr3	ABAPCONSL01	120	C CONVT_NO_NUMBER		
03.02.2010	15:00:47	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	12:51:32	sapdevr3	ABAPCONSL02	120	C MESSAGE_TYPE_UNKNOWN		
03.02.2010	12:31:24	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	12:09:50	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	11:50:09	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	11:44:58	sapdevr3	AMIT.S	120	C RAISE_EXCEPTION		
03.02.2010	11:39:39	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	11:26:59	sapdevr3	ROSHNI.V	120	C LOAD_PROGRAM_LOST		
03.02.2010	11:23:20	sapdevr3	ABAPCONSL02	120	C CALL_FUNCTION_CONFLICT_TYPE	CX_SY_DYN_CALL_ILLEGAL_TYPE	
03.02.2010	11:22:16	sapdevr3	ABAPCONSL02	120	C CALL_FUNCTION_CONFLICT_TYPE	CX_SY_DYN_CALL_ILLEGAL_TYPE	
03.02.2010	11:20:58	sapdevr3	ABAPCONSL02	120	C CALL_FUNCTION_CONFLICT_TYPE	CX_SY_DYN_CALL_ILLEGAL_TYPE	
03.02.2010	11:20:24	sapdevr3	ABAPCONSL02	120	C LOAD_PROGRAM_LOST		

After clicking individual runtime errors you get following screen, double click on **what happened?** text in the left side of window.



Double click on **what happened?** Text

In the right side you get in the right side you get information



Here you get information

To know how to correct the error double click on **How to correct the error** text in the left side of window

Runtime Error RAISE_EXCEPTION
Date and Time 03.02.2010 17:40:32

ShrtText
Exception condition "CNTL_ERROR" raised.

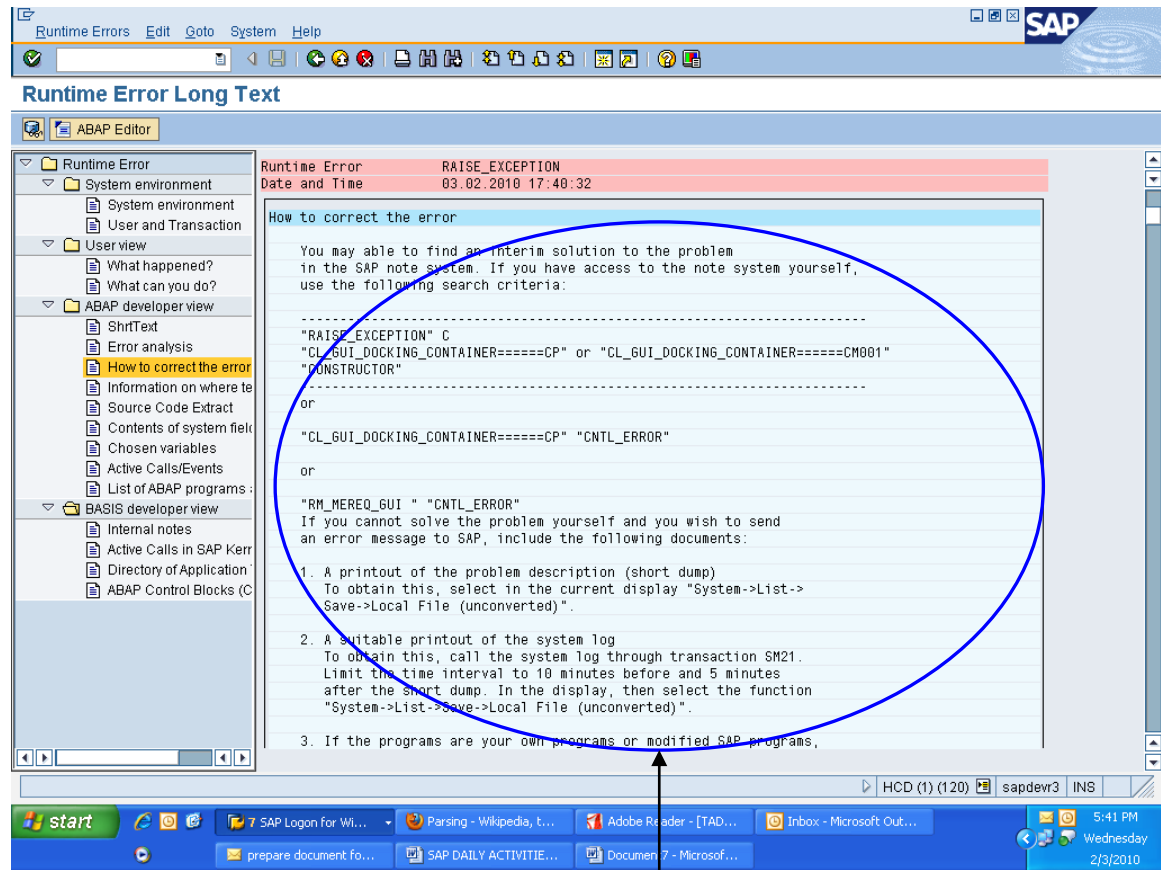
What happened?
The current ABAP/4 program encountered an unexpected situation.

What can you do?
Print out the error message (using the "Print" function) and make a note of the actions and input that caused the error.
To resolve the problem, contact your SAP system administrator. You can use transaction ST22 (ABAP Dump Analysis) to view and administer termination messages, especially those beyond their normal deletion date.
is especially useful if you want to keep a particular message.

Error analysis
A RAISE statement in the program "CL_GUI_DOCKING_CONTAINER=====CP" raised the exception condition "CNTL_ERROR".
Since the exception was not intercepted by a superior program

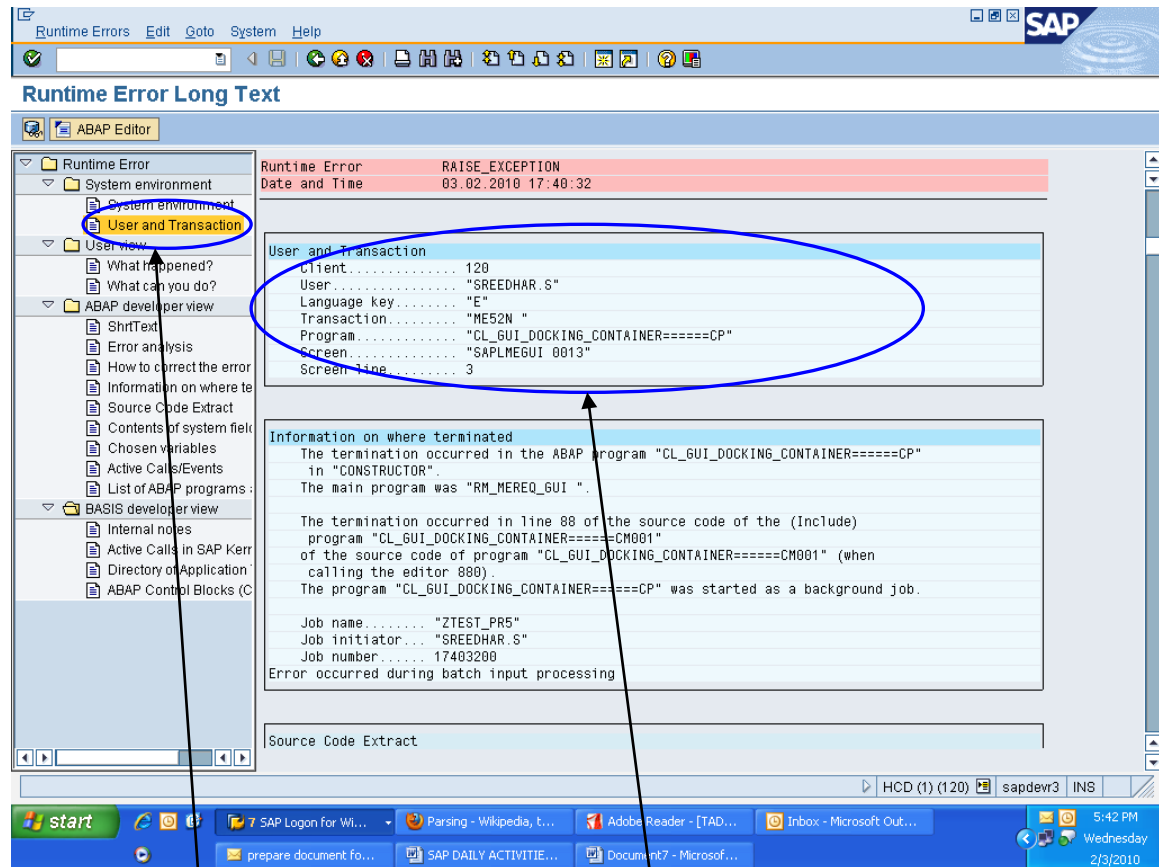
Double click on **How to correct the error?** Text

In this screen you get the solution, how to correct the error



Here you get information how to resolve the problem

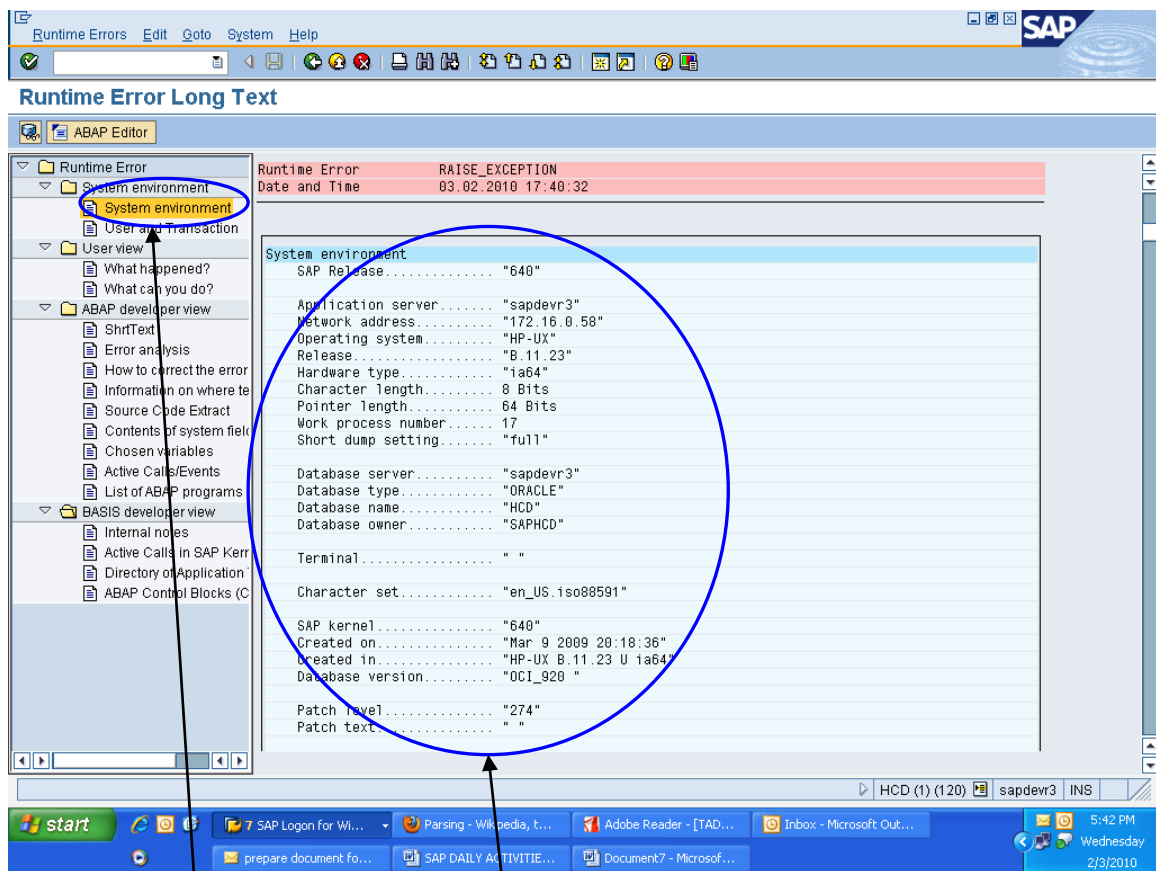
To know the user name, program, and transaction etc double click on **User and Transactions** in the left side of window
You get the information in the right side



Double click on **User and Transactions** text

Here you get information of user and transactions

To know the application server name etc double click on **System environment** in the left side of window
You get the information in the right side



Double click on **system environment** text

Here you get information of system environment

C. Work Processes

Work processes execute the individual dialog steps of ABAP application programs. They are components of ABAP application servers. The next two sections describe firstly the structure of a work process, and secondly the different types of work process in NetWeaver AS ABAP.

Types of Work Process

Before you start NetWeaver AS ABAP, you determine how many work processes each ABAP application server will have, and what their types will be. Since all work processes have the same structure (see preceding section), the type of work process does not determine the technical attributes of the ABAP application server but the type of tasks to be performed on it. The dispatcher starts the work processes and only assigns them tasks that correspond to their type. This means that you can distribute work process types to optimize the use of the resources on your ABAP application servers.

The following diagram shows again the structure of an ABAP application server, but this time, includes the various possible work process types:

Dialog Work Process

Dialog work processes deal with requests from an active user to execute dialog steps (see also Dialog Programming).

Update Work Process

Update work processes execute database update requests. Update requests are part of an SAP LUW that bundle the database operations resulting from the dialog in a database LUW for processing in the background.

Background Work Process

Background work processes process programs that can be executed without user interaction (background jobs).

Enqueue Work Process

The enqueue work process administers a lock table in the shared memory area. The lock table contains the logical database locks for NetWeaver AS ABAP and is an important part of the SAP LUW concept. In NW AS, you may only have one lock table. You may therefore also only have one ABAP application server with enqueue work processes. Normally, a single enqueue work process is sufficient to perform the required tasks.

Spool Work Process

The spool work process passes sequential datasets to a printer or to optical archiving. Each ABAP application server may contain only one spool work process.

Role of Work Processes

The types of its work processes determine the services that an ABAP application server offers. The application server may, of course, have more than one function. For example, it may be both a dialog server and the enqueue server, if it has several dialog work processes and an enqueue work process.

You can use the system administration functions to switch a work process between dialog and background modes while the system is still running. This allows you, for example, to switch an SAP System between day and night operation, where you

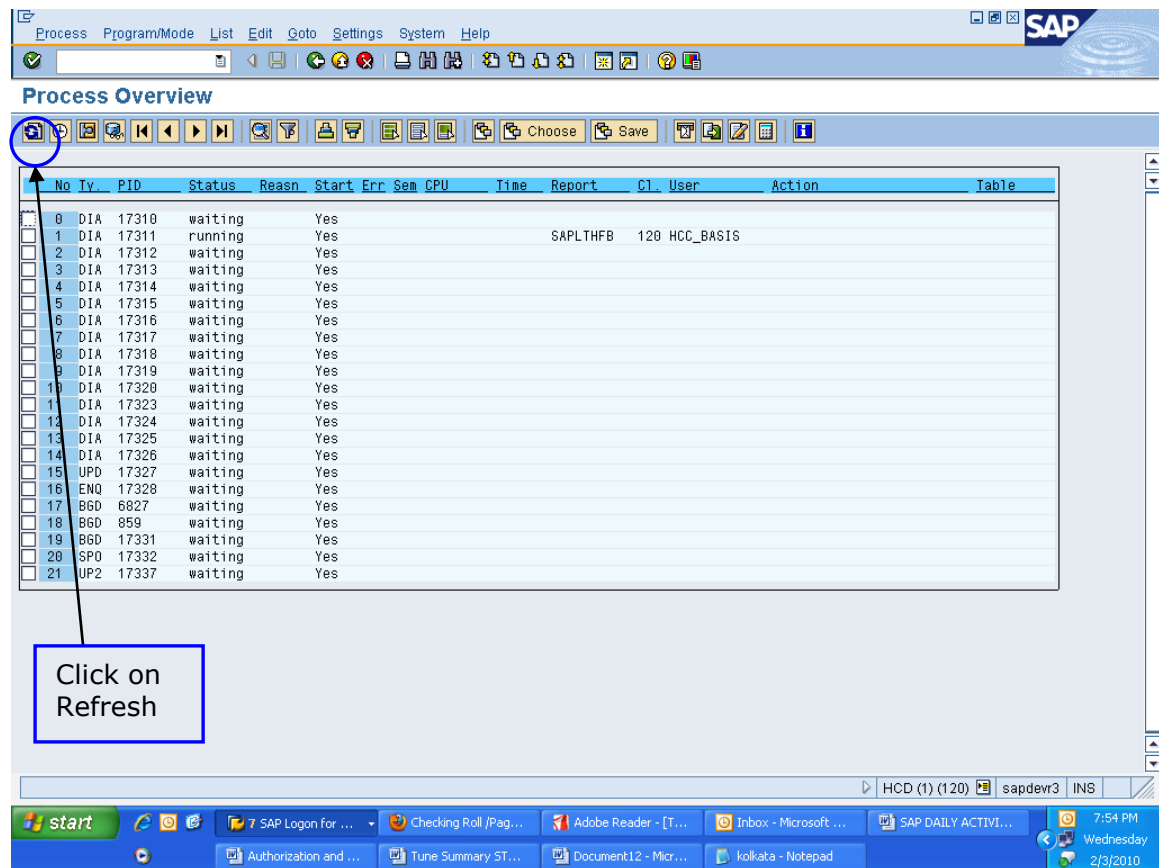
have more dialog than background work processes during the day, and the other way around during the night.

Work process Overview SM50

Put t code SM50 to display work process overview



In this screen displays available work process overview



- DIA:** Dialog work processes, in charge of executing interactive dialog steps
- UPD:** Update work process for executing U1 updates components In charge of critical updates on the database
- UP2:** Update work process for executing U2 updates components. In charge of performing secondary updates on the database
- ENQ:** Enqueue work process in charge of setting and releasing lock objects
- BTC:** Background work processes, in charge of executing background jobs
- SPO:** Spool work process in charge of the SAP spooling system (formatting and printing)

Check the status

- Running:** The process is executing a system request.
- Waiting:** The process is idle and waiting for any system request.

-
- Hold:** The process is held by a single user. Although a Hold state can be normal, having too many processes in hold state affects the system performance.
- Killed:** The process has been aborted with the Restart option set to No.
- Stopped:** Due to system or application error, the process has stopped and could not restart automatically.

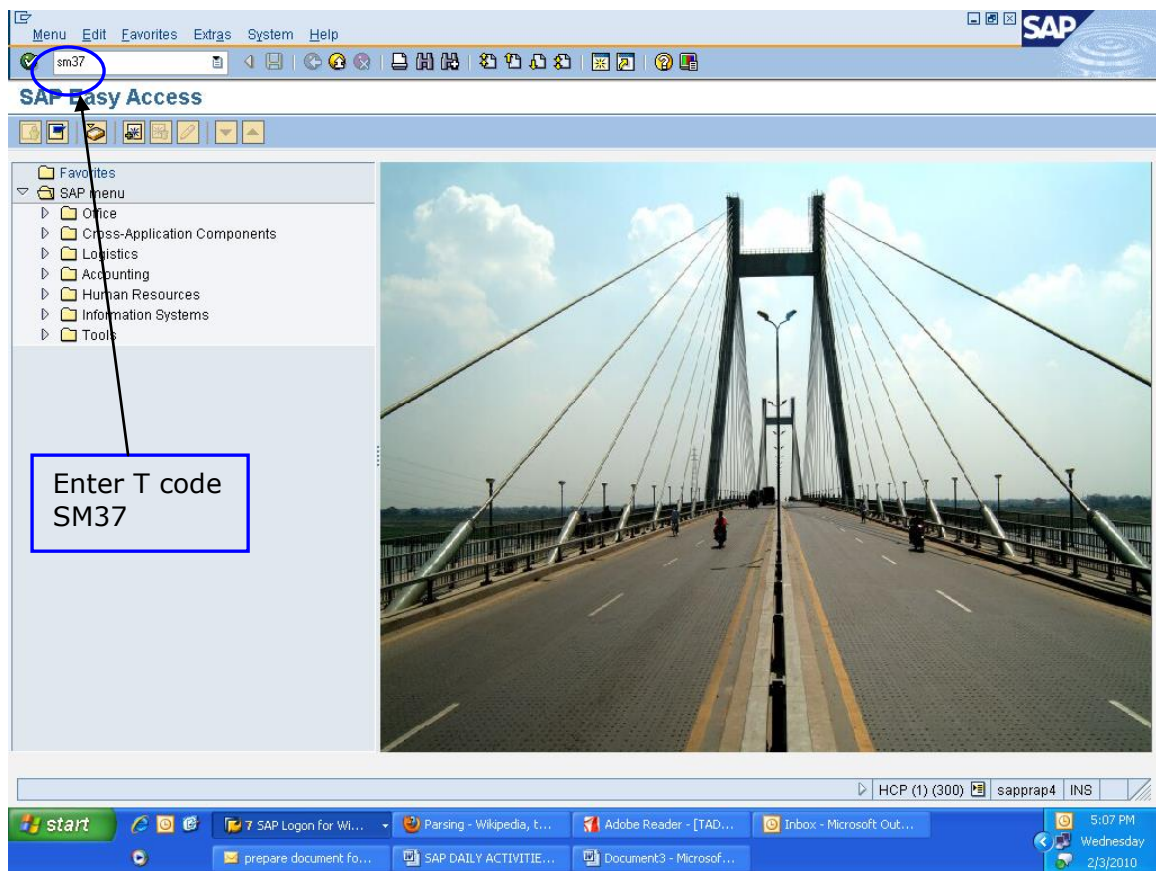
D. Background jobs

Background jobs are definitions of programs, printing specification, and interactively can be run automatically by the SAP background processing system. Any program that you can start interactively can be run automatically by the SAP system in the Background jobs. In background processing the system automatically runs the specified program or report at a specified and schedule time without the intervention of the user; even if you can monitor the background job and display results.

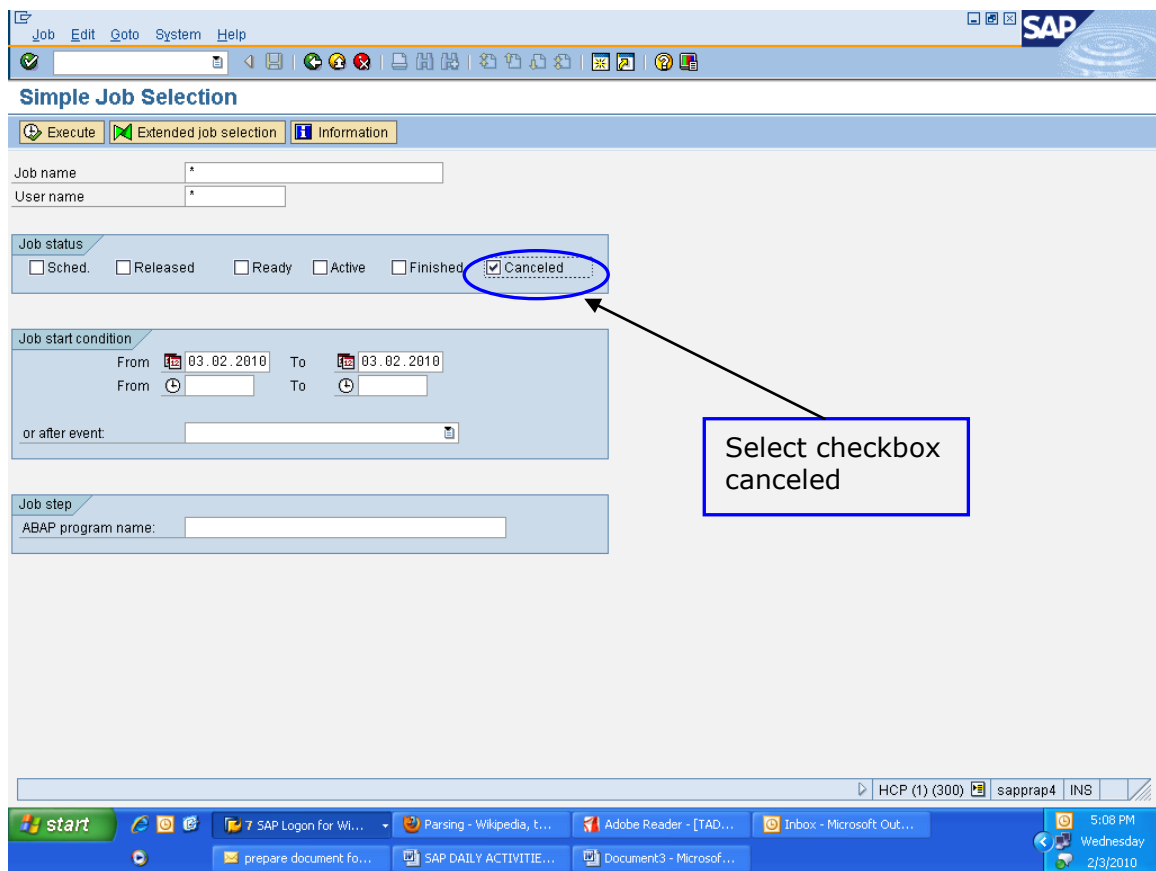
Whenever you log on to the SAP System to perform any task, the R/3 System starts responding. SAP System can be operated in both interactive mode as well as non-interactive mode. In the non-interactive mode you can schedule execution of programs and reports that you need to run without further intervention by you. This mode of working is named Background Processing.

Monitoring cancelled job

Put transaction **SM37**



Select the check box **canceled** to display only cancelled job



In this screen you get cancelled job, double click on canceled job to get more details

Job overview from: 03.02.2010 at: : :
to: 03.02.2010 at: : :
Selected job names: *
Selected user names: *

Scheduled Released Ready Active Finished Canceled
 Event controlled Event ID: : :
 ABAP program Program name: :

Job	Ln	Job CreatedB	Status	Start date	Start time	Duration(sec.)	Delay (sec.)
ZMMR_DRM		MMADMIN	Canceled	03.02.2010	04:12:14	1,074	134
*Summary						1,074	134

Double click on canceled job

HCP (1) (300) | sapprap4 | INS

start | 7 SAP Logon for Wi... | Parsing - Wikipedia, t... | Adobe Reader - [TAD... | Inbox - Microsoft Out... | 5:08 PM
 prepare document fo... | SAP DAILY ACTIVITIE... | Document3 - Microsof... | Wednesday
 2/3/2010

Click on Job log button

The screenshot displays the SAP BASIS Job Manager interface for job ZMMR_DRM. The 'Job log' button is circled in blue, and a callout box points to it with the text 'Click on job log button'. The interface includes a menu bar (Job, Edit, Goto, System, Help), a toolbar, and a main content area with sections for General data, Job start, Job frequency, and Job steps. The status is 'Canceled' and the target is 'sapprap3_HCP_03'. The Windows taskbar at the bottom shows the date as Wednesday, 2/3/2010, and the time as 5:09 PM.

General data	
Job name	ZMMR_DRM
Job class	C
Status	Canceled
Exec. Target	sapprap3_HCP_03

Job start	
Date	Time
Start date	03.02.2010 04:10:00

Job frequency	
Daily	

Job steps

0000000001 -Steps successfully defined

In this screen you will get information, analyze the information of cancelled job and inform to user who had scheduled the job, and also team members.

Job Log Entries for ZMMR_DRM / 04122400

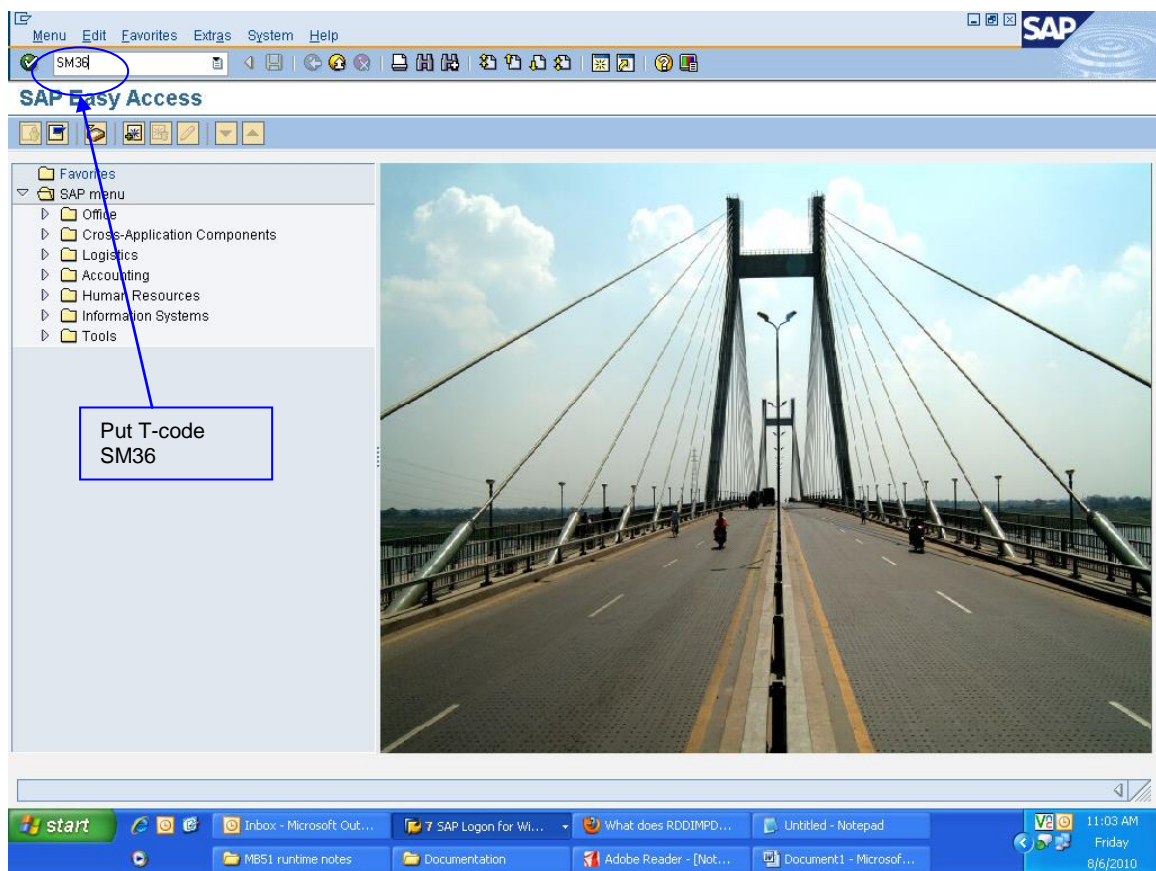
Job Log overview for job: ZMMR_DRM / 04122400

Date	Time	Message text	Message class	Message no.	Message type
03.02.2010	04:12:14	Job started	00	516	S
03.02.2010	04:12:14	Step 001 started (program ZMMR_DRM, variant 3334 CHAMERA, user ID MMADMIN)	00	550	S
03.02.2010	04:12:18	No document exists for the specified data	M7	842	S
03.02.2010	04:12:18	No entry found/selected for search criteria	M7	083	S
03.02.2010	04:30:08	System error occurred during lock management	MC	600	E
03.02.2010	04:30:08	Job cancelled after system exception ERROR_MESSAGE	00	564	A

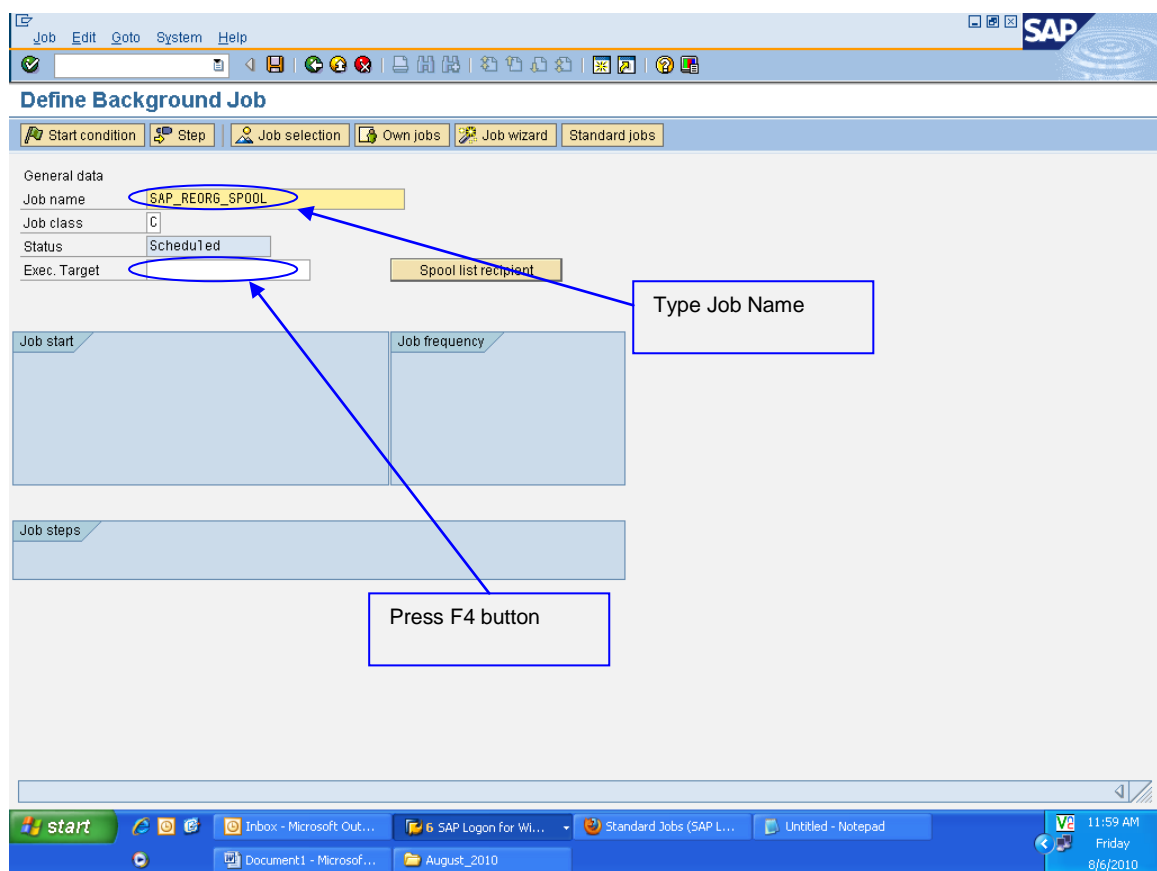
E. Scheduling Background Job

Procedure for SAP Background Job Scheduling

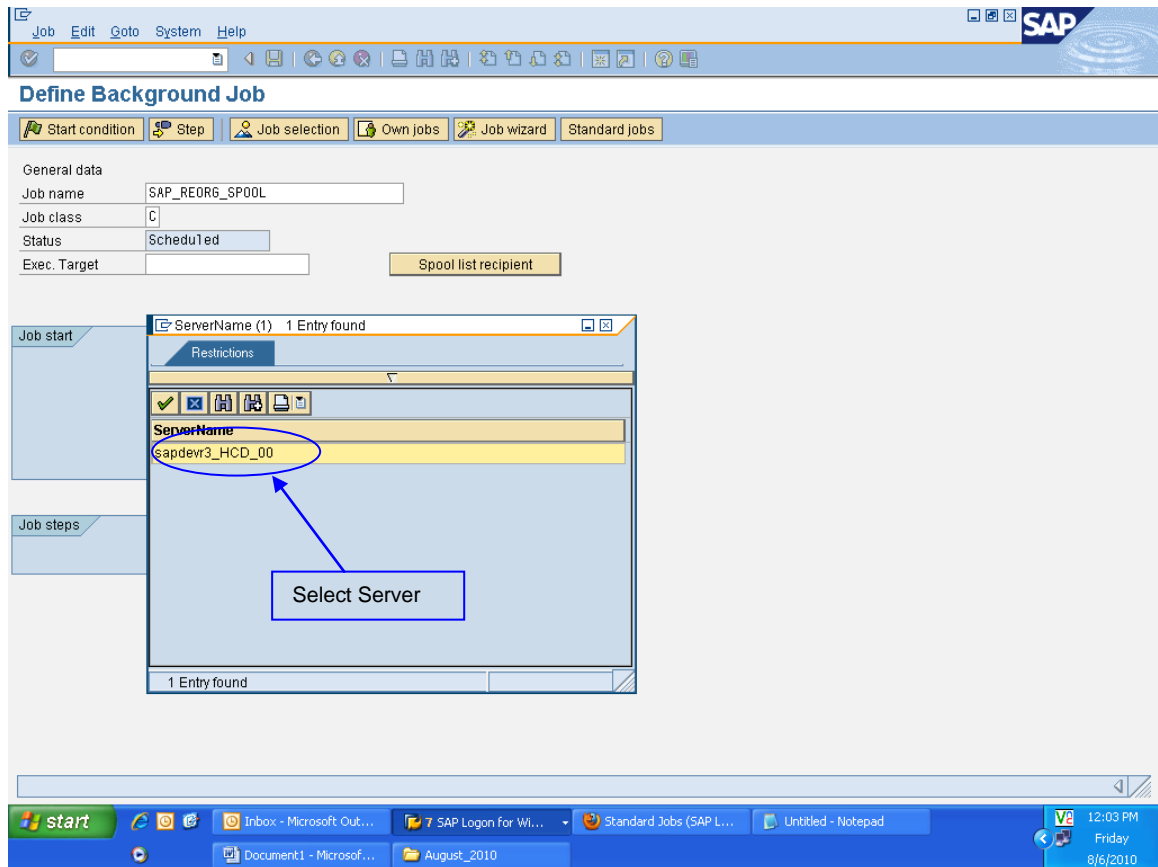
T-code – **SM36**



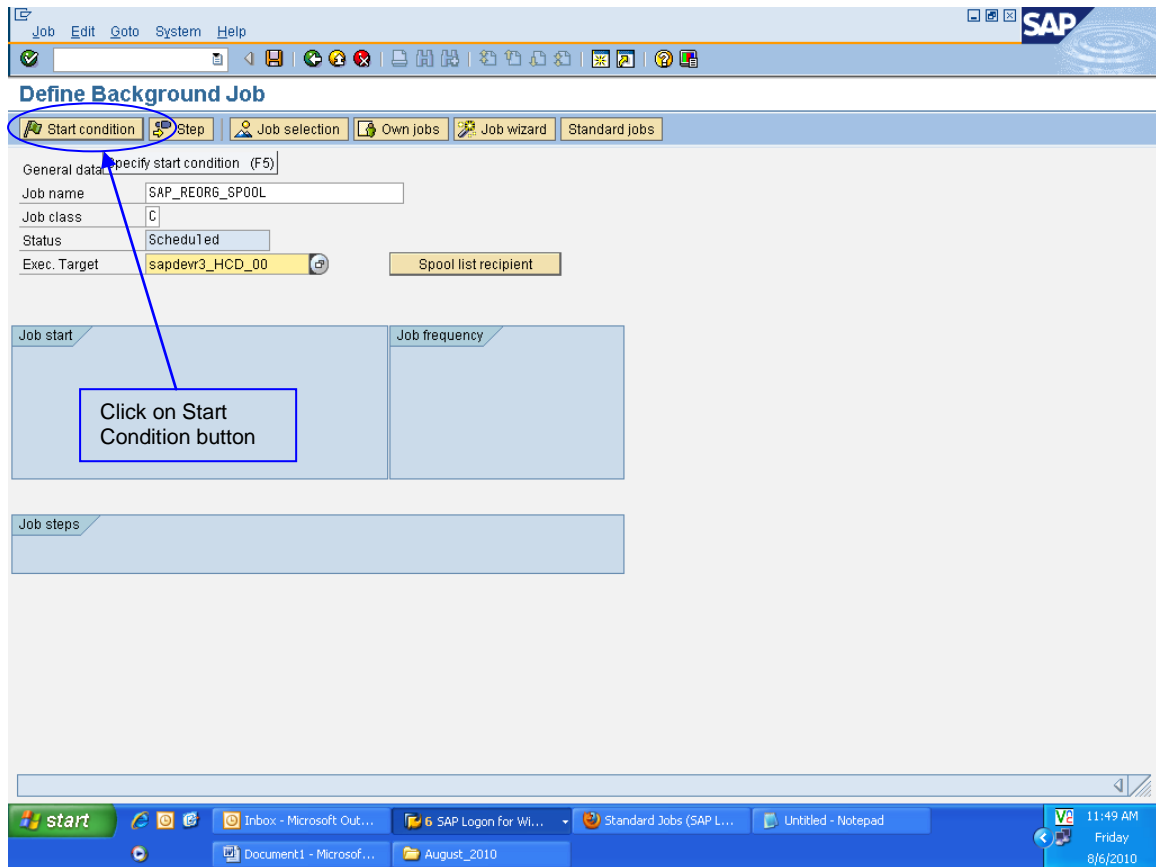
Type Job Name in Job name field
Job class by default is "C"
Place the cursor in Exec Target field and press F4 button,



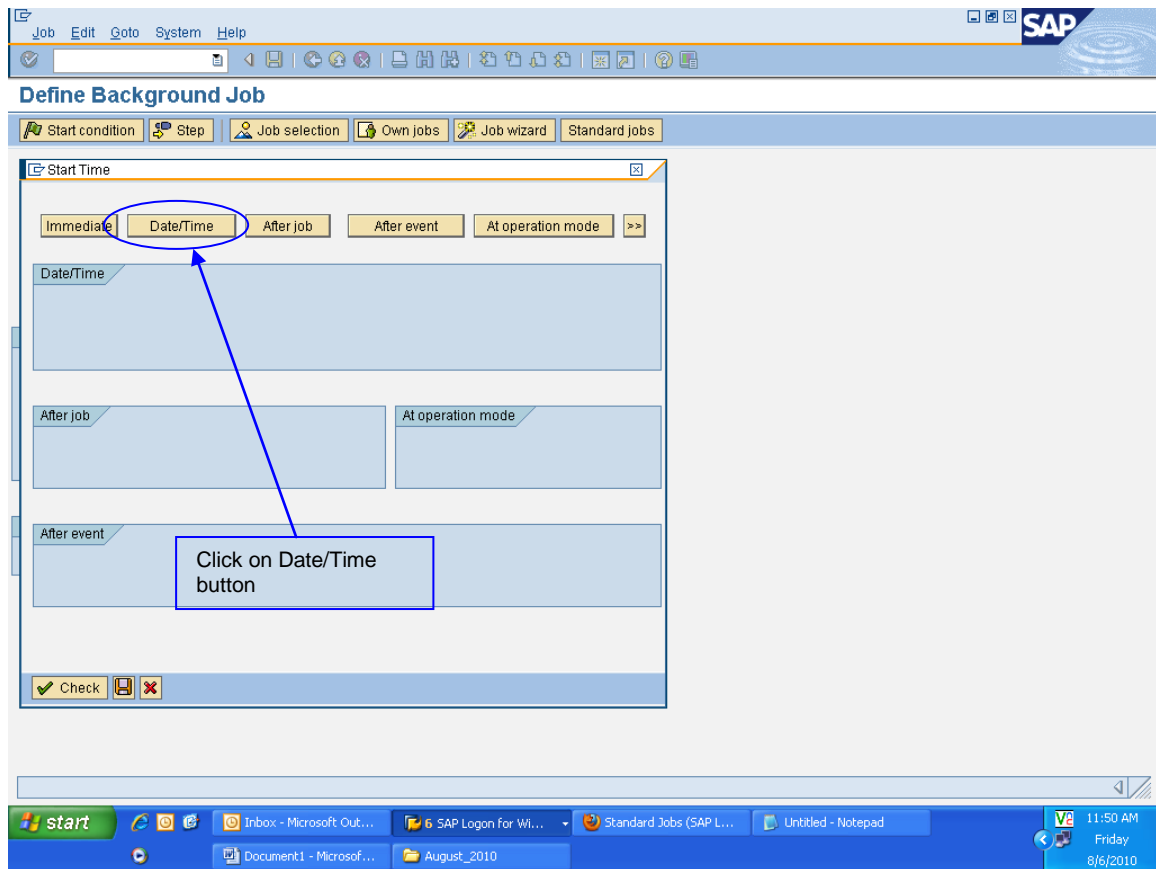
Select server and double click



Click on Start Condition button

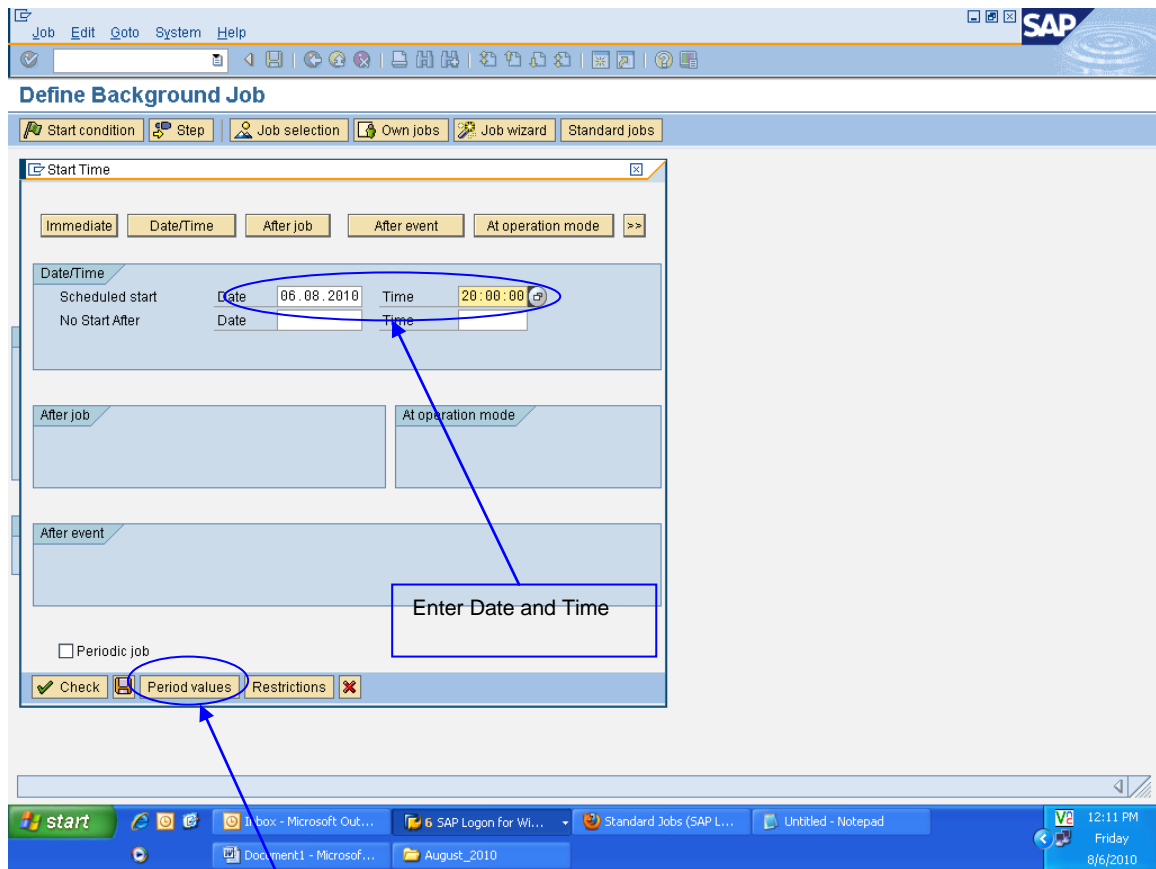


A new window will display, click on Date/Time button



Enter Date and Time to start the program

Click on period values button

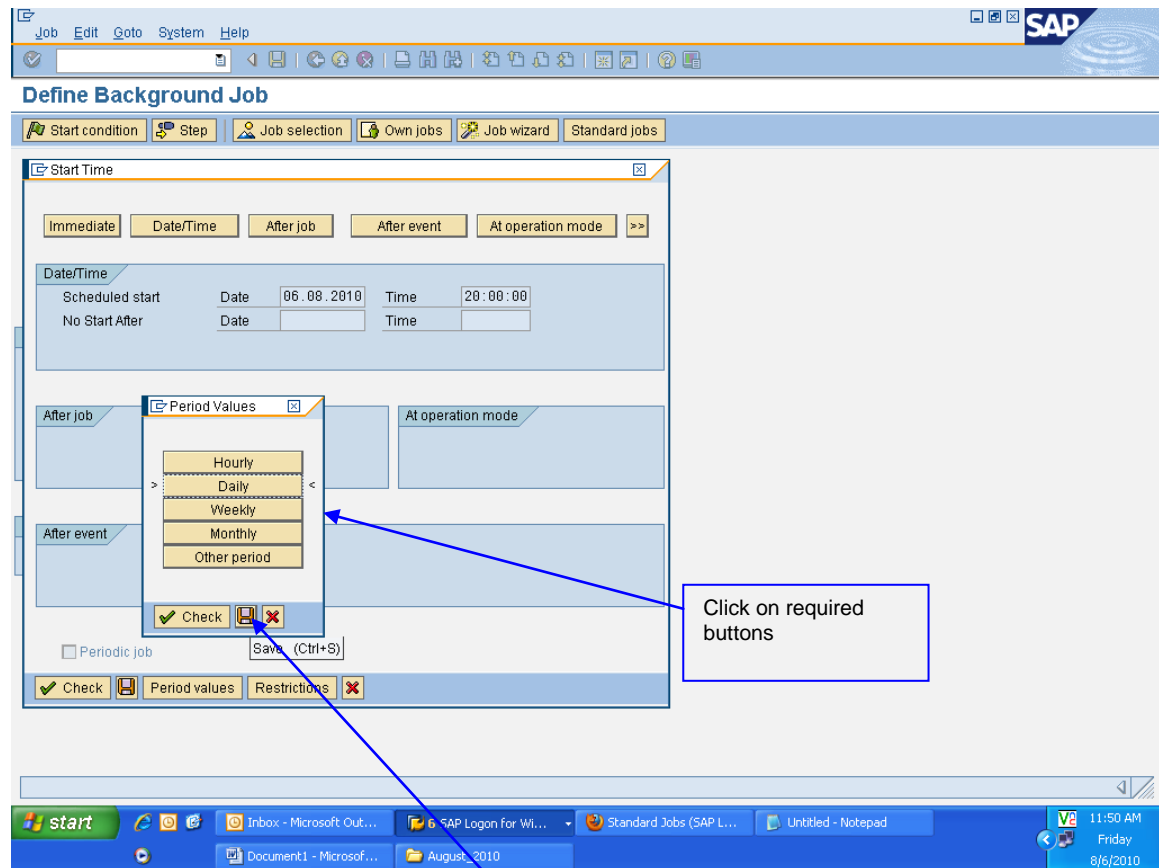


A new window will display, click on required scheduling values i.e.

Hourly - job execute hourly

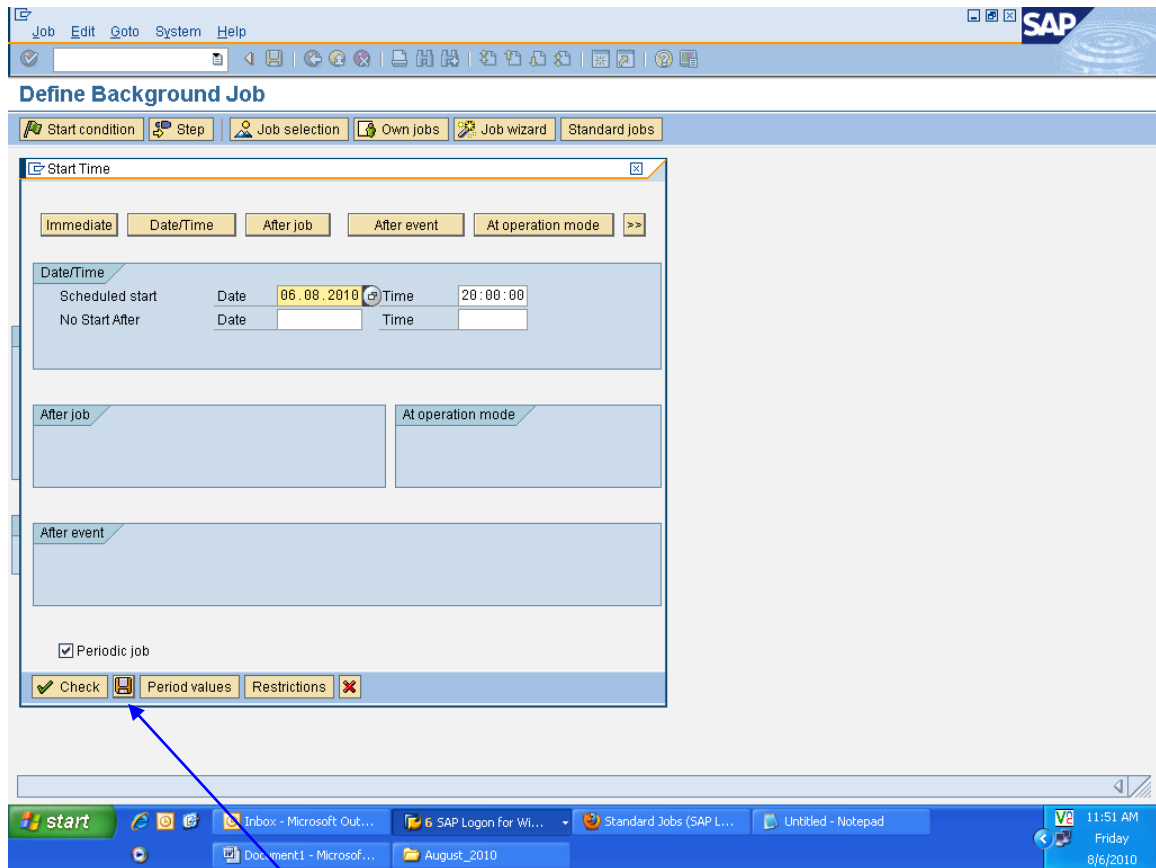
Daily – job execute daily in once
 Weekly – job execute weekly in once
 Monthly – job execute monthly in once
 Other Period – execute as per value you mentioned

Click on SAVE button



Click on Save Button

Click on SAVE button



Click on Save Button

Scheduled date and time will display

Job Edit Goto System Help

Define Background Job

Start condition Step Job selection Own jobs Job wizard Standard jobs

General data

Job name: SAP_REORG_SPOOL

Job class: C

Status: Scheduled

Exec. Target: sapdevr3_HCD_00

Spool list recipient

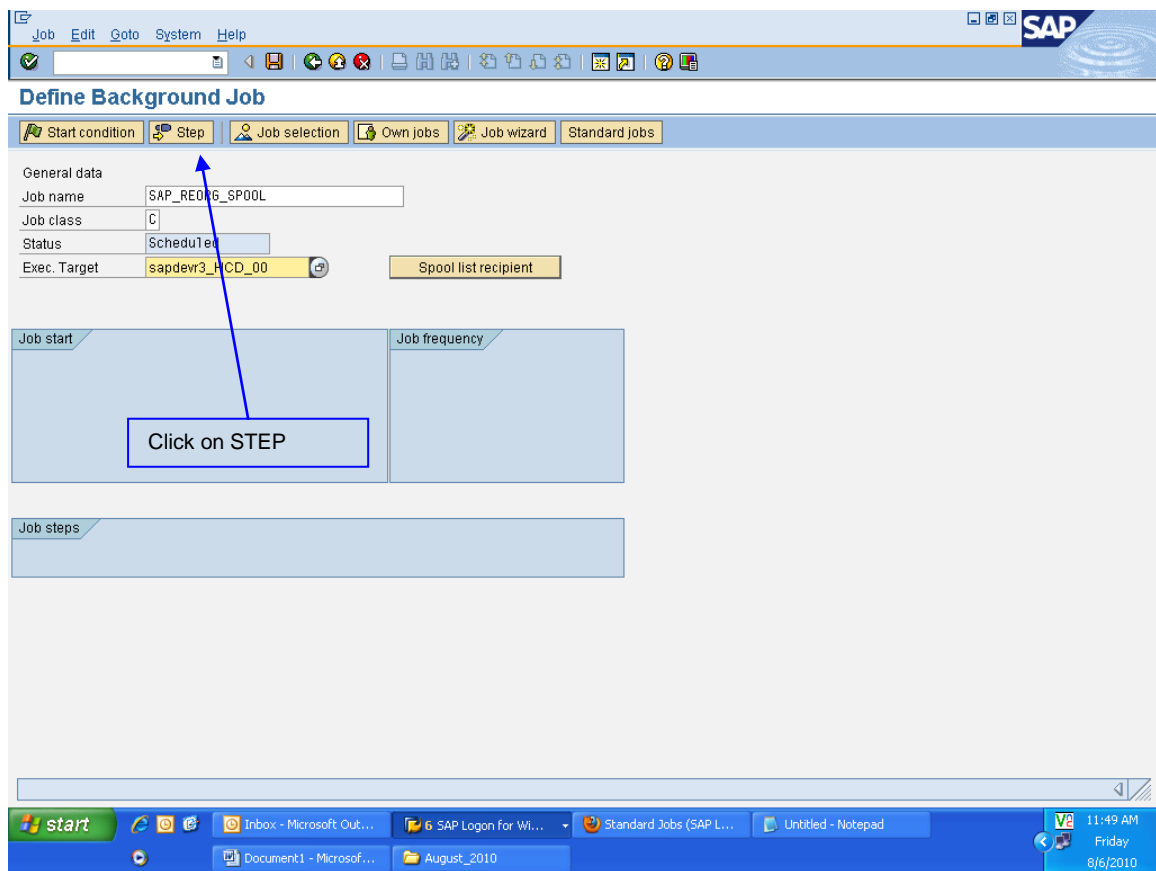
Job start		Job frequency
Date	Time	Daily
Start date	06.08.2010	20:00:00

Job steps

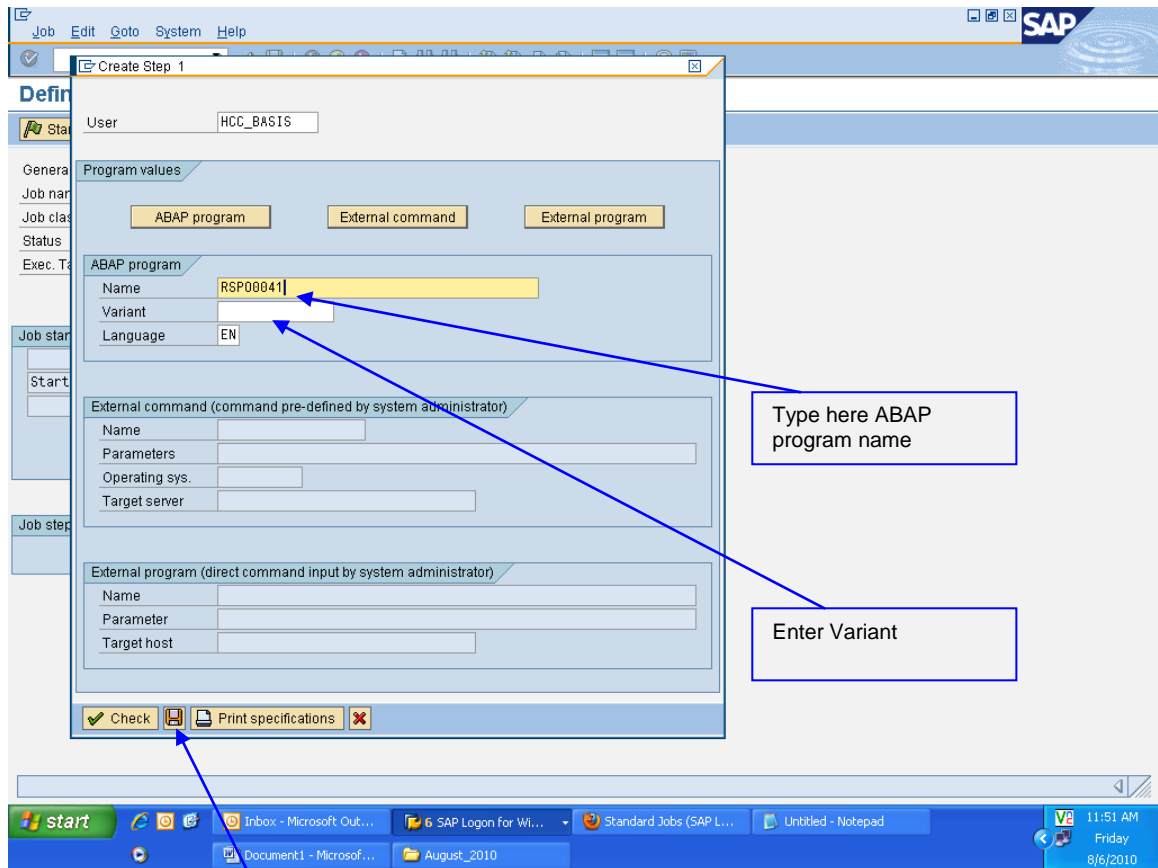
Scheduled Date and time will display

start | 11:51 AM Friday 8/6/2010

Click on STEP button



A new window will display
Click on ABAP program button
Type the program name and variant, variant is optional it is depend upon ABAP program
Click on SAVE button



Type here ABAP program name

Enter Variant

Click on SAVE button

Click on back button

The screenshot shows the SAP Step List Overview window. At the top, there is a menu bar with 'Step List Goto System Help' and a toolbar with various icons. Below the toolbar is a table with the following data:

No.	Program /Command	Prog. type	Spool list	Parameters	User	Lang.
1	RSP00041	ABAP			HCC_BASIS	EN

A blue arrow points from a callout box containing the text 'Click on BACK button' to the BACK button in the toolbar. The callout box is a white rectangle with a blue border. At the bottom of the window, there is a status bar with the message 'Printer not suitable for job step. Automatic printing not possible.' and a Windows taskbar with several open applications and the system clock showing 11:52 AM on Friday, 8/6/2010.

Click on SAVE button

Define Background Job [Save (Ctrl+S)]

Start condition Step Job selection Own jobs Job wizard Standard jobs

General data
Job name: SAP_REORG_SPOOL
Job class: C
Status: Scheduled
Exec. Target: sapdevr3_HCD_00
Spool list recipient

Job start		Job frequency	
Date	Time	Daily	
Start date	06.08.2010	20:00:00	

Job steps
0000000001 -Steps successfully defined

Click on SAVE button

In task bar shows the SAVED job name with status Released

Define Background Job

Start condition Step Job selection Own jobs Job wizard Standard jobs

General data
 Job name: SAP_REORG_SPOOL
 Job class: C
 Status: Scheduled
 Exec. Target: sapdevr3_HCD_00 Spool list recipient

Job start		Job frequency	
Date	Time	Daily	
Start date	06.08.2010 20:00:00		

Job steps
 0000000001 -Steps successfully defined

Job SAP_REORG_SPOOL saved with status: Released

The will be executing, selected date and time.

F. Update process

Among other things, the update system is used to lighten the workload of the SAP transactions when time-consuming changes are made to the database. The changes are carried out asynchronously - usually with short delays in between - by special update work processes.

This is why the update system is widely used in SAP transactions (by almost every transaction that changes business data), although transactions can also change the data directly in the database.

Update Procedure

- **Close transaction (COMMIT WORK)**
 - **Call update task**
 - Close VBHDR entry
 - Search update server for V1 update (update dispatching)
 - Update server processes V1 modules
 - COMMIT to database
 - Release locks
 - Search update server for V2 update (update dispatching)
 - Second update server processes V1 modules
 - COMMIT to database
 - **Start of next transaction**
- Dialog process

V1 UD Process (UPD)

V2 UD Process (UP2)

After the transaction has been processed, the dialog process completes the VBHDR entry (the update header of the update request) and searches an update server for the V1 update. This process is described in greater detail in the section entitled Update Dispatching with Load Distribution.

The update server distributes the tasks to an update work process. This processes the V1 modules of the update request, triggers a COMMIT to the

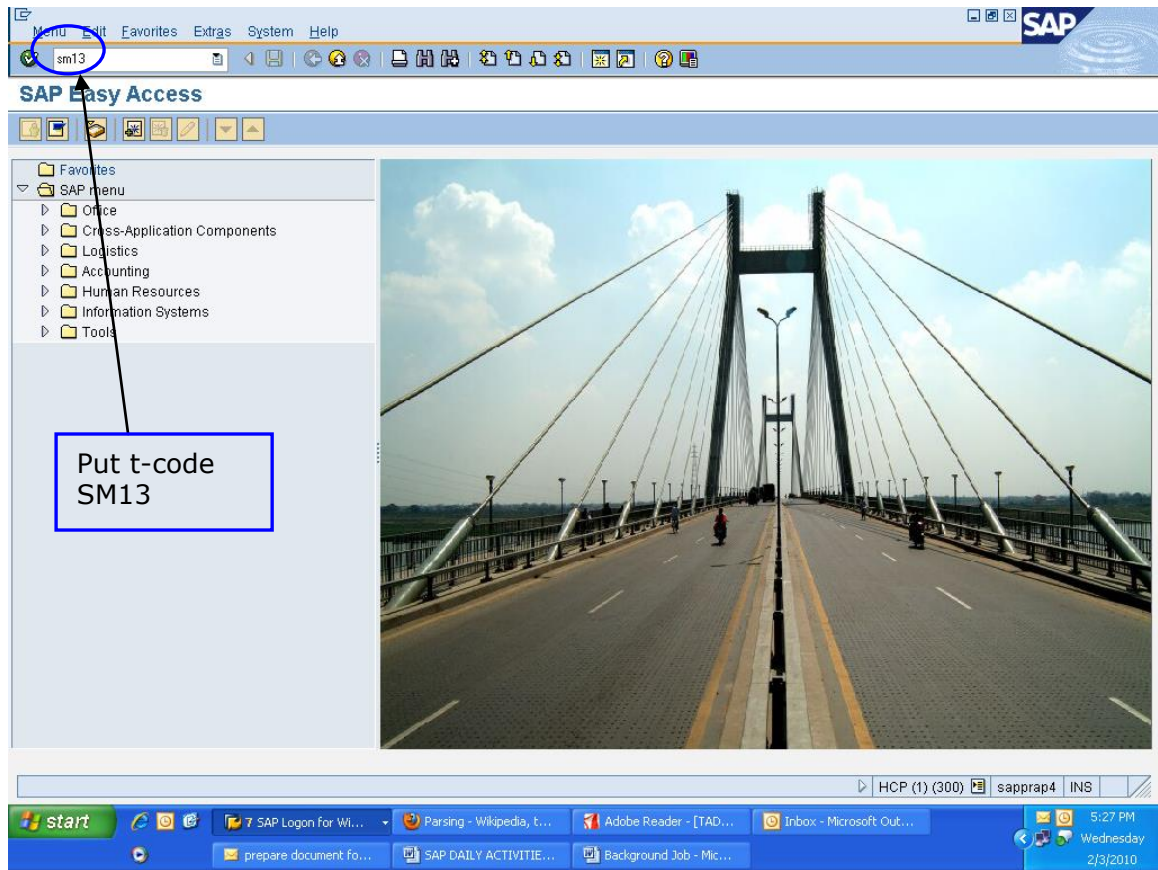
database, and releases the SAP locks on the update request. The work process then searches for an update server for the V2 update, providing V2 update modules exist.

A V2 update server then passes this onto a V2 work process, which processes the V2 modules and triggers a COMMIT to the database.

The following graphic illustrates this from the point of view of the different work processes. The graphic also shows the times at which changes are made in the database.

Processing the V1 modules involves transferring the contents of the update tables VBMOD and VBDATA to the application tables of the database. The changes are not actually made to the tables in the database until the database LUW in which this takes place is completed. The SAP locks are released and, if V2 update modules exist, the V2 update is started. This is similar to the V1 update with the exception that there are no locks that have to be released and no search for a process for further processing.

Update Errors using t-code **SM13**



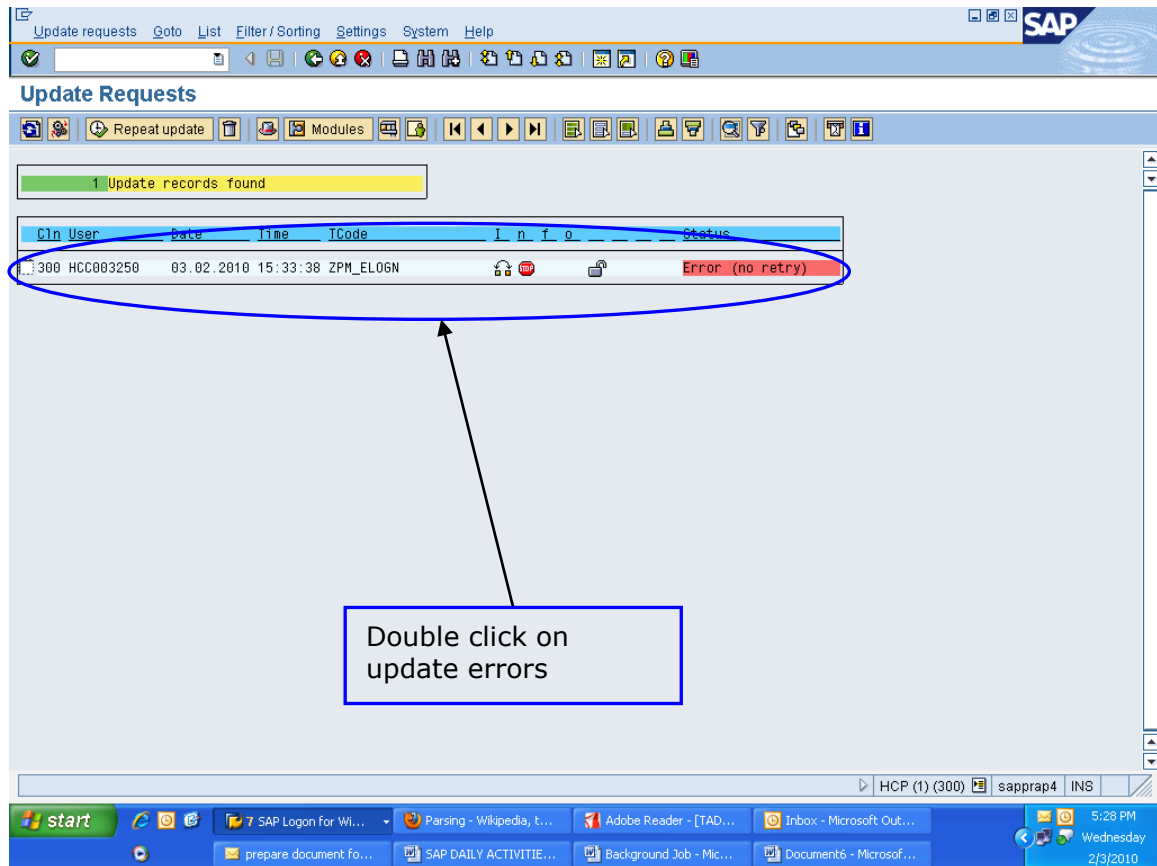
The screenshot shows the SAP Update Requests: Initial Screen. At the top left, the text "Update Requests: Initial Screen" is displayed. Below this, there are input fields for "Client" and "User". A "Status" section contains radio buttons for "Canceled", "To be updated", "V1 executed", "V2 Executed", and "All", along with a "Global View" checkbox. A "Selection" section includes "From date" (03.02.2010), "To date", "From time" (00:00:00), "To time" (00:00:00), "Maximum no. records" (99,999), and "Update server". At the bottom, there is an "Update System" button with a gear icon and the text "Administration", and a status indicator "Update is active".

Annotations include a blue circle around the "Execute" icon (a play button) in the top left corner of the main content area. A black arrow points from this icon to a blue-bordered box containing the text "Click on execute".

The bottom of the screenshot shows a Windows taskbar with the Start button, several open applications (including SAP Logon, Wikipedia, Adobe Reader, and Outlook), and a system tray showing the time as 5:28 PM on Wednesday, 2/3/2010.

In this screen you get the update errors, if any transaction is not updated, it shows in red color

Double click on update errors to get information



In this screen you get information like transaction, report name, status, module name etc

The screenshot shows the SAP Update Modules interface. At the top, there is a menu bar with options: Update request, Goto, List, Filter/Sorting, Settings, System, and Help. Below the menu is a toolbar with various icons. The main area displays the following information:

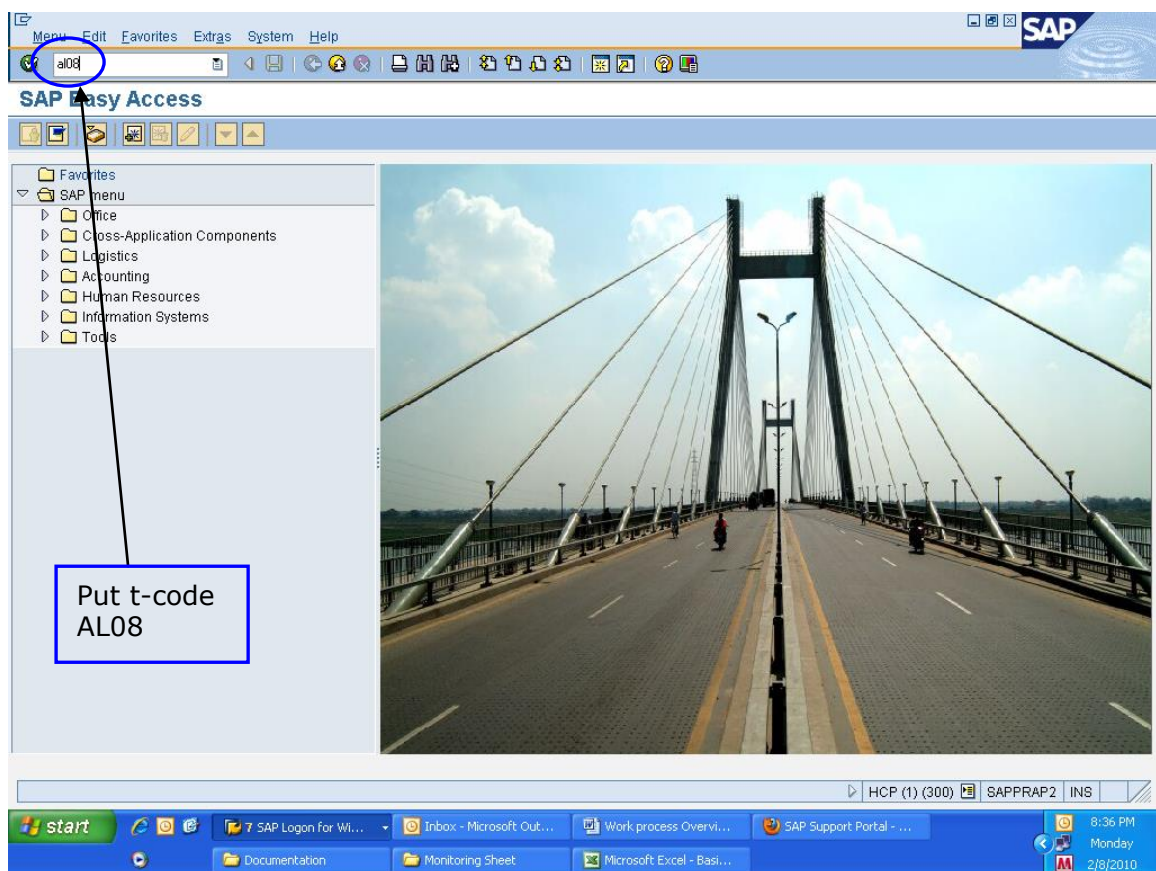
User: HCC003250 Client: 300 Transaction: ZPM_ELOGN
 Date: 03.02.2010 Time: 15:33:38 Report: SAPLBAPT
 Update key: 4B684856FAD7252CE1000000AC1000AA Status: Error (no retr)

Number	Module name (function)	Type	Status
1	K_SRULE_SAVE_UTASK	V1	Error (no retry)

At the bottom of the screen, there is a status bar showing 'HCP (1) (300) sapprap4 INS' and a Windows taskbar with the date 'Wednesday 2/3/2010' and time '5:29 PM'.

G. Currently active users

To know the currently active users of all servers use t-code **AL08**



Following display the number of active users, no of interactive users, no of RFC users and details of users logged in all servers etc, click on refresh button to get updated values.

The screenshot shows the SAP Admin console interface. At the top, there's a title bar with 'System Help' and 'SAP' logo. Below it, the main heading is 'Currently Active Users'. A 'Refresh' button is circled in red. Below the heading, there's a summary table showing user counts for different instances. Below that, there's a detailed table of active users with columns for Mand, User, Terminal, TCode, Time, Nr Modi, and Int Modi. At the bottom, there's a Windows taskbar with various open applications.

Active Instance	Number of active users	No. of interact. users	No. of RFC-users
SAPPRAP2_HCP_02	20	17	3
ciHCP_HCP_00	16	13	3
sapprap2_HCP_03	7	5	2
SAPPRAP2_HCP_01	13	12	1
sapprap2_HCP_04	13	11	2
5 destinations with		69 users	

SAPPRAP2_HCP_02	Mand	User	Terminal	TCode	Time	Nr Modi	Int Modi
	300	HCC-BASIS	Gourishankar		20.45.09	1	1
	300	HCC003168	store-asus	ME5A	20.45.08	4	8
	300	HCC008002	admin	ME2L	20.04.04	3	6
	300	HCC003168	AMIT_DAS	ME53N	20.43.56	1	4
	300	HCC003250	PME	IW38	20.23.54	2	4
	300	HCC003250	PME2		19.05.14	1	1
	300	HCC009272	QSS-1		20.18.17	1	1
	300	HCC005788	sjs	ZFI_FBL1N	19.49.07	3	8
	300	HCC006077	HCC2241DT-MECH2		18.41.44	1	1
	300	HCC005534	hccacctsd	ME2L	19.27.58	1	2
	300	HCC-BASIS	Gourishankar	AL08	20.45.09	2	3
	300	HCC006249	Mangesh	MI60	19.40.57	3	5

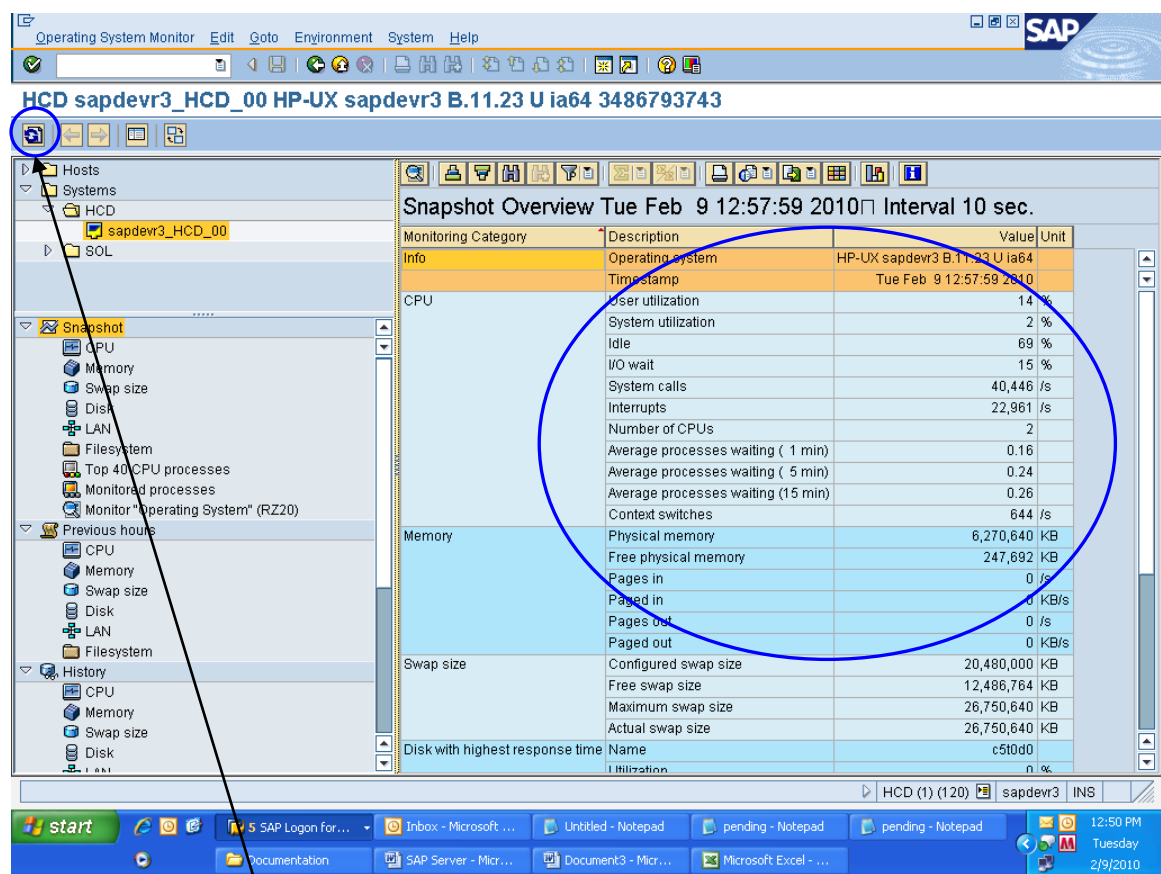
Click on Refresh

H. CPU Usage

To check the CPU usage use t-code **OS07N**



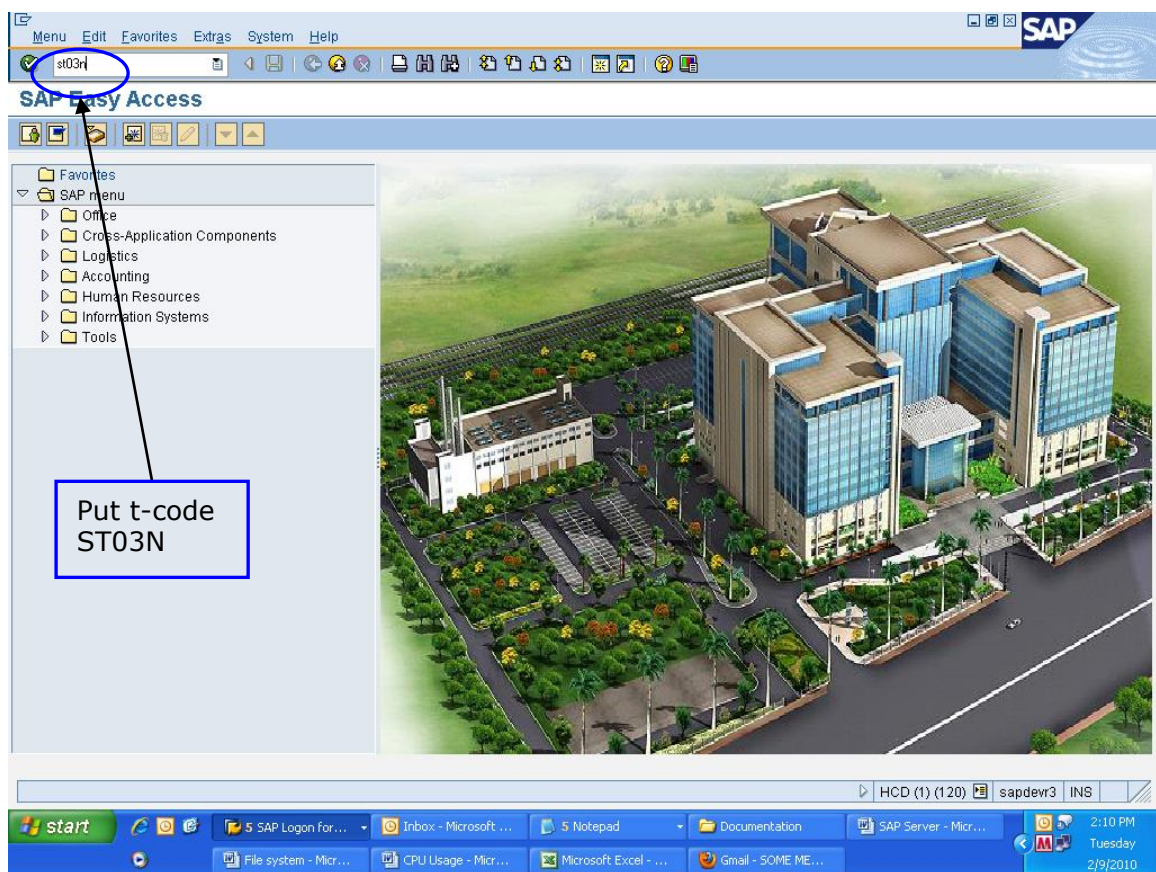
Right side you get CPU usage details, click on refresh button check the User utilization, system utilization, idle, I/O wait, free physical memory etc.



Click on
refresh button

I. Dialog Response Time using ST03N

Put t-code ST03N



Right side you get average time, click on refresh button, and note the dialog response time it should not more than 600msec, if it is more than 600msec than inform to team members

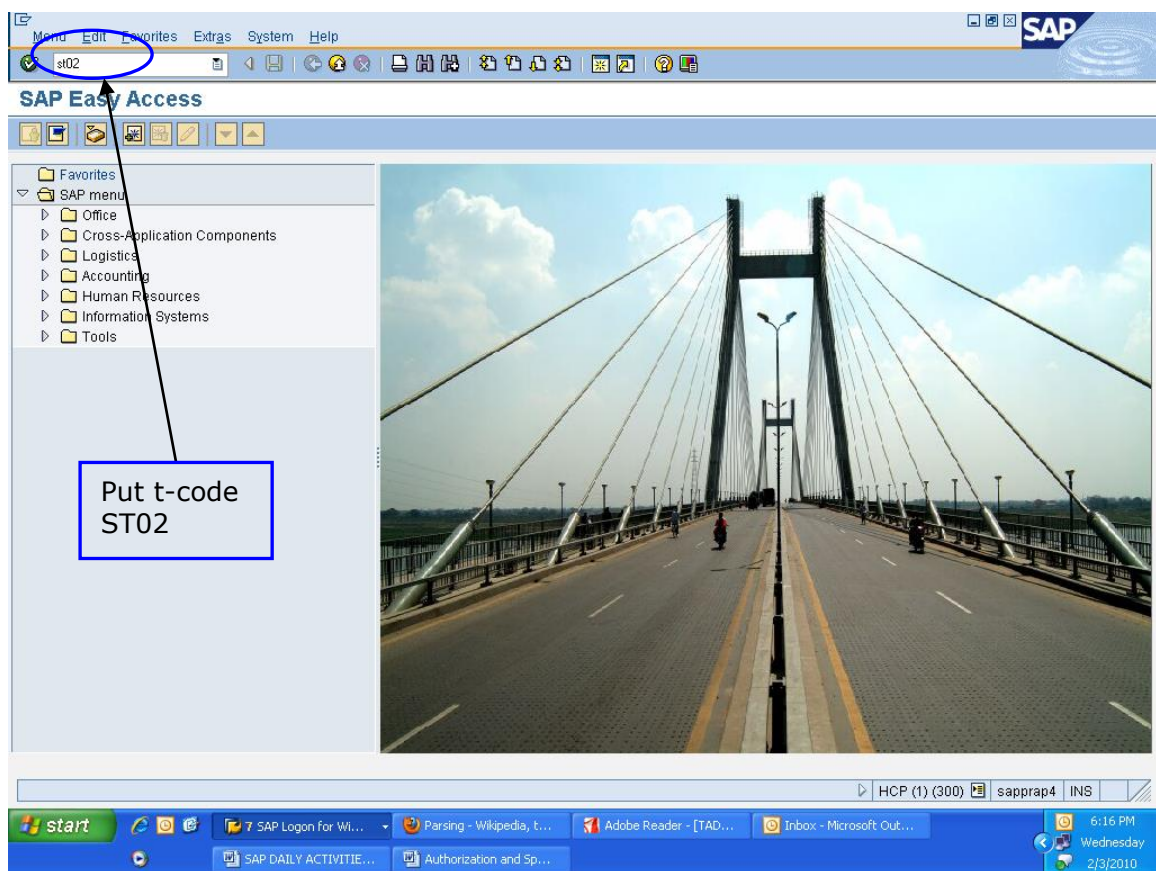
The screenshot shows the SAP-ADMIN interface for 'Workload in System HCD'. The main area displays a table titled 'Workload overview: Average time per step in ms'. The table has columns for Task Type, # Steps, Ø Time, Ø CPU Time, Ø DB Time, Ø Time, Ø WaitTime, Ø Roll In-, Ø Roll Wait Time, Ø Load- + Gen. Time, and Ø LockT. The 'Dialog' task type is highlighted, with its 'Ø Time' value of 371.5 circled in blue. A refresh button (circular arrow icon) in the top toolbar is also circled in blue. Two callout boxes at the bottom point to these elements: 'Click on refresh' and 'Check dialog response time'.

Task Type	# Steps	Ø Time	Ø CPU Time	Ø DB Time	Ø Time	Ø WaitTime	Ø Roll In-	Ø Roll Wait Time	Ø Load- + Gen. Time	Ø LockT
AutoABAP	165	123,645.4	507.0	134.8	0.0	0.0	1.8	0.0	21.4	
Background	2,203	408.7	89.5	276.2	0.0	8.1	0.7	0.0	6.2	
Batch Input	44	201.9	59.8	57.1	0.0	0.3	1.2	73.6	21.5	
Buffer synchr.	407	48.4	0.4	0.7	0.0	38.8	0.0	0.0	0.0	
Dialog	7,370	371.5	64.8	70.6	0.0	0.4	0.7	202.0	26.2	
Others	1,308	45.5	6.9	6.2	0.0	25.6	0.0	0.0	0.0	
RFC	428	956.5	239.2	517.3	0.0	0.9	0.6	671.4	7.2	
Spool	5	8,437.0	32.0	192.6	0.0	0.0	0.6	0.0	124.8	
Update	117	726.7	443.4	184.5	0.0	18.5	0.0	0.0	26.0	
Update2	10	187.8	34.0	97.5	0.0	0.0	0.0	0.0	55.6	

Click on refresh

Check dialog response time

J. Checking Roll, Paging Area and Extended Memory ST02



Following screen check the memory usage

In extended memory row check that **Max use** always less than **In Memory**
If both are equal than you must increase the extended memory or consult to team member

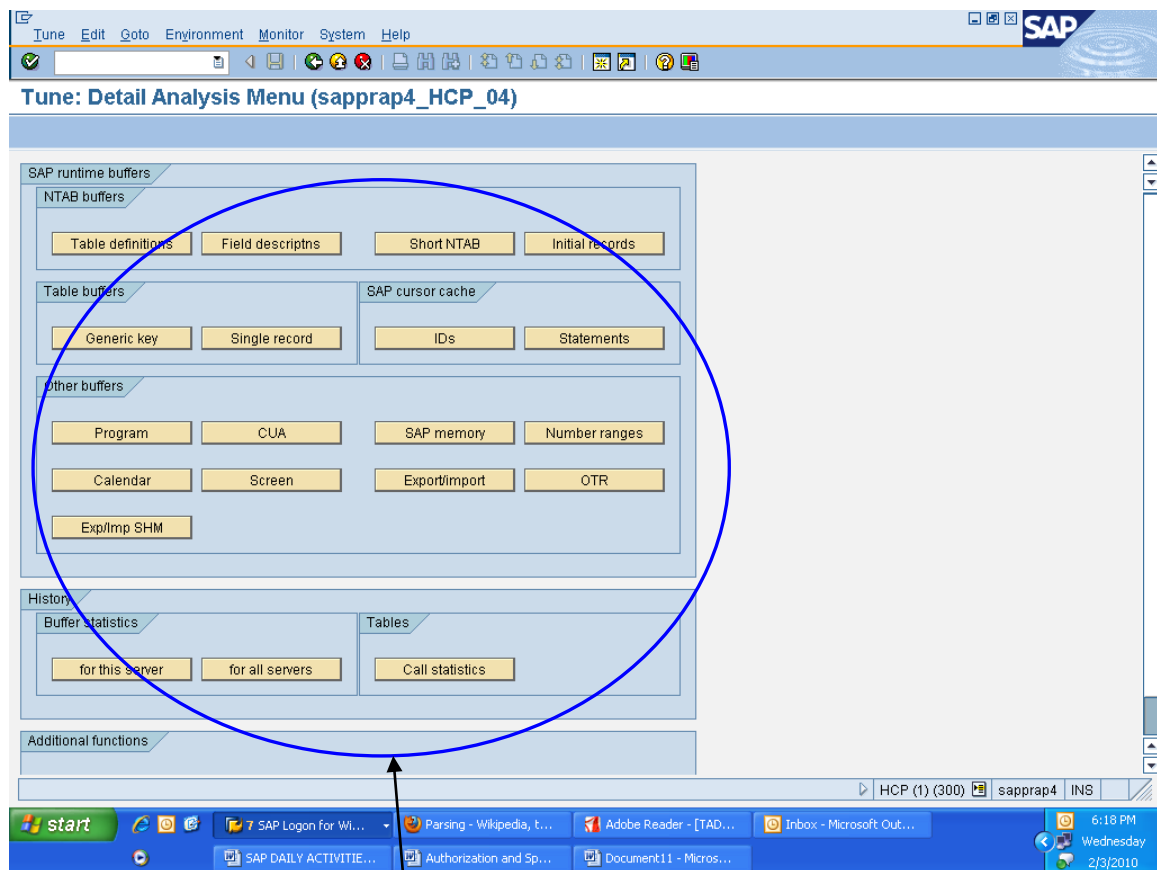
Tune Summary (sapprap4_HCP_04)

System: sapprap4_HCP_04 Tune summary
Date & time of snapshot: 03.02.2010 18:24:52 Startup: 29.12.2009 19:30:57

Buffer	Hitratio [%]	Allocated [kB]	Free space [kB]	Dir. size [%]	Free directory Entries	Swaps	Database accesses
Nametab (NTAB)							
Table definition	99.73	14,768	6,543	56.97	60,000	34,181	56.97
Field description	99.84	54,688	4,484	8.97	60,000	46,825	78.04
Short NTAB	99.96	4,875	1,749	58.30	15,000	9,784	65.23
Initial records	99.77	11,875	6,516	65.16	15,000	2,441	16.27
Program							
CUA	99.64	700,000	2,223	0.34	175,000	157,300	89.89
Screen	99.88	8,000	172	2.50	4,000	2,373	59.33
Calendar	99.88	39,063	4,143,306	1638.87	2,000	901	45.05
OTR	100.00	488	308	64.17	200	114	57.00
OTR	100.00	4,096	3,531	100.00	2,000	2,000	100.00
Tables							
Generic key	99.92	63,477	4,564	7.45	10,000	1,169	11.69
Single record	99.36	30,000	10,994	36.82	500	257	51.40
Export/import							
Exp./Imp. SHM	95.47	4,096	3,468	98.22	2,000	1,997	99.85
SAP memory							
	Current use [%]	Current use [kB]	Max. use [kB]	In memory [kB]	On disk [kB]	SAP cursor cache	Hitratio [%]
Roll area	8.42	22,068	50,424	131,072	131,072	IDs	97.71
Paging area	2.37	41,708	531,744	131,072	1,628,928	Statements	90.00
Extended Memory	25.88	2,170,880	5,685,248	8,388,608			
Heap Memory		0	1,953,125				

Check here values

If you want know more detail in particular memory area, than click on particular buttons

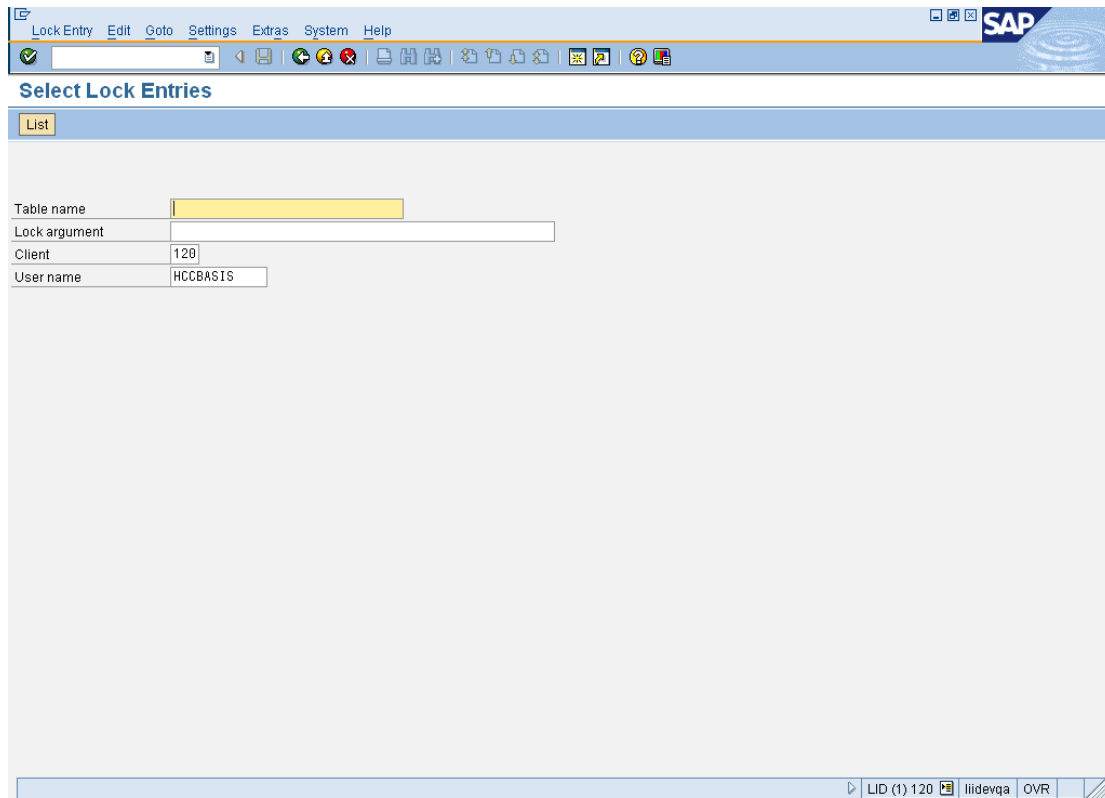


Click on particular button

K. Enqueue process sm12

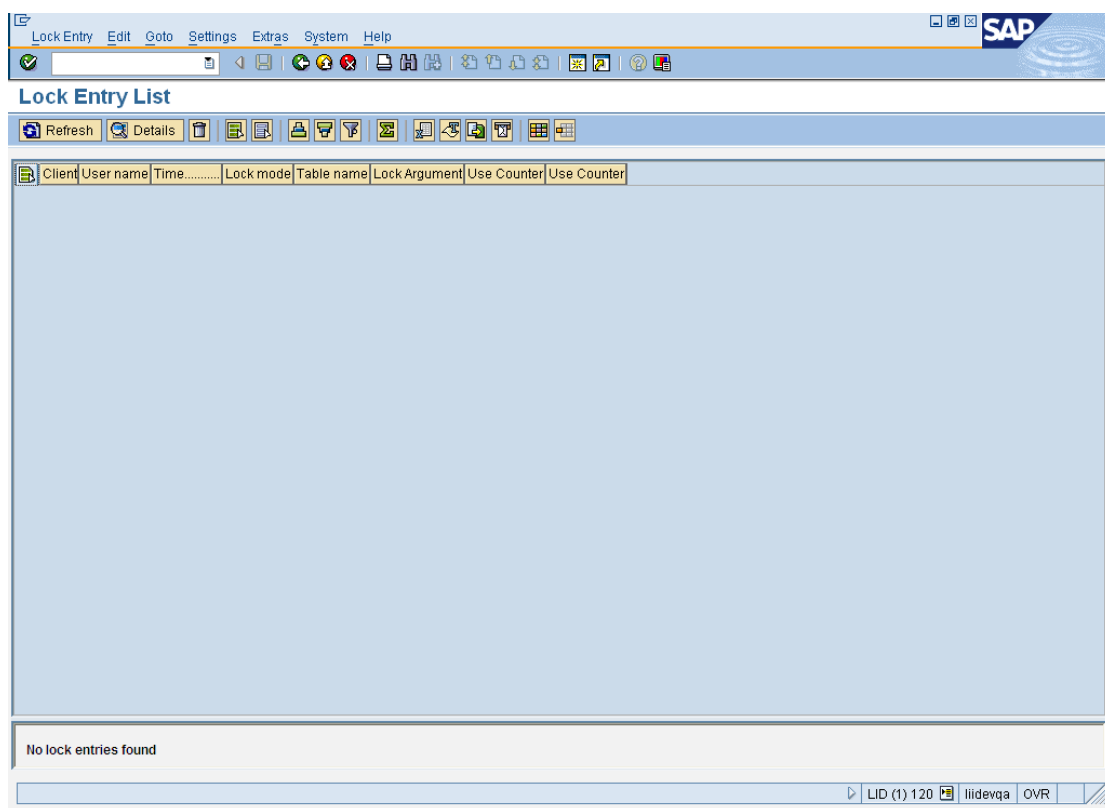
Enqueue work process administers a lock table in the shared memory area. The lock table contains the logical database locks for NetWeaver AS ABAP and is an important part of the SAP LUW concept. In NW AS, you may only have one lock table. You may therefore also only have one ABAP application server with enqueue work processes. Normally, a single enqueue work process is sufficient to perform the required tasks

Go to transaction sm12



The screenshot shows the SAP transaction SM12 'Select Lock Entries'. The interface includes a menu bar with 'Lock Entry', 'Edit', 'Goto', 'Settings', 'Extras', 'System', and 'Help'. Below the menu is a toolbar with various icons. The main area is titled 'Select Lock Entries' and contains a 'List' button. There are four input fields: 'Table name' (highlighted in yellow), 'Lock argument', 'Client' (with the value '120'), and 'User name' (with the value 'HCCBASIS'). The status bar at the bottom shows 'LID (1) 120', 'liidevqa', and 'OVR'.

CLICK ON LIST




You will get list of all lock tables
Details tables lock from which period
And locked by which user id


Stopping and starting sap system

L. Windows system

Shutting down SAP Instance in WINDOWS

1. Open remote desktop connection and Login at OS level with user <SID>adm (e.g dmdadm where dmd is the <SID> of DMS development system) .
2. Open SAP MMC on the desktop. Double click on SAP Management Console on the desktop.
3. All the SAP instances running on that particular host will be displayed in “**GREEN**” colour.
4. Right click on Instance name and select “stop” to stop the instance.
5. Keep refreshing the screen by clicking  button.
6. The “**GREEN**” colour will turn to “**GRAY**”.
7. If database also needs to be shutdown then open command prompt by typing “cmd” in start→Run
8. Type **shutdown immediate. Database is also shut down now.**
9. Type “exit” twice to come back to command prompt.

Starting Up the Sap Instance in WINDOWS

1. Log in with <SID>adm at OS level.
2. Open SAP MMC on the desktop. Double click on SAP Management Console on the desktop.
3. All the SAP instances which are not running on that particular host will be displayed in “GRAY” colour.
4. Right click on Instance name and select “start” to start the instance.
5. Keep refreshing the screen by clicking  button.
7. The “GRAY” colour will turn to “GREEN”.

Command to shutdown system and start system in windows

```
startsap name=<SID> nr=<SYSNUMBER> sapdiahost=<HOSTNAME>
```

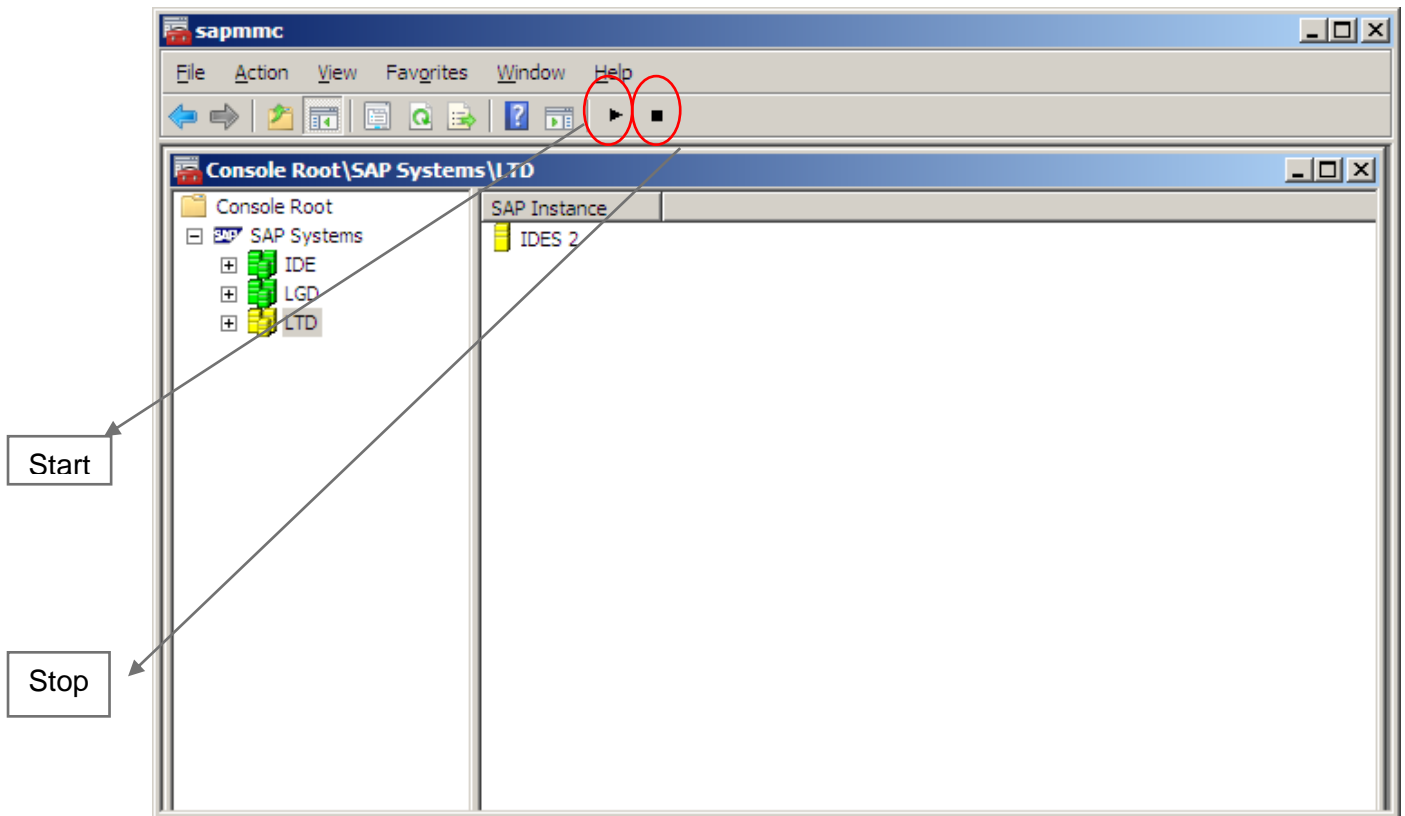
SID =system name

Nr = system number

Sapdiahost= server computer name

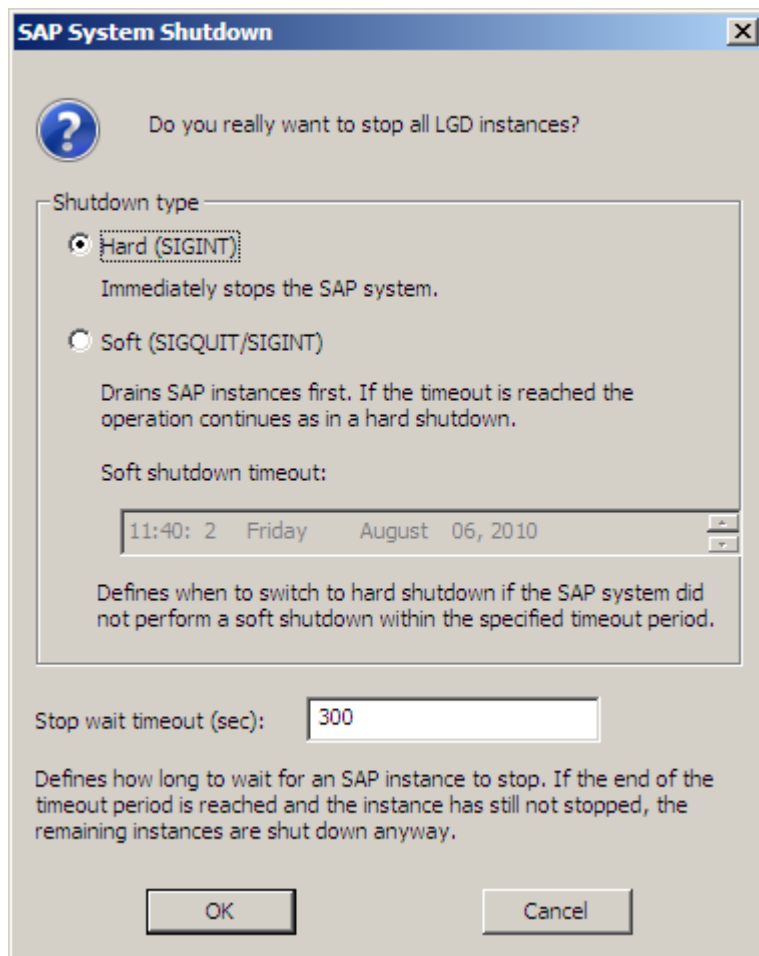
```
Stopsap name=<SID> nr=<SYSNUMBER> sapdiahost=<HOSTNAME>
```

Logon to windows system using <SID>ADM
Go to sap mmc

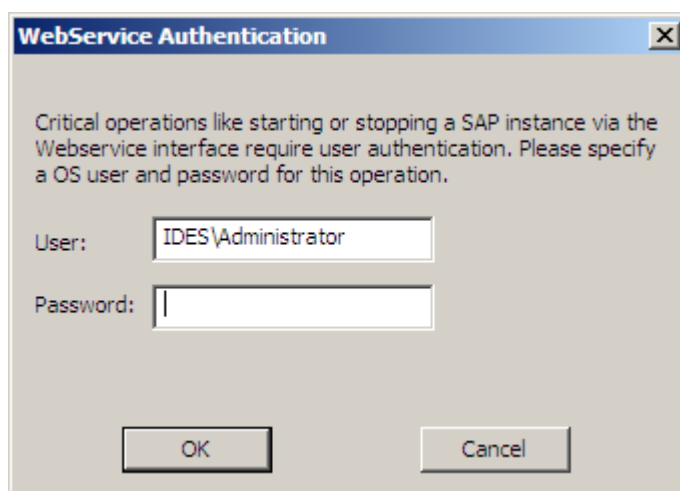


Select system you want to shut down or start

Click on start or stop button as shown in diagram



Select soft shutdown if its plan downtime
System will ask for user id and password



M.UNIX System

Shutting down SAP Instance in UNIX

1. Verify with Operations for final shutdown of the systems.
2. Check the Instances from transaction SM51.
3. Before shutting down the instance, verify that no users are logged in (transaction AL08), and no background jobs are active (transaction SM37). In case any background jobs are active then please inform user for cancellation of those jobs. Also check whether any backup is running (archive or online).
4. If there are application instances in the system, shutdown that instance before shutting down Central Instance .
5. Log into the server at Unix level from any system by using telnet 192.168.14.96. Login with USER : **root** and PWD : **root** and then go to <SID>adm (e.g devadm) by entering the following command :

```
#su - lidadm
```

Enter the following command for stopping the SAP Instance

```
>stopsap r3
```

6. Check at UNIX prompt, using the command *ps -eaf | pg*, if any other processes like backup, sapdba etc are running.
7. Enter the following command for stopping the SAP Instance

If only SAP system needs to be shut down then give command
>stopsap r3 (This will not shutdown the database instance)

If SAP system including database needs to be shut down then give command
>stopsap (This will shutdown both sap instance and the database instance)

9. Stop the SAP OS Collector by issuing the command *saposcol -k*. This has to be done only once even though two instances might exist.
10. Verify at UNIX prompt if all the sap processes are down. (*ps -eaf | grep sap*).

Starting Up the Sap Instance

The startup of the SAP system is done by first starting the Oracle database then the CI and finally the application instances. Refer the previous section for starting the oracle database.

Log into the server at the Unix level (telnet 192.168.14.96) using user id :root and password :root and then go to ora<SID> (e.g oradev in our case) by entering the following command:

```
su – db2lid
```

```
excute db2start
```

3. Open another telnet session as mentioned above an login with <SID>adm (e.g devadm) Enter the following command with user <SID>adm for starting the SAP Instance:

```
>startsap      R3
```

4. Check that the instance processes start properly. Verify it as follows: for the CI try to log into SAP and for the application instances check through SM51. If the instance does not start then check the dispatcher and work process log files dev_disp and dev_w0 respectively. These reside in the directory /usr/sap/LID/.

SAP System Profile parameter

N. What is sap profile?

SAP profiles are operating system files that contain instance configuration information. SAP systems can consist of one or more instances. Individual configuration parameters can be customized to the requirements of each instance. You can use these parameters to configure the following:

1. The runtime environment of the instance (resources such as main memory size, shared memory, roll size)
2. Which services the instance itself provides (work processes)
3. Where other services can be found (database host)

O. Type of profile

Each SAP instance , whether it is application instance or a dialog instance , has three profiles

The three profiles and the sequence in which they are read :

START PROFILE

DEFAULT PROFILE

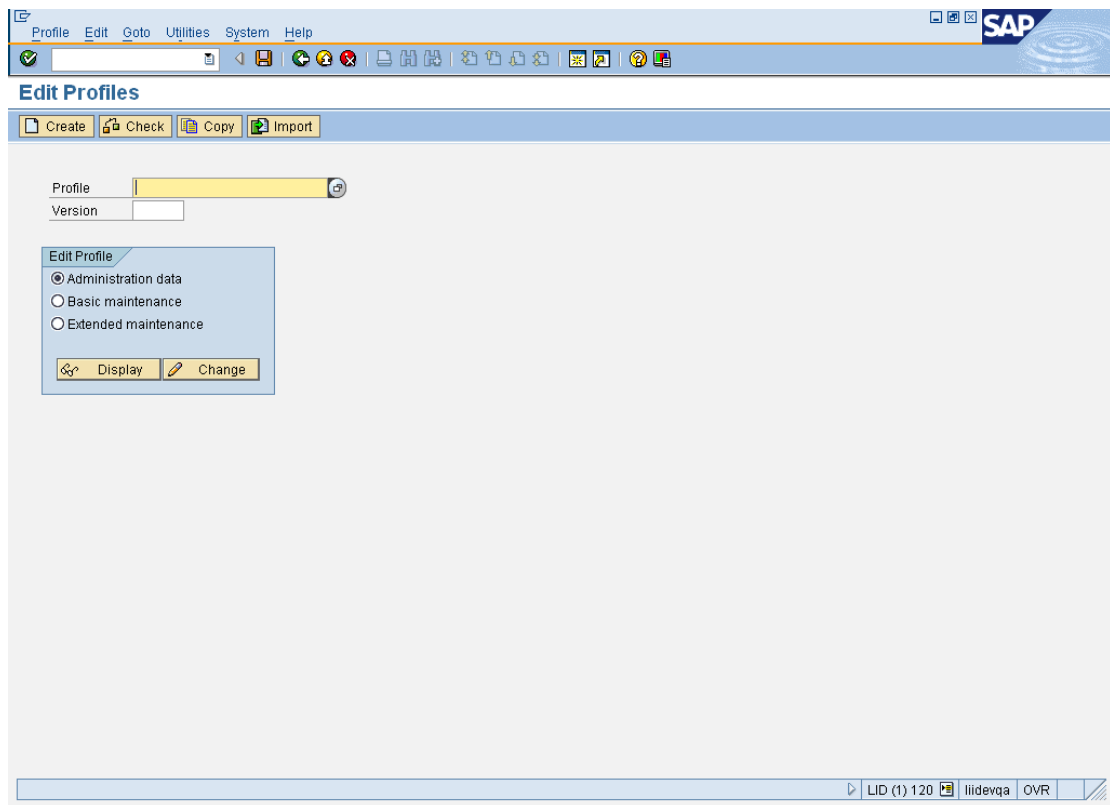
INSTANCE PROFILE

The start profile is read by the sapstartsrv process and inputs are provided on the SAP system ID and number , as well the physical file paths of the sap executables for starting message service and enqueue service

Once the dispatcher work process is started, the Default Profile file is read. This file provides the necessary information to the dispatcher on the memory and sap application performance settings required to run the instance

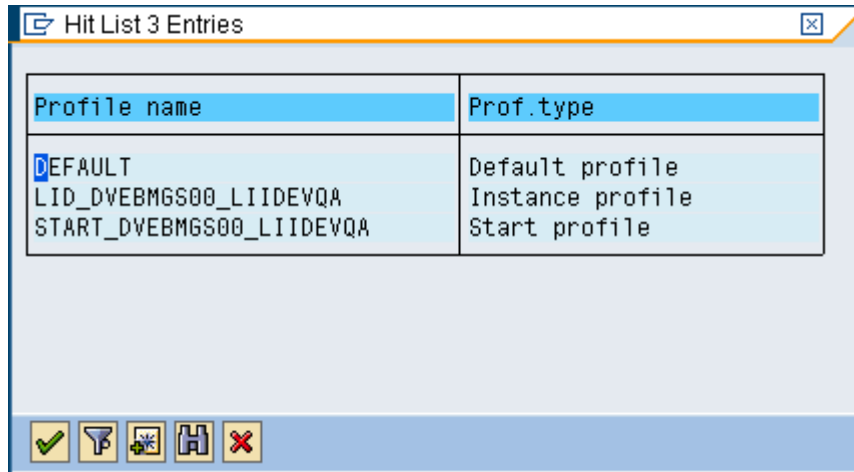
The instance profile is the last file to be read. Any settings in the **instance profile file will override the settings in the default profile file**

Go to transaction rz10



Select extended maintainance

And select profile



The screenshot shows a dialog box titled "Hit List 3 Entries" with a close button in the top right corner. It contains a table with two columns: "Profile name" and "Prof.type". The table lists three entries: "DEFAULT", "LID_DVEBMGS00_LIIDEVQA", and "START_DVEBMGS00_LIIDEVQA". The "Prof.type" column lists "Default profile", "Instance profile", and "Start profile" respectively. At the bottom of the dialog, there is a toolbar with icons for a checkmark, a filter, a refresh, a home button, and a close button.

Profile name	Prof.type
DEFAULT	Default profile
LID_DVEBMGS00_LIIDEVQA	Instance profile
START_DVEBMGS00_LIIDEVQA	Start profile

Click on change

The screenshot shows the 'Maintain Profile' window for profile 'DEFAULT' Version '000003'. The window title is 'Maintain Profile 'DEFAULT' Version '000003''. The menu bar includes 'Profile', 'Parameter', 'Goto', 'System', and 'Help'. The toolbar contains various icons for navigation and editing. Below the toolbar, the window shows the date '06.08.2010', the text 'Active parameters', and the time '11:41:08'. A table lists the active parameters:

Parameter Name	Parameter value
icm/host_name_full	111devqa.11loydinsulation.com
SAPDBHOST	111devqa
j2ee/dbtype	db6
j2ee/dbname	LID
j2ee/dbhost	111devqa
SAPSYSTEMNAME	LID
SAPGLOBALHOST	111devqa
rdisp/bufrefmode	sendoff_exeauto
DIR_PUT	/usr/sap/\$ (SAPSYSTEMNAME) /put
rdisp/mshost	111devqa
rdisp/mserv	sapmsLID
rdisp/mserv_internal	3900
j2ee/scs/host	111devqa
j2ee/scs/system	01
j2ee/ms/port	3901
login/no_automatic_user_sapstar	0
login/system_client	120

The status bar at the bottom right shows 'LID (1) 120', '111devqa', and 'OVR'.

Click on parameters

The screenshot shows the 'Maintain Profile' window for profile 'DEFAULT' Version '000003' with a parameter selected. The menu bar includes 'Parameter', 'Edit', 'Goto', 'System', and 'Help'. The toolbar contains various icons for navigation and editing. Below the toolbar, the window shows the date '06.08.2010', the text 'Active parameters', and the time '11:41:08'. The selected parameter details are shown below:

Parameter name: Status: Seq. no.:

Parameter val.:

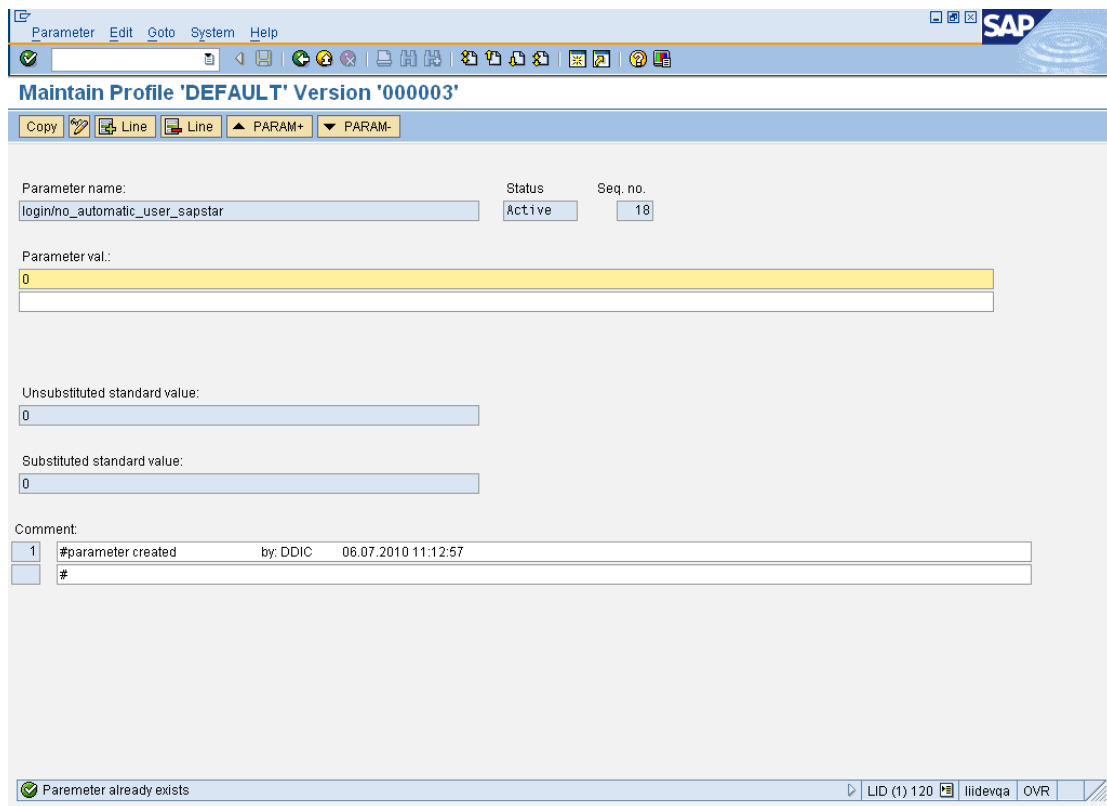
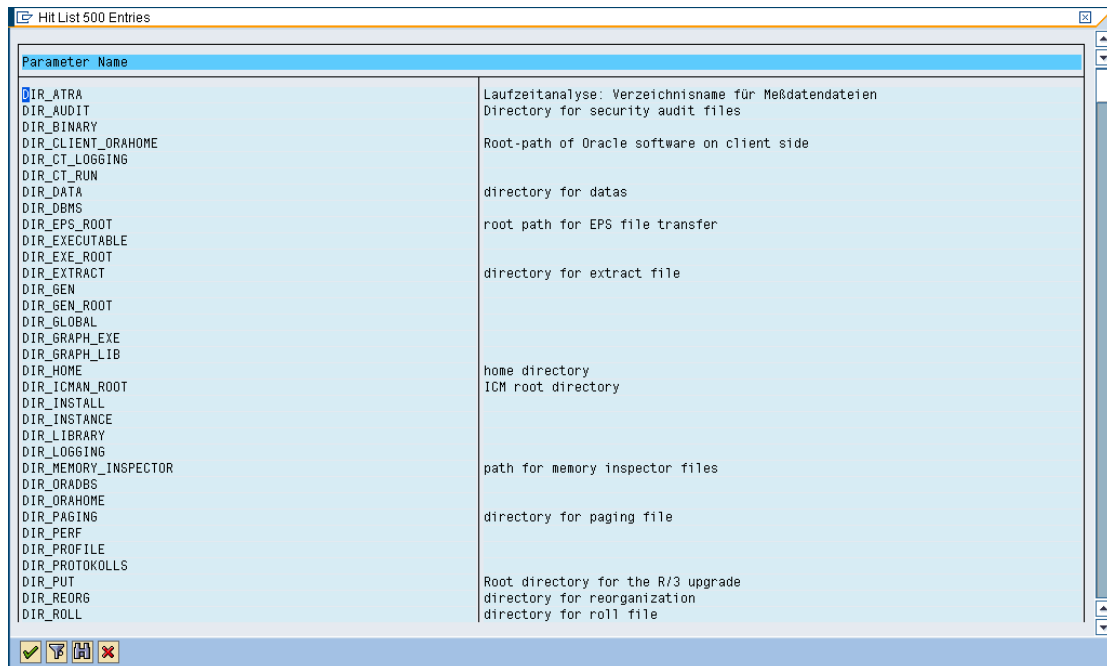
Unsubstituted standard value:

Substituted standard value:

Comment:

The status bar at the bottom right shows 'LID (1) 120', '111devqa', and 'OVR'.

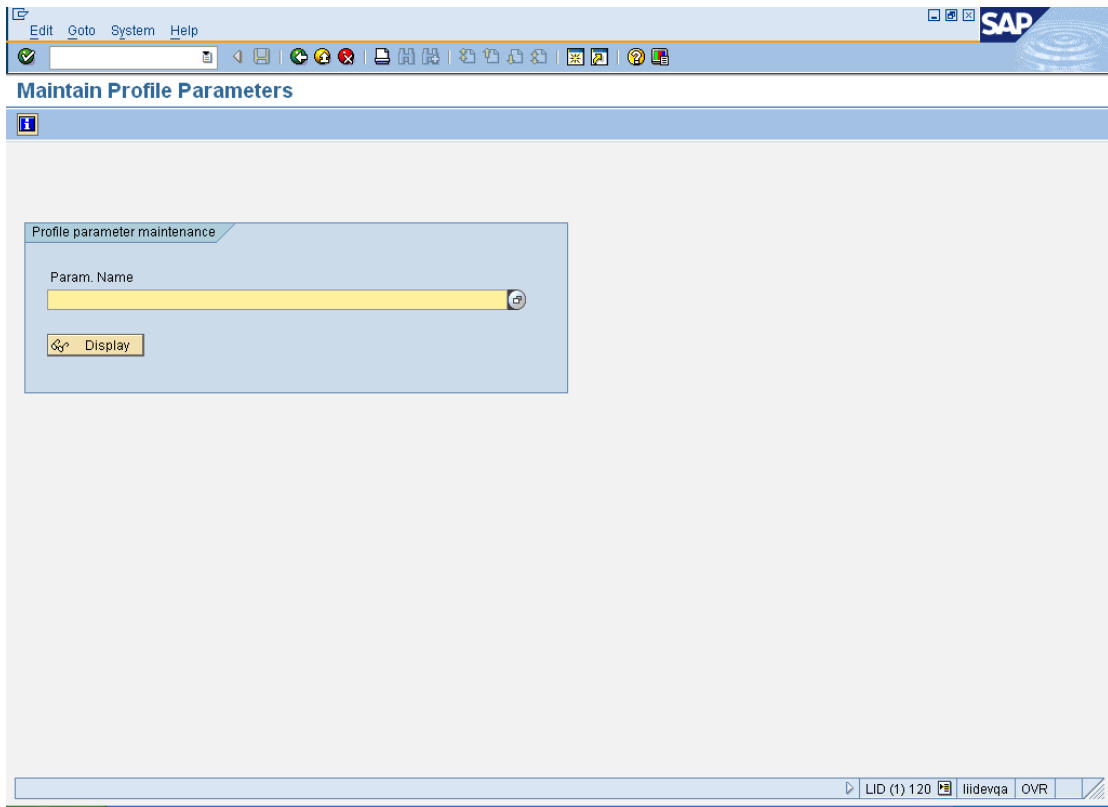
Select parameter from list and enter parameter value



Copy parameter instance will generate new version of profile

Save the parameter and restart the sap system

You can view all parameters and their default value in transaction RZ11





SAP SYSTEM BACKUP

P. For taking offline backup of db2 system

Login to <sid>adm
Run command
stop sap r3

login to DB<sid>

Run command

db2 backup database <sid> to /dev/rmnt/0mn

Q. For taking online backup

Insert tape in tape drive

Execute db13 transaction

The screenshot displays the SAP-ADMIN interface for the 'Jobs: DBA Planning Calendar'. The main window shows a calendar for September 2009, specifically 'Calendar Week 36'. The calendar grid has columns for Monday, 31; Tuesday, 1; Wednesday, 2; Thursday, 3; Friday, 4; Saturday, 5; and Sunday, 6. The rows represent time slots from 11:00 to 23:00. A job titled 'Backup_Dev...' is scheduled for Saturday, September 5th, at 17:00. The action pad on the right lists various database maintenance tasks, including 'Archive Logfiles to Tape', 'Automatic REORG', 'CLP Script', 'Database Backup into TSM', 'Database Backup to Device', 'Database Backup with Vendor Library', 'Nickname Statistics', and 'REORG and RUNSTATS for Set of Tables'. The interface also includes a navigation pane on the left with categories like 'Performance', 'Space', 'Backup and Recovery', 'Configuration', 'Jobs', 'Alerts', 'Diagnostics', and 'Wizards'. The status bar at the bottom shows 'MIP (1) 300', 'MANPROD', and 'INS'.

Action pad: Database backup to device

The screenshot displays the SAP-ADMIN interface for the 'Jobs: DBA Planning Calendar'. The main window shows a calendar for September 2009, specifically week 36. The calendar grid has columns for days of the week and rows for time slots from 11:00 to 23:00. A job titled 'Backup_Dev...' is scheduled for Saturday, September 5th at 17:00. The interface also includes a left-hand navigation tree, a top menu bar, and an 'Action Pad' on the right with various database management tasks.

Type device name

Select include log
Select backup type:

Schedule a New Action ✖

Action Description

Action: **Database Backup to Device** 1 / 0

Planned Start:

Status:

Action Parameters **Recurrence**

Backup Mode: Online
 Include Logs
 Offline

Backup Type: Full
 Incremental
 Incremental Delta

Compress

Number of Buffers:

Buffer Size: Pages

Parallelism:

Priority:

Device/Directory:

Schedule a New Action

Action Description

Action: Database Backup to Device

Planned Start: 05.09.2009 17:28:48

Status:

Action Parameters | **Recurrence**

Backup Mode: Online
 Include Logs
 Offline

Backup Type: Full
 Incremental
 Incremental Delta

Compress

Number of Buffers:

Buffer Size: Pages

Parallelism:

Priority:

Device/Directory: /dev/rmt0mn

Execute immediately or for schedule add

Double click on backup and check logs

ALL LOGS WILL NEED TO BE COPIED MANUALLY FROM LOG_ARCHIVE FOLDER TO TAPE OR OTHER SYSTEMS DISK

/db2/lid /log_dir is online log directory of db2

Now we have archived logs from db2 log_dir to log_archive
of logs in log_acrgive =/db2/ILID/log_archive/db2lid/LIP/NODE0000/C0000000
move inside logs to tape or disk

Database monitoring

Use table space

Growth rate to predict future space

Requirement so that adequate storage is prepared and ready when it is needed

The screenshot displays the SAP-ADMIN interface for monitoring database spaces. The main window is titled "Space: History - Database and Tablespaces". It shows the following details:

- Database and Tablespaces:** DB Name: LXE, DB Server: linz, Started: 23.06.2007 20:40:19, DB Release: 09.01.0002.
- History:** From: 10.06.2007, To: 08.07.2007, Statistics: Week, Object Selection: Tablespace.
- Tablespaces Table:**

Tablespace Name	Partiti...	KB Total	Changes (KB To)	KB Used	Changes (KB Used)	% Used	KB Free	Containers
LXE#FACTI	1	376.448	49.152	343.840	45.352	91,35	32.576	1
LXE#FACTI	0	343.680	40.960	341.120	44.544	99,26	2.528	1
LXE#EL700D	0	299.008	8.192	267.904	568	89,61	31.072	1
LXE#BTABD	0	1.247.232	0	1.049.056	3.136	84,11	198.144	1
LXE#BTABI	0	1.168.384	0	524.512	960	44,89	643.840	1
LXE#CLUD	0	102.400	0	10.720	0	10,47	91.648	1
LXE#CLUI	0	102.400	0	11.168	0	10,91	91.200	1
LXE#DBD	0	1.687.552	0	1.506.336	0	89,26	181.184	1

Check “Percentage Free” and “KB Free” of file systems that contains table space containers or database storage path

The screenshot shows the SAP-ADMIN interface for configuring file systems. The main window is titled "Configuration: File Systems". On the left, there is a navigation tree with "File Systems" selected. The main area displays a table of file systems with columns for Partition, File System Name, KB Total, KB Used, Percentage Used, KB Free, and Percentage Free. The table data is as follows:

Partition	File System Name	KB Total	KB Used	Percentage Used	KB Free	Percentage Free
0	/	34.977.412	25.354.588	72,49	9.622.824	27,51
0	/db2/LXC	61.927.420	61.028.000	98,55	899.420	1,45
0	/db2/LXC/db2move	51.606.140	48.294.252	93,58	3.311.888	6,42
0	/db2/LXE	116.531.620	41.576.196	35,68	74.955.424	64,32
0	/dev	3.960.732	126.180	3,19	3.834.552	96,81
0	/dev/pts	0	0	100,00	0	100,00
0	/LRPbackup	206.424.760	9.714.628	4,71	196.710.132	95,29
0	/proc	0	0	100,00	0	100,00
0	/proc/fs/infod	0	0	100,00	0	100,00
0	/sys	0	0	100,00	0	100,00
0	/sys/kernel/debug	0	0	100,00	0	100,00

Check Log File System “Available Space”, “Used Space” and “Filling” percentage

The screenshot displays the SAP-ADMIN interface for configuring logging parameters. The left sidebar shows a tree view with 'Backup and Recovery' > 'Logging Parameters' selected. The main area is titled 'Backup and Recovery: Logging Parameters' and includes a 'Last Refresh' timestamp of 11.07.2007 16:40:08.

Logging Parameters

- DB Name: LXE
- DB Server: linz
- DB Release: 09.01.0002
- Started: 23.06.2007 20:40:19

Logging Configuration

- User Exit for Logging Status: YES

Log Directory

Directory		File System	
Name	/db2/LXE/log_dir/NODE0000/	Available Space	74.956.552 KB
Files Total	21	Used Space	41.575.068 KB
Directories Total	2	Filling	36 %

Log File Details:

- First Active Log File: S0000426.LOG
- Size of Log Files: 16.380 4 KB
- Number of Primary Log Files: 20
- Number of Secondary Log Files: 40

At the bottom, a status bar shows 'LXE (1) 001 linz OVR'.

- BP Hit Ratio
- Cache
- Performance
- I/O Performance
- Sort Performance
- Lock Wait/Deadlock
- Log Performance
- Expensive SQL Statements

The screenshot displays the SAP Performance: Database Snapshot tool. The interface includes a navigation pane on the left with categories like Performance, Space, Backup and Recovery, Configuration, Jobs, Alerts, Diagnostics, and Wizards. The main area shows a tree view for 'System LXE' and a detailed view for the 'Database'.

Database Information:

- DB Name: LXE
- DB Server: lnx
- DB Release: 09.01.0002
- Started: 23.06.2007 20:48:19
- Last Reset: [icon]
- Current Selection: Since DBH Start

Buffer Pools:

Number	1
Total Size	50.000 MB

Average Time:

Physical Reads	3.88 ms
Physical Writes	0.99 ms

Buffer Quality:

Overall Buffer Quality	99.55 %
Data Hit Ratio	99.44 %
Index Hit Ratio	99.89 %
No Victim Buffers	1.221.188

Data:

Logical Reads	166.819.578
Physical Reads	994.826
Physical Writes	227.213
Synchronous Reads	634.380
Synchronous Writes	1.538
Temporary Logical Reads	191.890
Temporary Physical Reads	0

Index:

Logical Reads	127.733.862
Physical Reads	466.316
Physical Writes	46.139
Synchronous Reads	293.928
Synchronous Writes	826
Temporary Logical Reads	0
Temporary Physical Reads	0

Make sure backup jobs are completed successfully Make sure all log files are archived successfully

The screenshot shows the SAP-ADMIN interface for 'Backup and Recovery: Overview'. The window title is 'Backup and Recovery: Overview' and it includes a 'Refresh' button. The left sidebar shows a tree view with 'Backup and Recovery' expanded to 'Backup Overview'. The main area has tabs for 'Database Backup' and 'Log Files'. A table displays backup job details:

Start Date	Start Time	Runtime	RC
18.05.2007	14:49:23	00:16:09	0
25.04.2007	12:43:34	00:16:55	0
24.04.2007	12:57:29	00:16:31	0

Below the table, a detailed view of the selected backup job is shown:

```

Backup Timestamp : 18.05.2007 14:49:23 (20)
End Timestamp   : 18.05.2007 15:05:32 (20)
Runtime         : 00:16:09
Partition       : 0
Backup Sequences : 1
Return Code     : 0
Status          : Active
Backup Type     : Offline
Backup Granularity : Database
Backup Device   : Disk
First Log File  : S0000013.LOG
Last Log File   : S0000013.LOG
Comments       : DB2 BACKUP AHA OFFLINE
No. Tablespaces : 34
Tablespaces (Seq.) : 'SYSCATSPACE' (1)
                   'SYSTOOLSPACE' (1)
                   'AHA#DBD' (1)
                   'AHA#DBI' (1)
                   'AHA#STABD' (1)
                   'AHA#STABI' (1)
                   'AHA#BTABD' (1)
                   'AHA#BTABI' (1)
                   'AHA#CLUD' (1)
                   'AHA#CLUI' (1)
                   'AHA#POOLD' (1)
    
```

The status bar at the bottom indicates 'Li 1, Co 1' and 'Ln 1 - Ln 25 of 49 lines'. The bottom right corner shows 'AHA (1) 001 altena OVR'.

SAP BASIS Common Transaction

SCCL Local Client Copy
SCU0 Customizing Cross-System Viewer
SICK Installation Check
SM01 Lock Transactions
SM02 System Messages
SM04 User Overview
SM12 Display and Delete Locks
SM13 Display Update Records
SM14 Update Program Administration
SM21 System Log
SM35 Batch Input Monitoring
SM50 Work Process Overview
SM51 List of SAP Servers
SM56 Number Range Buffer
SM58 Asynchronous RFC Error Log
SM59 RFC Destinations (Display/Maintain)
SM66 System Wide Work Process Overview
SAINT SAP Add-on Installation Tool
SPAM SAP Patch Manager (SPAM)
SPAU Display modified DE objects
SPDD Display modified DDIC objects
ST11 Display Developer Traces
ST22 ABAP/4 Runtime Error Analysis
SU56 Analyze User Buffer
AL01 SAP Alert Monitor
AL02 Database alert monitor
AL04 Monitor call distribution
AL05 Monitor current workload
AL16 Local Alert Monitor for Operat.Syst.
AL18 Local File System Monitor
RZ20 CCMS Monitoring
FILE Cross-Client File Names/Paths
RZ04 Maintain Operation Modes and Instances
RZ10 Maintenance of Profile Parameters
RZ11 Profile parameter maintenance
SE93 Maintain Transaction Codes
SM63 Display/Maintain Operating Mode Sets

SPRO Customizing: Initial Screen
SWU3 Consistency check: Customizing
DB01 Analyze exclusive lockwaits
DB02 Analyze tables and indexes
DB12 DB Backup Monitor
DB13 DBA Planning Calendar

DB15 Data Archiving: Database Tables
SM36 Define Background Job
SM37 Background Job Overview
SM39 Job Analysis
SM49 Execute External OS commands
SM62 Maintain Events
SM64 Release of an Event
SM65 Background Processing Analysis Tool
SM69 Maintain External OS Commands
AL08 Current Active Users
OS01 LAN check with ping
RZ01 Job Scheduling Monitor
RZ03 Presentation, Control SAP Instances
ST01 System Trace
ST02 Setups/Tune Buffers
ST04 Select DB activities
ST05 Performance trace
ST06 Operating System Monitor
ST10 Table call statistics
ST03 Performance, SAP Statistics, Workload
ST07 Application monitor
STAT Local transaction statistics
SP01 Output Controller
SP11 TemSe directory
SP12 TemSe Administration
SPAD Spool Administration
SCC1 Client Copy - Special Selections
SE01 Transport Organizer
SE06 Set Up Workbench Organizer
SE07 CTS Status Display
SE09 Workbench Organizer
SE10 Customizing Organizer
SE11 ABAP/4 Dictionary Maintenance
SE16 Data Browser
SE80 Repository Browser
SM30 Call View Maintenance
SM31 Table Maintenance
STMS Transport Management System

PFCG Profile Generator (Activity Group Maintenance)
PFUD User Master Data Reconciliation
SU01 User Maintenance
SU01D User Display
SU02 Maintain Authorization Profiles
SU03 Maintain Authorizations
SU05 Maintain Internet users
SU10 User Mass Maintenance

SMLG Maintain Logon Group
SUPC Profiles for activity groups
SUIM Infosystem Authorizations
AL22 Dependent objects display
BAOV Add-On Version Information
SA38 ABAP reporting
SE38 ABAP Editor

SUGGESTED PROCEDURE

R. Transport procedure

Procedure for Movement of Transport Requests from Development to Production Systems.

Creation of Request.

For any customizing work done, the respective transport request will be created only on approval from the respective core team member. The new request once released from the development system automatically gets imported in the quality system every half an hour. No requests will be imported manually.

Approval for Transport.

A Support Ticket has to be raised in the solution manager by core team member once the successful testing in the Quality systems is done. Once the testing is done in the quality system, the Transport Request form along with the respective technical specifications needs to be attached in solution manager with raised ticket.

*Note: Ticket raised by the consultants should be approved by the respective core team member.

Transportation of Requests.

Once the basis team receives the ticket and tech. specifications, the request will be imported in the production system as per the time frame. The set process of transport request to production environment is as under:
VIL Management System

The Transport Request priority status will be designated as Normal or Critical.

*Critical production transport requests are processed any day of the week. A critical priority status means that one of three circumstances exists in the production environment: a business process has halted, a calculation or formula is incorrect, or a system repair is needed or rollout.

In such cases of emergency please raise a ticket in solution manager following an email to the BASIS Support Team.

(Note: Approval from the UTHAN Project Manager/ Deputy Project manager is mandatory in case of emergency transports.)

Time for transport

Normal transport requests will be processed at fixed time interval at 8 AM, 11 A.M, 2 PM, 5 PM, 8 PM from Monday to Saturday. The transport request must be in Solution manager by this time. Normal transport request will not be done during month end processing.

Transport Request Form			
Requested by		Date	
Source System	Development	Target System(s)	
Source Client		Target Client(s)	
Transport Request # <input type="checkbox"/> Customizing <input type="checkbox"/> Workbench	Workbench Request:	Type of Change <input type="checkbox"/> Client-dependent <input type="checkbox"/> Client-independent	
Description of contents			
Transport <input type="checkbox"/> Yes <input type="checkbox"/> No	Functional / Technical Team Name		
Special Requirements			
Request Status			
Tasks/Request	<input type="checkbox"/> Change request released <input type="checkbox"/> All tasks released <input type="checkbox"/> To be released		
Approved by (please sign)	Consultant:	Approved by:	
BASIS Team USE ONLY			
Imported by		Date	
Transport Log Return Codes	<input type="checkbox"/> 0 Transport was successful <input type="checkbox"/> 4 Warning messages were generated <input type="checkbox"/> 8 Error messages were generated <input type="checkbox"/> 12 Fatal error has occurred.		
Comments			
Exception handling: Corrected transport request #		Date	Reason
Project Management Approval		Date	

S. OSS Notes AND Support Pack

The functional consultant should submit a duly filled OSS_Template form with necessary supporting/backup documents for the note to the ABAP team. SAP or Core team should authenticate these supporting documents.

1. ABAP team will analyze the requirement and BASIS TEAM will apply the note on development system.
2. The requests generated while note implementation should have following naming convention OSS<note number><version><Support package level> - Note description.
3. The Change request management processes should be followed for transporting the requests to the systems.

Support pack

4. Frequency : Every Quarterly after Go Live and once the system is stabilized,
5. Patch level : the patch level should be n-2 where n is the latest patch at market place.
6. Basis team should inform the concerned functional team about the patches that can be applied. Basis team should inform all the functional consultants about the enhancements or impact of the support packages which can be applied. Basis team will provide the list of corrections/notes incorporated in the patches and also look for the CRTs (Conflict Resolution Transports) associated with these packages.
7. After the approval from consultants , the Project Manager will provide the approval for applying the patched in Development system.
8. Basis team should apply the patches on Development System first. The Functional team should test the corresponding transactions based on the SAP notes in each patch. The testing activity should be completed within 5-7 days.
9. Once the functional team certifies the changes, the project manager should give the approval for applying the patches in Quality system. After the approval from Project Manager, the same patches should be applied on Quality System (taking into account conditions stated above in point 5) and the functional team should do a rigorous testing

of all transactions involved and confirm that all the transactions are working.

10. Only after this confirmation from functional team and approval from Project manager, the patches should be applied in the Production system.

Whenever applying patches on any system, basis team must take care of the following points:

- Must read all related notes carefully and check the dependencies on patches. Patch queue should be formed as per OSS Notes.
- Full Offline backup of the system should be taken before applying the patches.
- Generation of program (Transaction “SGEN”) should be run after any support patch is applied.
- For Production server, some downtime should be planned for applying the patches otherwise users will be affected due to program changes.
- Maintain the Support_Package_Template.doc for future reference.

Kernel Patches:

1. Similar to Support patches, the Basis team will be updating the R/3 system with latest Kernel patch available on SAP Site.
2. As against to support patches, the basis team will be updating the Kernel patch as and when it is available on SAP. Procedure for testing Kernel patches will be same. The Basis team will be applying the Kernel patch on Development, then on Quality and then on Production servers.

Whenever applying Kernel patches on any system, basis team must take care of the following points:

- Take a backup of existing kernel before changing the Kernel so that in case of any problem, we can restore the old kernel.
- For production server, downtime should be planned; as for this activity system will not be available to any user.

The Basis team should monitor the SAP Site <http://service.sap.com> for new Support and Kernel patches in every six months .

Whenever any new patch (Support or Kernel) is available, the same should be applied using the procedure mentioned above.

Project - UTTHAN			
OSS note application form			
Requestor		Date	
OSS note #		Note version	
Why should this note be imported?			
Special Requirements <i>(attach extra paper for more info)</i>			
Signed by TL			
Release & Transport			
Systems to Be Imported	<input type="checkbox"/> HCQ <input type="checkbox"/> HCP		
Tested in Development	<input type="checkbox"/> HCD120	Signed by TL	Date
Basis Team USE ONLY			
Created Change Request #		Created By	
Imported / applied by		Release Date	
Transport Log Return Codes	<input type="checkbox"/> 0 Transport (export and import test) was successful <input type="checkbox"/> 4 Warning messages were generated <input type="checkbox"/> 8 Error messages were generated <input type="checkbox"/> 12 Fatal error has occurred		
Comments			
Reason			

T. Backup strategy

Windows Server Windows Server

- a) R3 Production Server
- b) R3 Quality Server
- c) R3 Development Server
- d) DMS Development Server
- e) DMS Development Server
- f) Solution Manager

Content Server Content Server

- a) Content Server on DMS Development Server
 - b) Content Server on DMS Production Server
- BO Server
- a) BO development server
 - b) BO production server

BACKUP

The following procedure is followed for Server's Backup

WINDOWS SERVER.

- Data is backed up from Monday to Saturday.
- Monday to Friday tapes are recycled in the next week overwriting previous data.
- Saturday tape is retained for one month.
- One monthly tape for each server is retained for year.
- One yearly tape retained for lifetime.
 - Data is backed up from Monday to Saturday. On same server hard disk which is backed up by infrastructure team every night.
- Monthly backup taken on disk and tape is retained for a year.
- Yearly back up taken on tape and tape is retained for 2 years.

CONTET SERVER.

- Content server backed up is taken every Wednesday and at month end on tape.
- Every week end infrastructure team take backup of hard disk backup
- Monthly backup taken on tape and retained at HO for year
- Yearly back taken on tape and retained for 2 years.

STORAGE OF BACK TAPE

- Daily and monthly backup tape will be store at fireproof safe at Different Location
- Month end backup tape will be send to Different Location in every month.
- Year end backup tape will be send to Different Location

U. Authorization procedure and flow chart

NAMING CONVENTION FOR ROLE

Nomenclature for roles ---

1) Role created for HO will start with VILMR and code will be 000

Example (VILMR_000_)

2) Roles created for site will start with VARAHA and site go live no With

Plants last three digits

Example (VIL02_326_)

Remaining part will be description of role.

Example (site _engineer _role)

APPROVAL FOR ADDITION AND DELETION OF ROLE

1) Creation of new role will be done only after approval from project Manager or deputy project manager.

2) Deletion of role will be done only after approval from core team Members of SAP team.

ADDITION AND DELETION OF TRANSACTION IN ROLE.

1) Addition or deletion of transaction will be done only after approval From core team member Core team member must suggest proper role for addition of Transaction. Addition or deletion of transaction done in standard role will be Applicable to all standard sites.

ASSIGNING OR REMOVING ROLE FROM USERS.

1) Role will be assigned to user after solution manager ticket from Core team member

MISSING AUTHORIZATION

1) For any missing authorization spool request is mandatory.

2) Core team member must suggest in which role we should add

3) Missing object and value to be put in object.

TESTING OF AUTHORIZATION

1) No transaction will be added or removed from live Roles for testing Purpose.

2) It is mandatory to create test role for testing purpose.

3) Test role will be deleted from system after three days of creation.

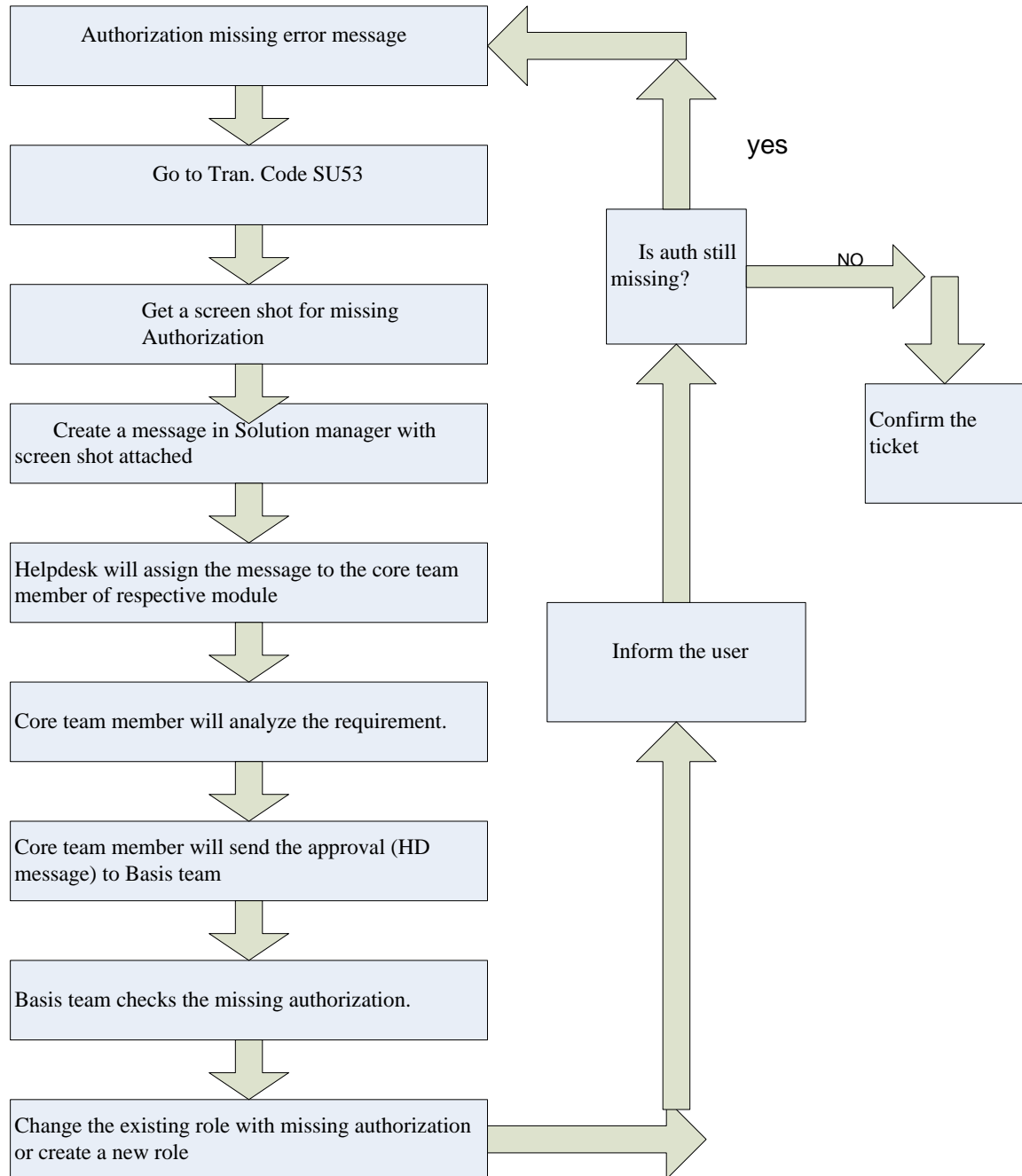
4) Basis –team must receive detailed mail for creation of test role

5) Test role will be available only in quality and development system.

ISSUE RESOLUTION IN SOLUTION MANAGER

1) It is mandatory to create solution manager ticket for any Authorization related issues.

Authorization for flow chart



BASIS CHECK LIST.

Activity	T code	Frequency
User id creation	Su01	As and when require
Authorization	PFCG	As and when require
Transport	STMS	As and when require
Monitoring of System	T code given in procedure	Twice in a Day
Support pack	SPAM	As and when require
Sap notes	SNOTE	As and when require
BACKUP	DB13	Everyday