



SAP

GRC

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About the Tutorial

SAP GRC (Governance, Risk and Compliance) solution enables organizations to manage regulations and compliance and remove any risk in managing organizations' key operations. As per changing market situation, organizations are growing and rapidly changing, and inappropriate documents are not acceptable for external auditors and regulators. SAP GRC helps organization to manage their regulations and compliance.

This tutorial will walk you through the different features of SAP GRC.

Audience

This tutorial is designed for all those readers who are willing to learn the basics of SAP GRC. This is also useful for those readers who wish to refresh their knowledge of GRC. SAP Security Consultants and SAP Auditors at all levels can also draw benefits from this tutorial.

Prerequisites

The course is designed for beginners with little or no knowledge of SAP GRC. But you need to have a basic understanding of SAP Basics to make the most of this tutorial.

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Table of Contents

About the Tutorial	i
Audience	i
Prerequisites	i
Disclaimer & Copyright	i
Table of Contents	ii
1. SAP GRC — OVERVIEW	1
Modules in SAP GRC	1
2. SAP GRC — NAVIGATION.....	5
SAP GRC Work Centers	6
3. SAP GRC — ACCESS CONTROL	8
Key Features.....	8
How to Explore Access Control Set Up Work Center?	8
4. SAP GRC — ACCESS MANAGEMENT WORK CENTER	12
5. SAP GRC — ACCESS & AUTHORIZATION MANAGEMENT	15
Authorization in Portal Component and NWBC	15
6. SAP GRC — AUTHORIZATION.....	19
Authorization in UME	19
7. SAP GRC — ACCESS CONTROL LAUNCHPAD	21
Creating a New Launchpad in NWBC	22
8. SAP GRC — INTEGRATION WITH ACCESS CONTROL	26
9. SAP GRC — INTEGRATION WITH IAM	28

10. SAP GRC — AUDIT UNIVERSE	29
Create an Auditable Entity.....	29
SAP Process Control — Audit Risk Rating	30
Create an Audit Risk Rating	30
11. SAP GRC — PROCESS CONTROL WORK CENTERS.....	32
My Home.....	32
Master Data	33
Reports and Analytics	34
12. SAP GRC — SOD RISK MANAGEMENT	36
13. SAP GRC — RISK MANAGEMENT	38
Phases in Risk Management	38
Risk Classification	41
14. SAP GRC — RISK REMEDIATION.....	42
SAP GRC — Report Type	43
15. SAP GRC — MITIGATION CONTROLS	44
Mitigation Control Types	44
Setting up Migration Controls.....	45
16. SAP GRC — SUPERUSER PRIVILEGE	49
Standard Roles under Superuser Privilege Management	49
17. SAP GRC — IMPLEMENTING SUPERUSER.....	51
Superuser Log.....	53
18. SAP GRC — ENHANCED RISK ANALYSIS	55
Benefits of Using Organization Rules	56
19. SAP GRC — ASSIGNING MITIGATION CONTROLS.....	58

20. SAP GRC – WORKFLOW INTEGRATION	59
SAP GRC — Global Trade Services.....	60
Integration between SAP ERP and SAP Global Trade Services.....	61
21. SAP GRC — INSTALLATION AND CONFIGURATION	62
22. SAP GRC — DATA SOURCES AND BUSINESS RULES.....	69
23. SAP GRC — CREATING BUSINESS RULES	72

1. SAP GRC — Overview

SAP Governance, Risk and Compliance solution enables organizations to manage regulations and compliance and remove any risk in managing organizations' key operations. As per changing market situation, organizations are growing and rapidly changing and inappropriate documents, spreadsheets are not acceptable for external auditors and regulators.

SAP GRC helps organization to manage their regulations and compliance and perform the following activities:

- Easy integration of GRC activities into existing process and automating key GRC activities.
- Low complexity and managing risk efficiently.
- Improve risk management activities.
- Managing fraud in business processed and audit management effectively.
- Organizations perform better and companies can protect their values.
- SAP GRC solution consists of three main areas: Analyze, manage and monitor.

Modules in SAP GRC

Let us now understand the different modules in SAP GRC:

SAP GRC Access Control

To mitigate risk in an organization, it is required to perform risk control as part of compliance and regulation practice. Responsibilities should be clearly defined, managing role provisioning and managing access for super user is critical for managing risk in an organization.

SAP GRC Process Control and Fraud Management

SAP GRC Process Control software solution is used for managing compliance and policy management. The compliance management capabilities allow organizations to manage and monitor their internal control environments. Organizations can proactively fix any identified issues and certify and report on the overall state of the corresponding compliance activities.

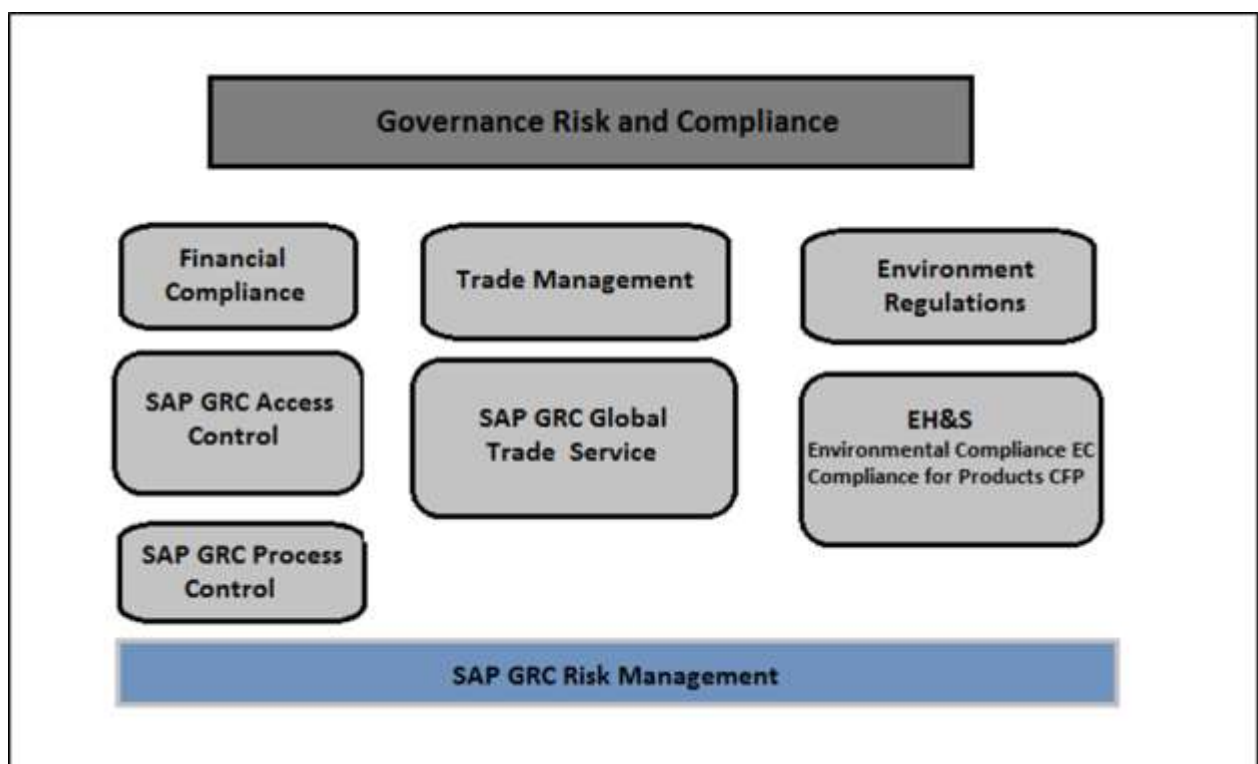
SAP Process control supports the complete life cycle of policy management, including the distribution and adherence of policies by target groups. These policies help organizations to reduce the cost of compliance and improve management transparency and enables organization to develop compliance management processes and policies in business environment.

SAP GRC Risk Management

SAP GRC Risk Management allows you to manage risk management activities. You can do advance planning to identify risk in business and implement measures to manage risk and allow you to make better decision that improves the performance of business.

Risks come in many forms:

- Operational Risk
- Strategic Risk
- Compliance Risk
- Financial Risk



SAP GRC Audit Management

This is used to improve the audit management process in an organization by documenting artifacts, organizing work papers, and creating audit reports. You can easily integrate with other governance, risk and compliance solution and enable organizations to align audit management policies with business goals.

SAP GRC audit management helps auditor in making things simple by providing the following capabilities:

- You can instantly capture the artifacts for audit management and other evidences using mobile capabilities drag-drop feature.

- You can easily create, track, and manage audit issues with global monitoring and follow up.
- You can perform search using search capabilities that allows to get more information from legacy and working papers.
- You can engage auditors with a user-friendly interface and collaboration tools.
- Easy integration of audit management with SAP Fraud Management, SAP Risk Management, and SAP Process Control to align audit process with business goals.
- Quick resolution of issues using automated tracking tool.
- Enhance the staff utilization, and less travel costs resulted from internal audit planning, resource management, and scheduling.
- Easy integration with SAP Business Objects reporting and data visualization tool to visualize audit reports using Lumira and other BI reporting.
- Use of pre-established templates to standardize audit artifacts and reporting process.

SAP GRC Fraud Management

SAP GRC fraud management tool helps organizations to detect and prevent frauds at early stage and hence reducing minimizing the business loss. Scans can be performed on huge amount of data in real time with more accuracy and fraudulent activities can be easily identified.

SAP fraud management software can help organizations with following capabilities:

- Easy investigation and documentation of fraud cases.
- Increase the system alert and responsiveness to prevent fraudulent activities to happen more frequently in future.
- Easy scanning of high volumes of transactions and business data.

SAP GRC Global Trade Services

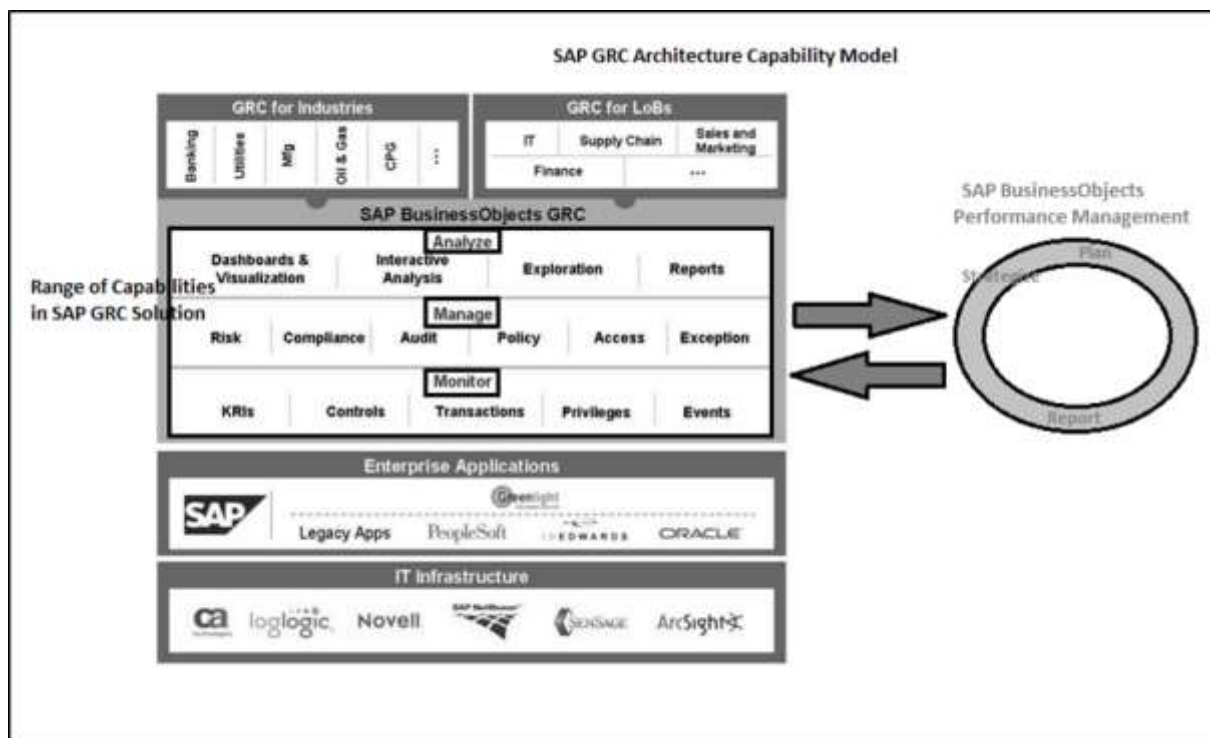
SAP GRC GTS software helps organizations to enhance cross border supply within limits of international trade management. It helps in reducing the penalty of risks from International Trade Regulation authorities.

It provides centralize global trade management process with a single repository for all compliance master data and content irrespective of size of an organization.

SAP GRC Capability Model

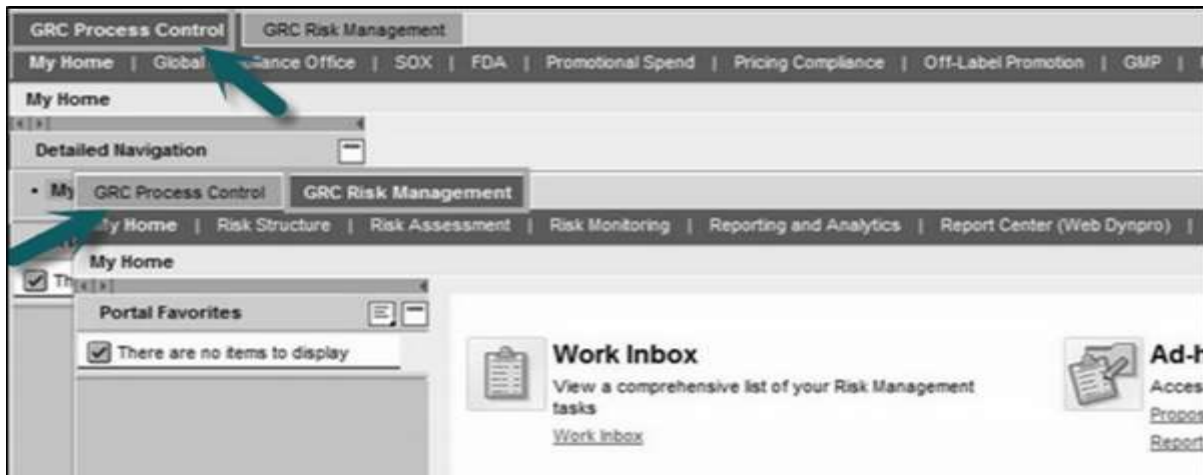
SAP BusinessObjects GRC solution consists of three main capabilities: **Analyze, Manage and Monitor.**

In the following diagram, you can see the SAP GRC Capability Model that covers all the key features of SAP GRC software. Using GRC, organizations can check for all potential risks and compliance findings and can take correct decision to mitigate them.



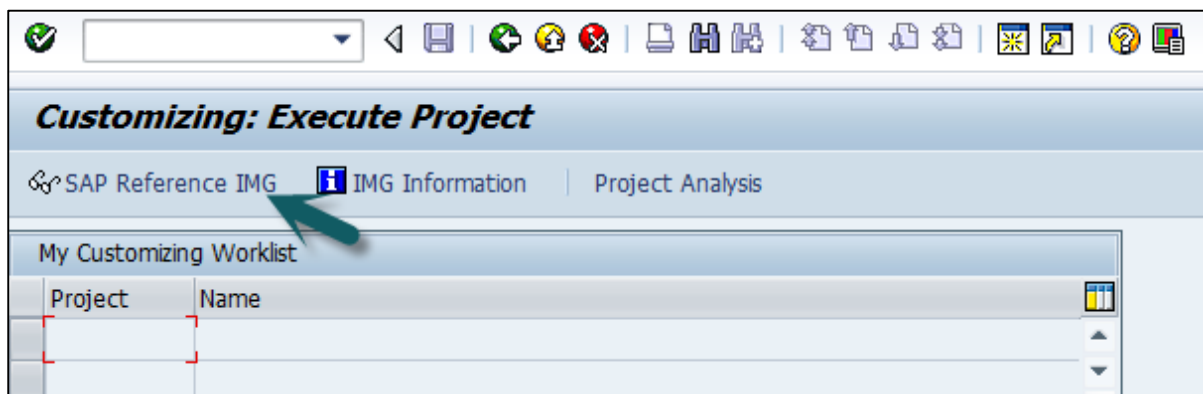
2. SAP GRC — Navigation

In older versions of SAP GRC, to use access control, process control and risk management, there was a separate navigation for each component. This means that users, to perform cross component duties, had to login to each module separately and login multiple times. This resulted in a tough process to manage multiple windows and documents to search was also tough.

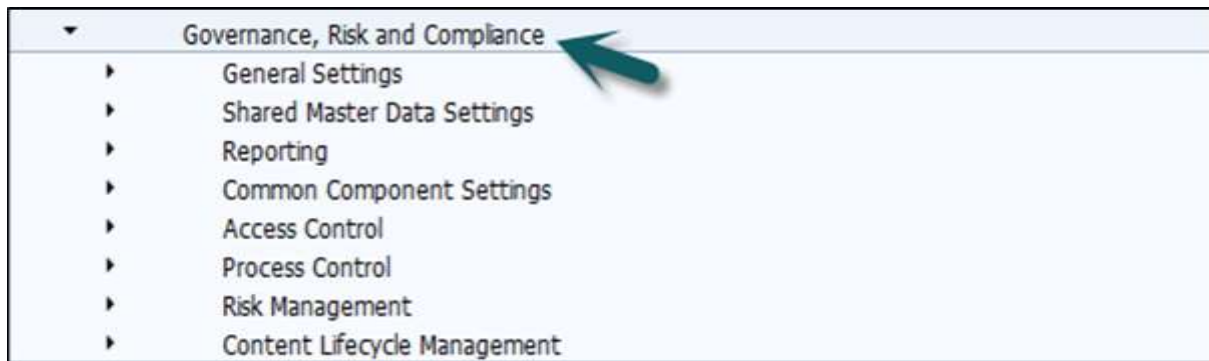


SAP GRC 10.0 provides direct navigation to access control, process control and risk management components for a single user as per authorization and removes the management of multiple windows.

Step 1: To perform customizing activities and maintain configuration settings for GRC solution, go to T-code: SPRO -> SAP Reference IMG



Step 2: Expand Governance, Risk and Compliance node:



Step 3: Logon to NetWeaver Business Client:

Run the transaction for NWBC in SAP Easy access.

It will open NetWeaver Business Client screen and you will receive the following url:

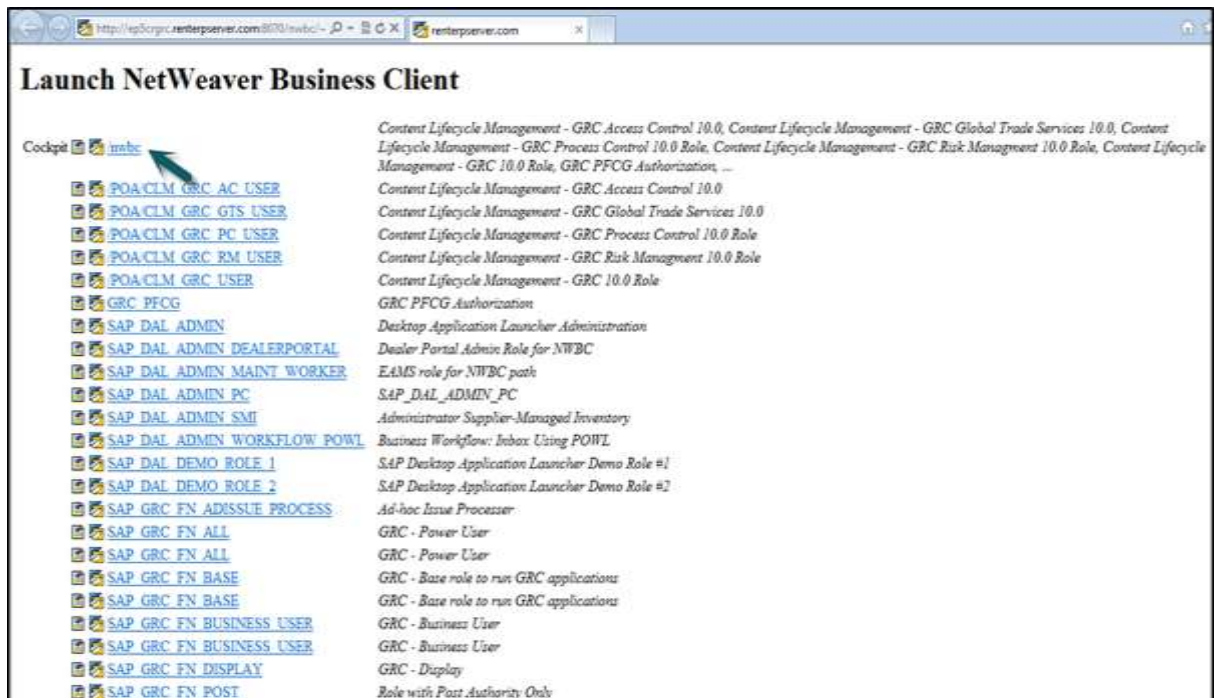
<http://ep5crgc.renterpserver.com:8070/nwbc/~launch/?sap-client=800&sap-language=EN>



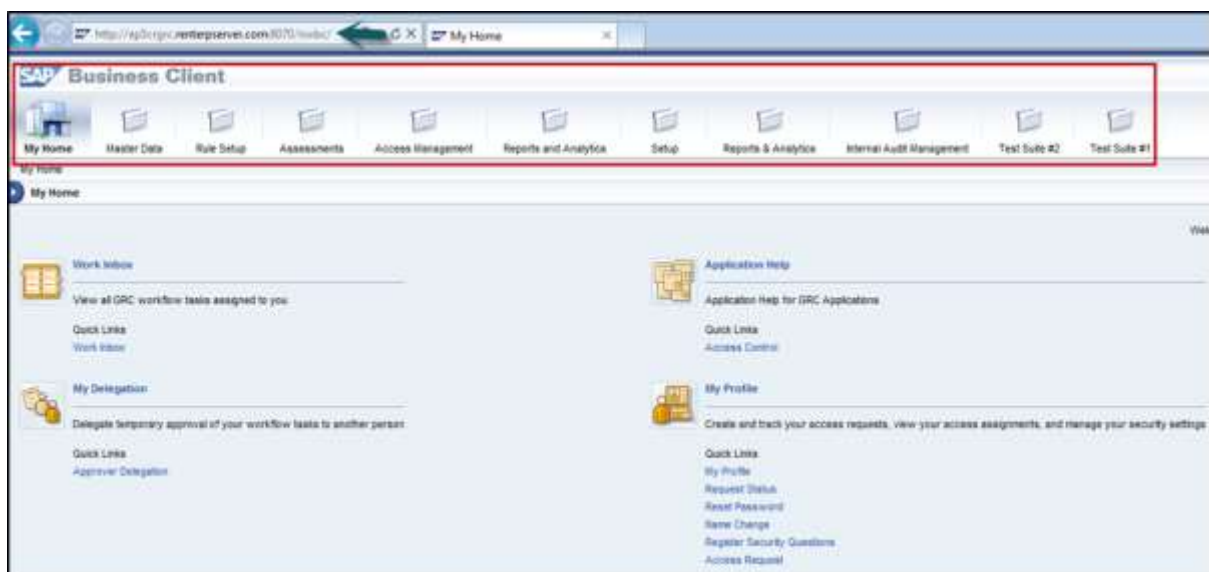
SAP GRC Work Centers

You can use Work Centers to provide a central access point for GRC 10.0. They can be organized based on what the customer has been licensed to operate.

Step 1: To access Work Centers, open NetWeaver Business Client as mentioned above. Go to **/nwbc** option at the top to open Work Centers.



Step 2: Once you click, you will be directed to the home screen of SAP NetWeaver Business client.



Depending on the products that you have licensed, different components of the GRC solution are displayed: **Access Control, Process Control, or Risk Management.**

3. SAP GRC — Access Control

SAP GRC access control helps organizations to automatically detect, manage and prevent access risk violations and reduce unauthorized access to company data and information. Users can use automatic self-service to access request submission, workflow driven access request and approvals of access. Automatic reviews of user access, role authorization and risk violations can be used using SAP GRC Access Control.

SAP GRC Access Control handles key challenges by allowing business to manage access risk. It helps organizations to prevent unauthorized access by defining segregation of duties SoD and critical access and minimizing the time and cost of access risk management.

Key Features

The following are the key features of SAP GRC Access Control:

- To perform audit and compliance as per legal requirements with different audit standards like SOX, BSI and ISO standards.
- To automatically detect access risk violations across SAP and non-SAP systems in an organization.
- As mentioned, it empowers users with self-service access submission, workflow-driven access requests and approvals of the request.
- To automate reviews of user access, role authorizations, risk violations, and control assignments in a small and large scale organization.
- To efficiently manage the super-user access and avoiding risk violations and unauthorized access to data and application in SAP and non-SAP system.

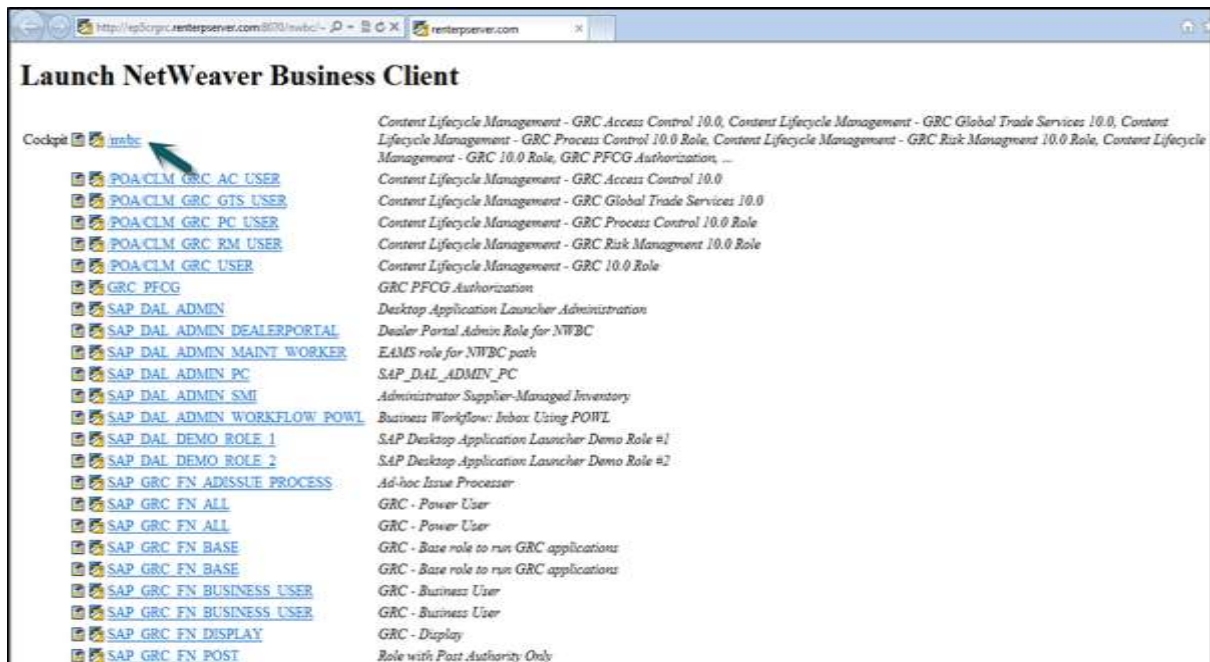
How to Explore Access Control Set Up Work Center?

Run the transaction for NWBC in SAP Easy access.

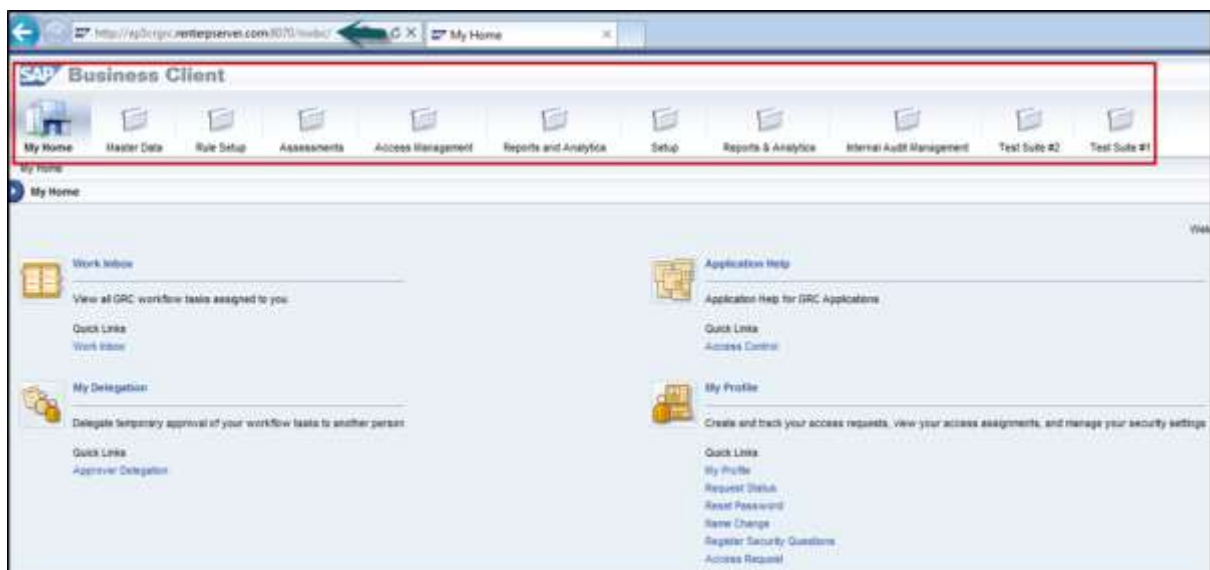
It will open NetWeaver Business Client screen and you will receive the following url:

<http://ep5crgrc.renterpsrserver.com:8070/nwbc/~launch/?sap-client=800&sap-language=EN>

Step 1: To access Work Centers, open NetWeaver Business Client as mentioned above. Go to **/nwbc** option at the top to open Work Centers.



Step 2: Once you click, you will be directed to the home screen of SAP NetWeaver Business client.



Step 3: Go to setup work center and explore the work set. Click some of the links under each one and explore the various screens.



Step 4: The Setup work center is available in Access Control and provides links to the following sections:

- Access Rule Maintenance
- Exception Access Rules
- Critical Access Rules
- Generated Rules
- Organizations
- Mitigating Controls
- Superuser Assignment
- Superuser Maintenance
- Access Owners

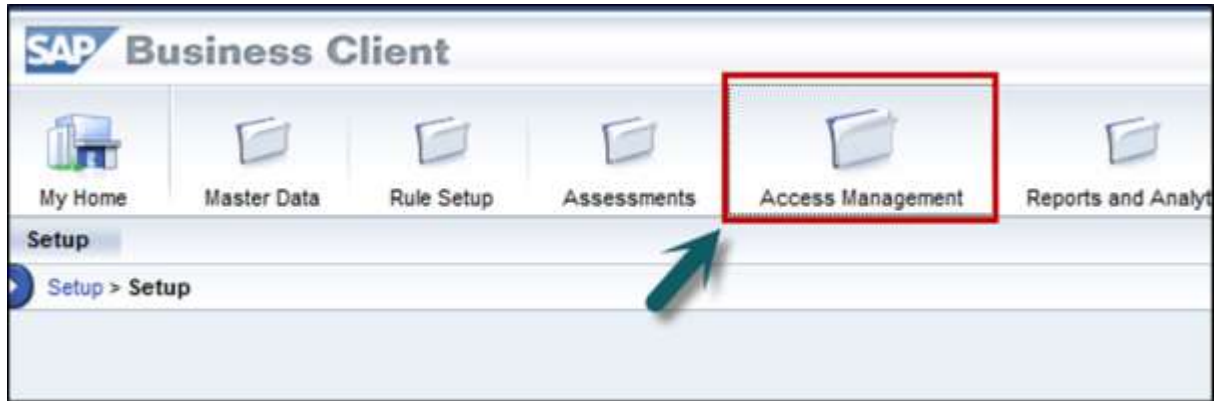
Step 5: You can use the above listed functions in the following ways:

- Using Access Rule Maintenance section, you can manage access rule sets, functions, and the access risks used to identify access violations.
- Using Exception Access Rules, you can manage rules that supplement access rules.

- Using critical access rules section, you can define additional rules that identify access to critical roles and profiles.
- Using generated rules section, you can find and view generated access rules.
- Under Organizations, you can maintain the company's organization structure for compliance and risk management with related assignments.
- The Mitigating Controls section allows you to manage controls to mitigate segregation of duty, critical action, and critical permission access violations.
- Superuser Assignment is where you assign owners to firefighter IDs and assign firefighter IDs to users.
- Superuser Maintenance is where you maintain firefighter, controller, and reason code assignments.
- Under Access Owners, you manage owner privileges for access management capabilities.

4. SAP GRC — Access Management Work Center

As per GRC software license, you can navigate Access Management Work Center. It has multiple sections to manage access control activities.



When you click on Access Management Work Center, you can see the following sections:



- GRC Role Assignments
- Access Risk Analysis
- Mitigated Access
- Access Requests Administration
- Role Management

- Role Mining
- Role Mass Maintenance
- Superuser Assignment
- Superuser Maintenance
- Access Request Creation
- Compliance Certification Reviews
- Alerts
- Scheduling

The above sections help you in the following ways:

- When you go to access **risk analysis** section, you can evaluate your systems for access risks across users, roles, HR objects and organization levels. An access risk is two or more actions or permissions that, when available to a single user or single role, profile, organizational level, or HR Object, creates the possibility of error or irregularity.
- Using **mitigated access** section, you can identify access risks, assess the level of those risks, and assign mitigating controls to users, roles, and profiles to mitigate the access rule violations.
- In **access request administration** section, you can manage access assignments, accounts, and review processes.
- Using **role management**, you manage roles from multiple systems in a single unified repository.
- In **role mining** group feature, you can target roles of interest, analyze them, and take action.
- Using **role mass maintenance**, you can import and change authorizations and attributes for multiple roles.
- In **Superuser Assignment** section, you can assign firefighter IDs to owners and assign firefighters and controllers to firefighter IDs.
- In **Superuser Maintenance** section, you can perform activities such as researching and maintaining firefighters and controllers, and assigning reason codes by system.
- Using **access request creation**, you can create access assignments and accounts.

- **Compliance certification reviews** supports reviews of users' access, risk violations and role assignments.
- Using **alerts**, you can generate by the application for execution of critical or conflicting actions.
- Using **Scheduling** section of the Rule Setup Work Center, you can maintain schedules for continuous control monitoring and automated testing, and to track related job progress.

5. SAP GRC — Access & Authorization Management

In SAP GRC solution, you can manage authorization objects to limit the items and data that a user can access. Authorization controls what a user can access in regards to work centers and reports in SAP system.

To access GRC solution, you should have following access:

- Portal authorization
- Applicable PFCG roles
- PFCG roles for access control, process control and risk management

The authorization types listed below are required as per GRC components: AC, PC and RM.

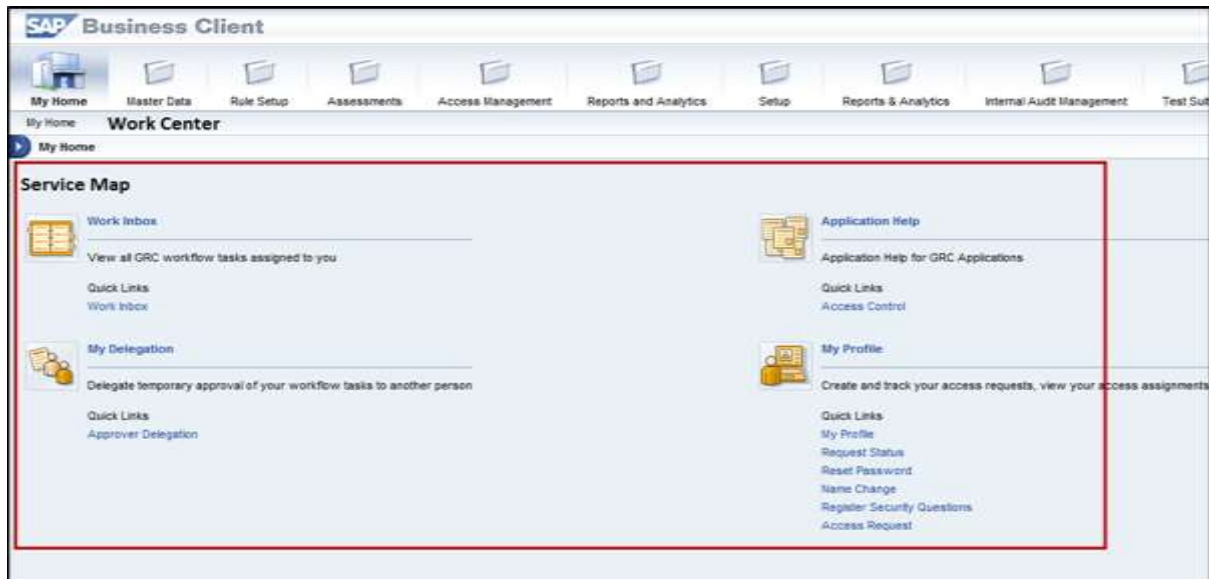
Role Name	Typ	Description	Component
SAP_GRC_FN_BASE	PFCG	Basic role	PC, RM
SAP_GRAC_BASE	PFCG	Basic role (includes SAP_GRC_FN_BASE)	AC
SAP_GRC_NWBC	PFCG	Role to run GRC 10.0 in NWBC	AC, PC, RM
SAP_GRAC_NWBC	PFCG	Role to run simplified NWBC work centers for AC	AC
GRC_Suite	Portal	Portal role to run GRC 10.0 in Portal	AC, PC, RM
SAP_GRC_FN_BUSINESS_USER	PFCG	Common user role	AC*, PC, RM
SAP_GRC_FN_ALL	PFCG	Power user role; bypasses entity-level authorization for PC and RM	PC, RM
SAP_GRAC_ALL	PFCG	Power user role	AC
SAP_GRC_FN_DISPLAY	PFCG	Display all user role	PC, RM
SAP_GRAC_DISPLAY_ALL	PFCG	Display all user role	AC
SAP_GRAC_SETUP	PFCG	Customizing role (used to maintain configuration in IMG)	AC
SAP_GRC_SPC_CUSTOMIZING	PFCG	Customizing role (used to maintain configuration in IMG)	PC
SAP_GRC_RM_CUSTOMIZING	PFCG	Customizing role (used to maintain configuration in IMG)	RM
SAP_GRAC_RISK_ANALYSIS	PFCG	This role grants the authority to run SoD jobs	AC, PC, RM

Authorization in Portal Component and NWBC

In SAP GRC 10.0 solution, work centers are defined in PCD roles for the Portal component and in PFCG roles for NWBC (**NetWeaver Business Client**). The work centers are fixed in each base role. SAP delivers these roles however; these roles can be modified by the customer as per requirement.

The locations of application folders and subordinate applications within the service map are controlled by the SAP NetWeaver Launchpad application. Service map is controlled by

user authorization so if user doesn't have authorization to see any application they will be hidden in NetWeaver Business client.



How to review role assignments in Access Management Work Center?

Follow these steps to review role assignments:

Step 1: Go to Access Management Work Center in NetWeaver Business Client.



Step 2: Select business process under GRC Role assignment and go to sub-process role level. Click next to continue to assign role sections.

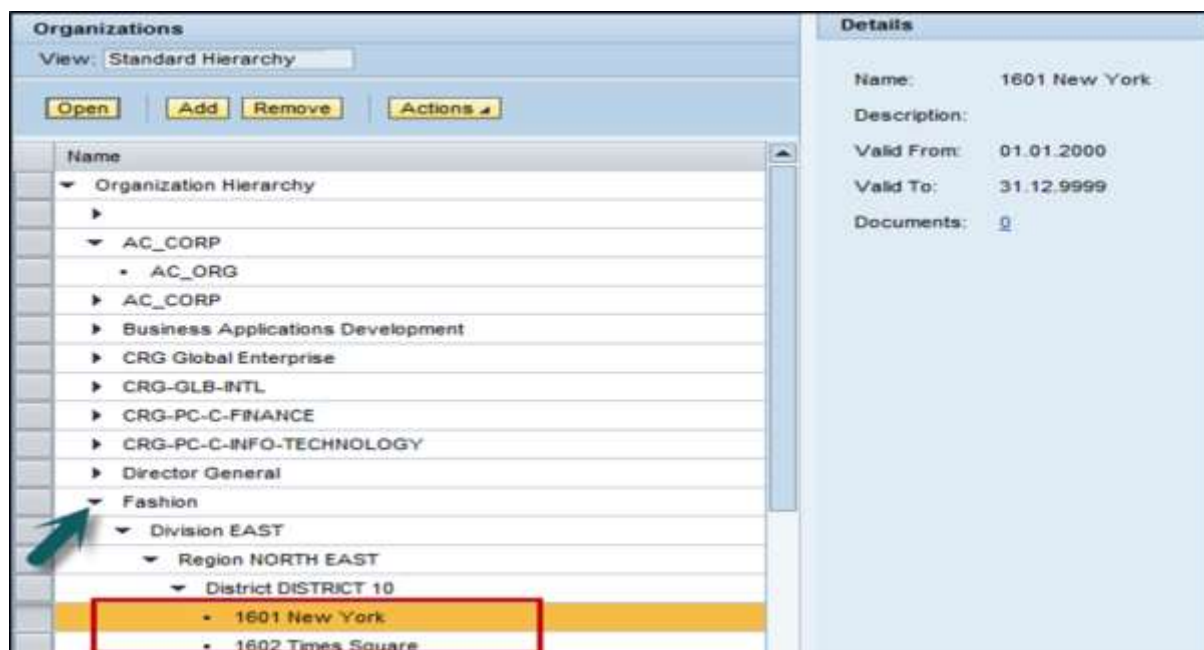
How to review role assignments in the Master Data Work Center?

Step 1: Go to Master Data Work Center -> Organizations



Step 2: In next window, select any organization from the list, then click Open.

Step 3: Note that the triangle next to the organization means that there are sub-organizations and the dot next to the organization means that it is the lowest level.



Step 4: Click on subprocess tab -> Assign subprocess. Now select one or two subprocesses and click on Next.

Step 5: Without making any changes, click Finish on the Select Controls step.

Step 6: Choose the first subprocess from the list, then click Open. You should see the subprocess details.

Step 7: Click the Roles Tab. Choose a role from the list, then click Assign.



The screenshot shows the SAP GRC 'Organization: Fashion' details page. The page has a blue header bar with the title 'Organization'. Below the header, the main content area displays the organization name 'Organization: Fashion' in a large, bold font. Underneath, there is a table with the following data:

Parent Organization -	ID	50002750
Timeframe	30.06.2016	Effective Date 30.06.2016

Below the table, there are three buttons: 'Save', 'Cancel', and 'Request Change'. At the bottom of the page, there is a tabbed interface with the following tabs: 'General', 'Policies', 'Users', 'Owners', 'AC Roles', 'Assignments', and 'Issues'. The 'Issues' tab is currently selected and highlighted in blue.

6. SAP GRC — Authorization

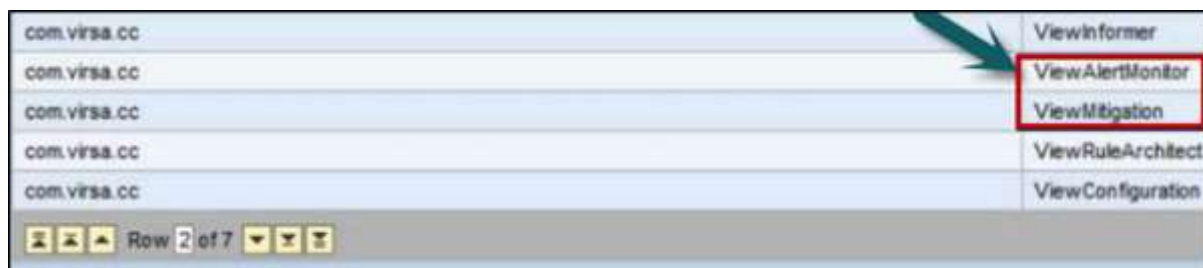
SAP GRC Access Control uses UME roles to control the user authorization in the system. An administrator can use actions which represent the smallest entity of UME role that a user can use to build access rights.

One UME role can contain actions from one or more applications. You have to assign UME roles to users in **User Management Engine (UME)**.

Authorization in UME

When a user does not have access to a certain tab, the tab will not display upon user login when the user tries to access that tab. When a UME action for a tab is assigned to that particular user, only then he will be able to access that function.

All available standard UME actions for CC tabs can be found in the tab **"Assigned Actions"** of the **Admin User**.



com.virsa.cc	ViewInformer
com.virsa.cc	ViewAlertMonitor
com.virsa.cc	ViewMitigation
com.virsa.cc	ViewRuleArchitect
com.virsa.cc	ViewConfiguration

Row 2 of 7

UME Roles

You should create an administrator role and this role should be assigned to Superuser to perform SAP compliance calibrator related activities. There are various CC roles that can be created under SAP GRC Access control at the time of implementation:

- **CC.ReportingView**
Description: Compliance Calibrator Display and Reporting
- **CC.RuleMaintenance**
Description: Compliance Calibrator Rule Maintenance
- **CC.MitMaintenance**
Description: Compliance Calibrator Mitigation Maintenance
- **CC.Administration**
Description: Compliance Calibrator Administration and Basis Configuration

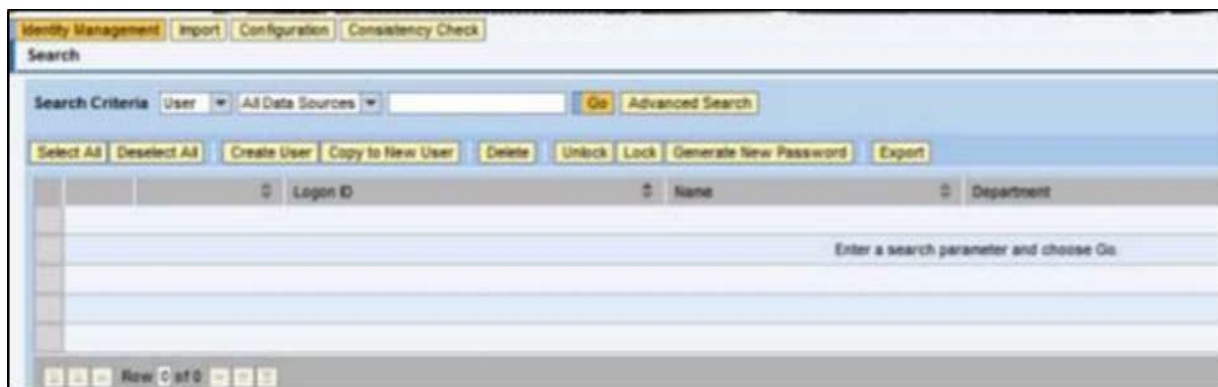
How to open User Maintenance Engine?

Using UME, you can perform various key activities under Access Control:

- You can perform user and role maintenance
- It can be used for user data source configuration
- You can apply security settings and password rules

To open UME, you should use the following URL:

<http://<hostname>:<port>/useradmin>

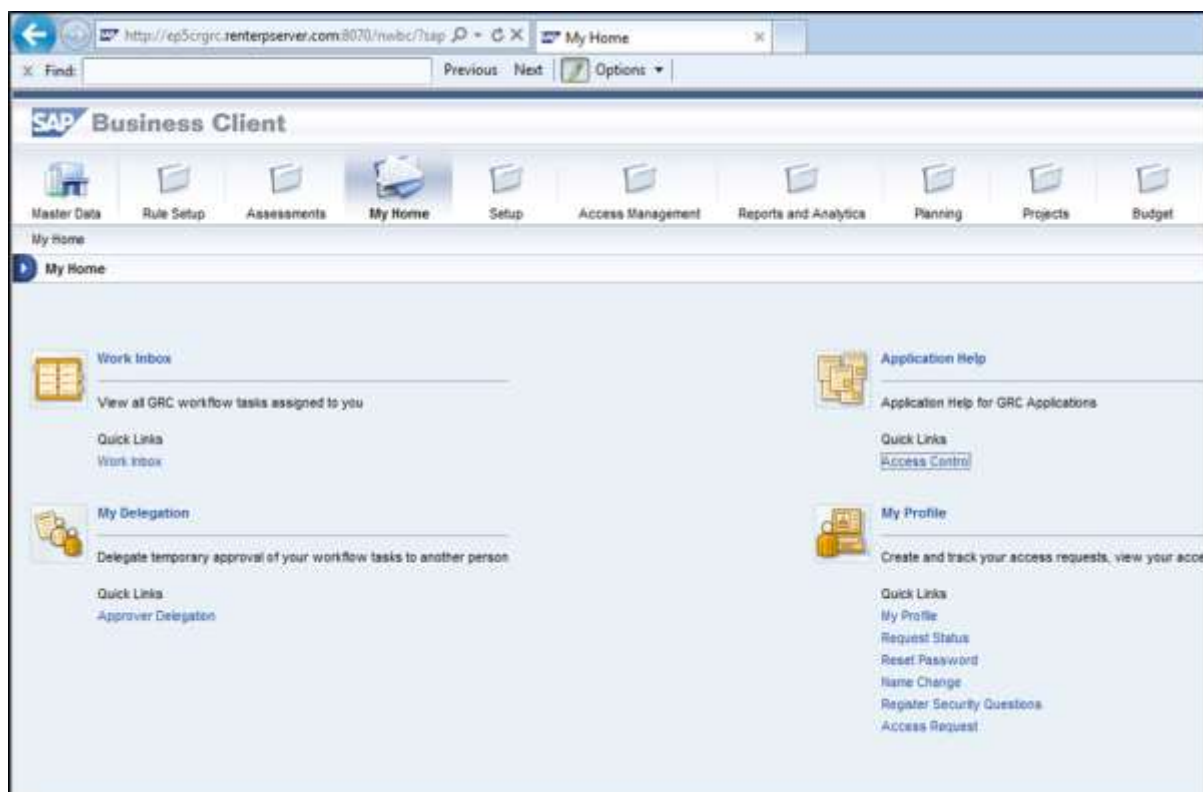


7. SAP GRC — Access Control Launchpad

In SAP GRC 10.0, you can use Access Control Launch Pad to maintain key functionalities under GRC Access Control. It is a single web page that can be used for **Risk Analysis and Remediation (RAR)**.

In GRC Access Control, you can use Risk Analysis and Remediation (RAR) capability to perform security audit and segregation of duties (SoD) analysis. It is a tool which can be used to identify, analyze, and resolve risk and audit issues linked to the following regulatory compliance. Here, you can also collaboratively define the following:

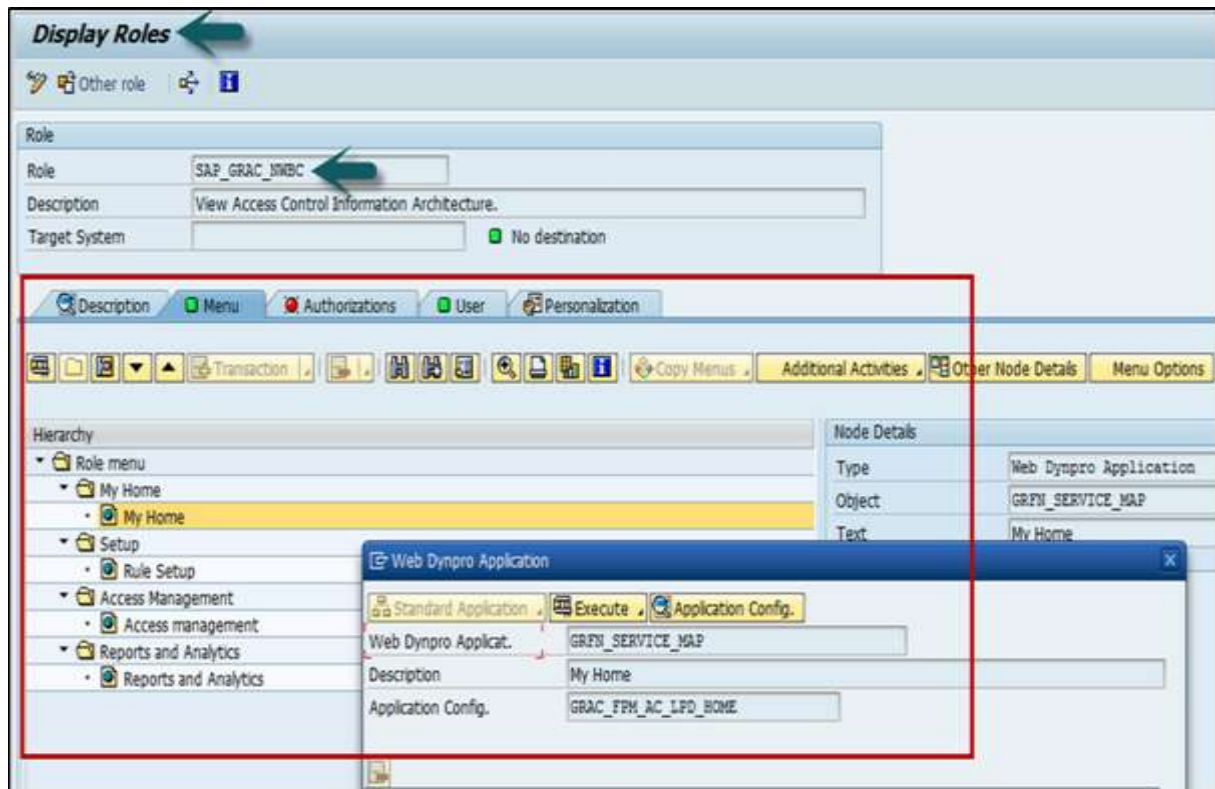
- Enterprise Role Management (ERM)
- Compliant User Provisioning (CUP)
- Superuser Privilege Management



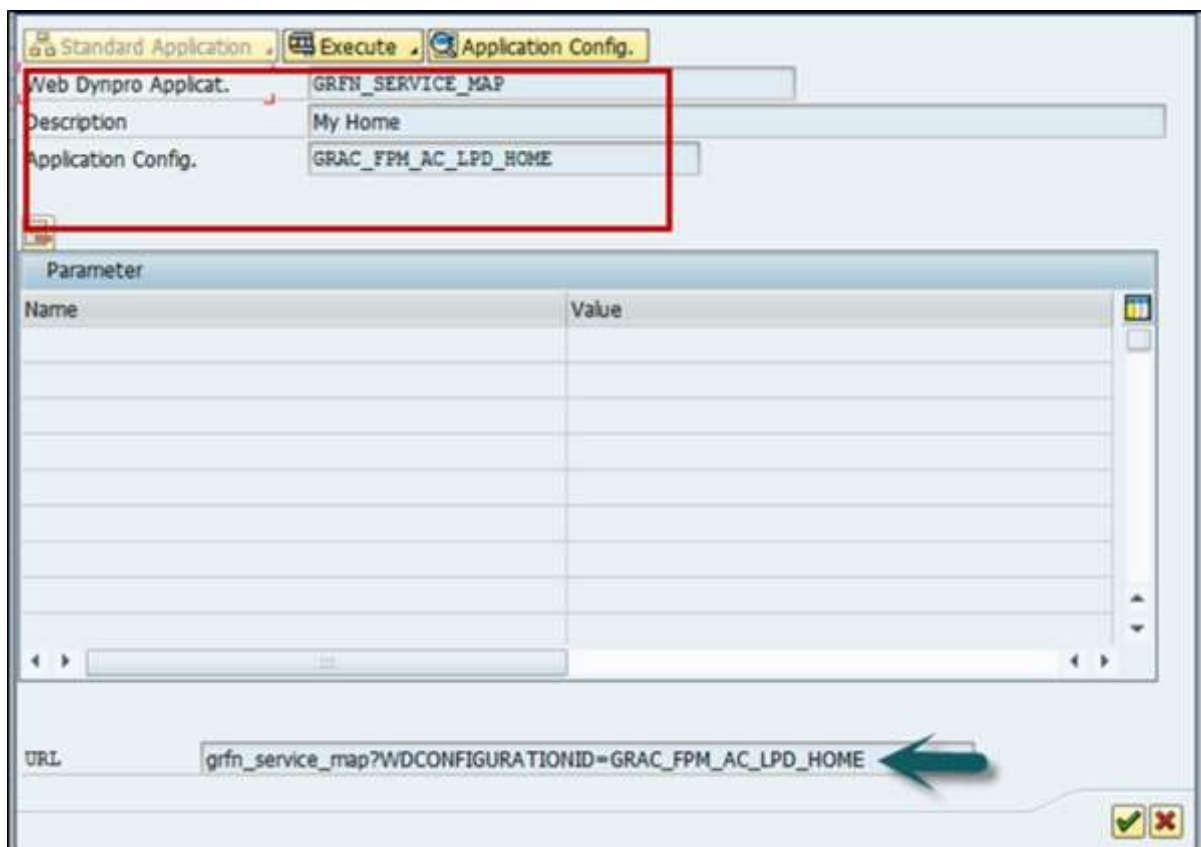
Creating a New Launchpad in NWBC

Follow these steps to create a new Launchpad in NWBC:

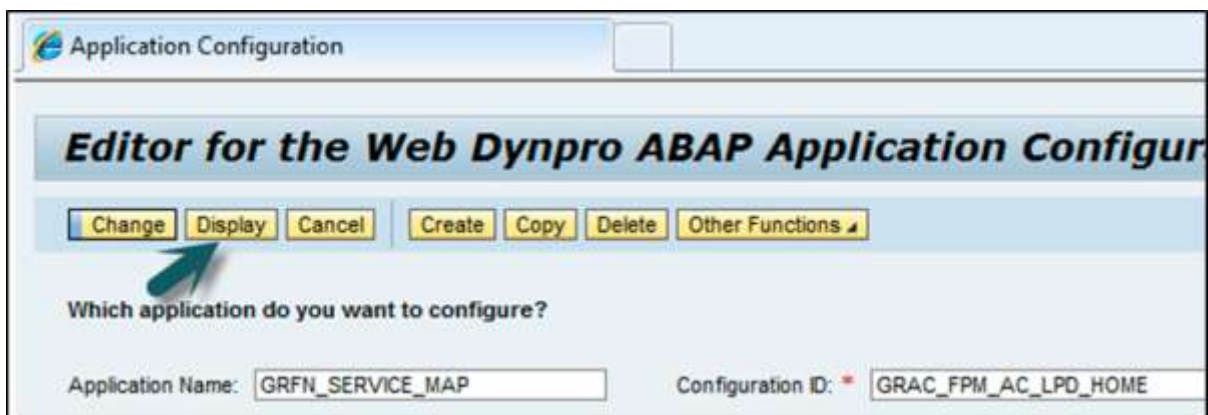
Step 1: Go to PFCG roles, and open the role SAP_GRAC_NWBC



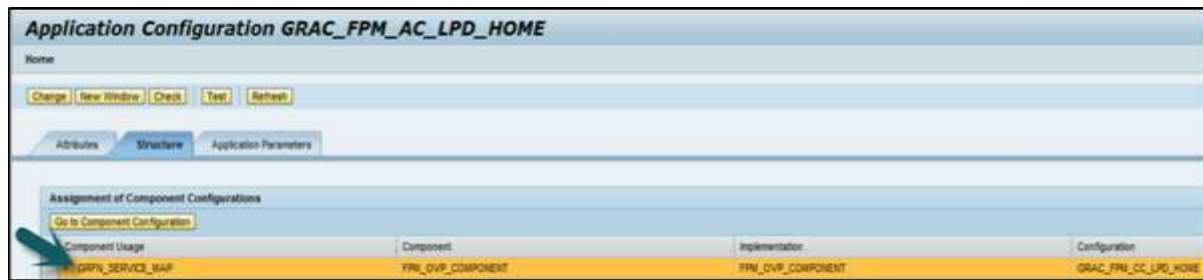
Step 2: When you right click **My Home** item, you can see the application being called is **grfn_service_map?WDCONFIGURATIONID=GRAC_FPM_AC_LPD_HOME** and the configuration id is **GRAC_FPM_AC_LPD_HOME**.



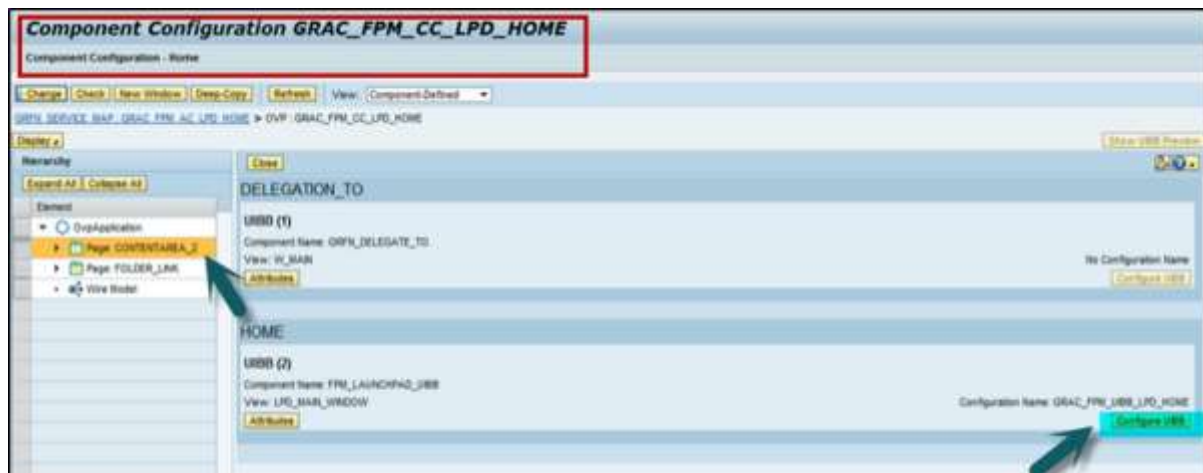
Step 3: Select **application config** button and you can see the application configuration screen -> display button.



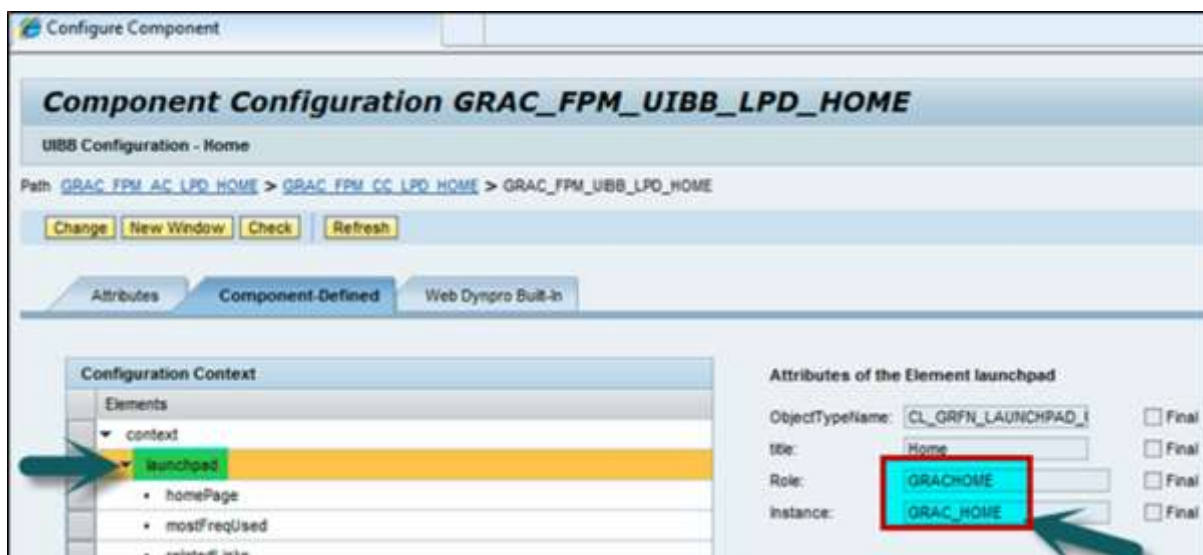
Step 4: When you click on **Display**, you can see this screen:



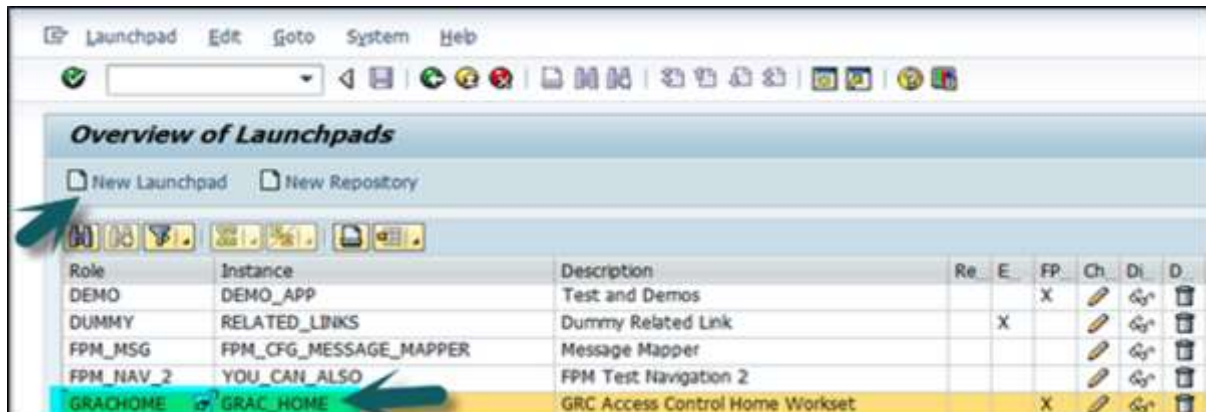
Step 5: Now open the **Component Configuration** button.



Step 6: Click on **Configure UIBB** button in this screen. You will be directed to the following screen:

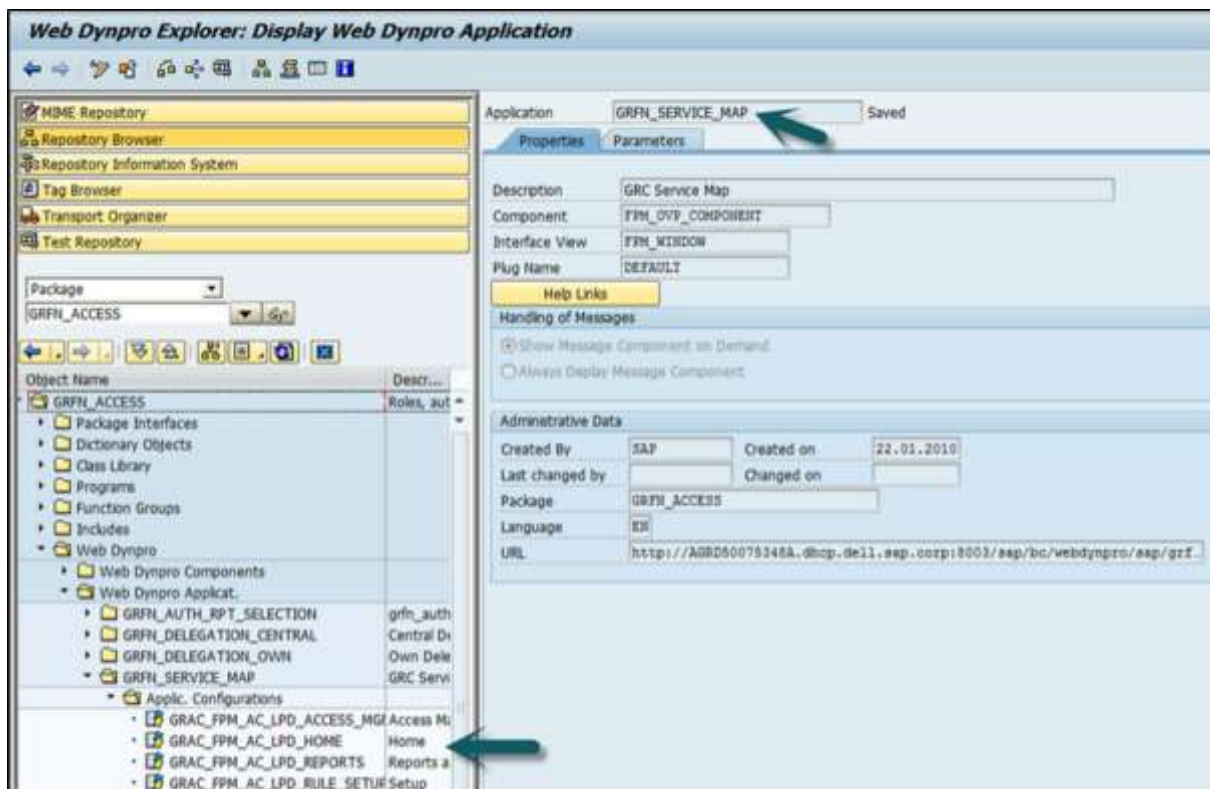


Step 7: You can select the Launchpad to which you want to map. If you want to create a new Launchpad, you can also map it to a new role.



Step 8: To create a new Launchpad, define the following:

- Create a new launchpad with menu items that you want.
- Create a new configuration of the application **GRFN_SERVICE_MAP** or you can copy configuration id **GRAC_FPM_AC_LPD_HOME** and customize it further.
- In the new configuration select the launchpad that you want to associate.
- Create a new role and add webdynpro application **GRFN_SERVICE_MAP** to it with the custom configuration id created in the previous step.



8. SAP GRC — Integration with Access Control

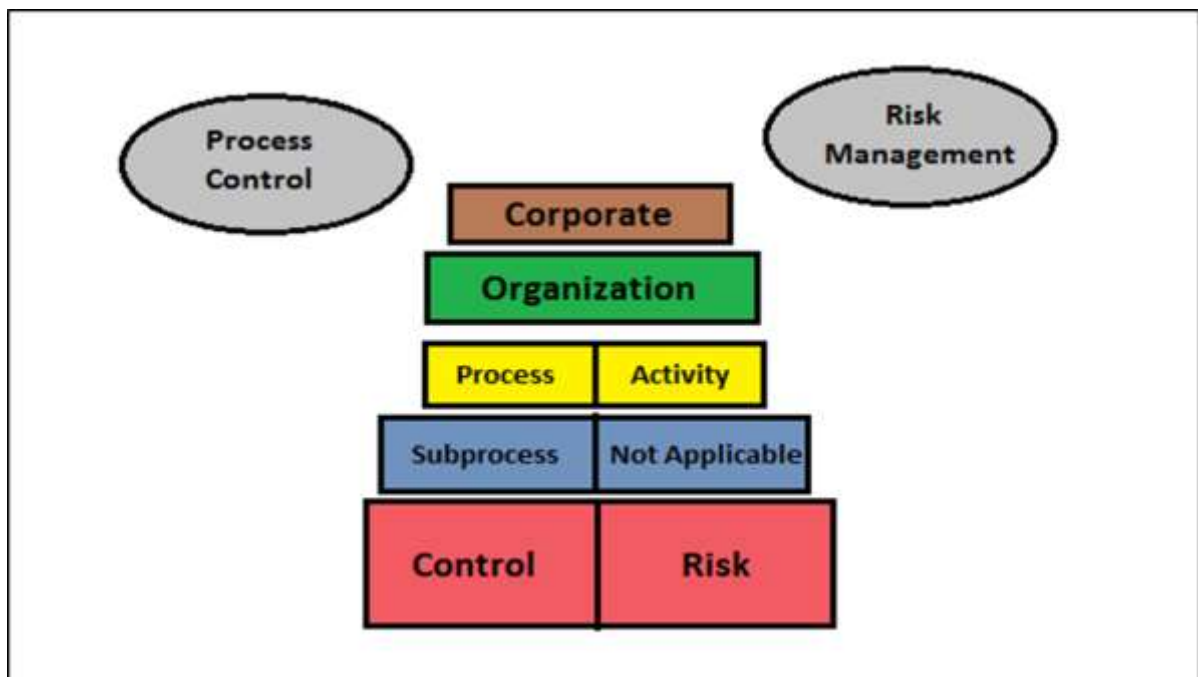
In SAP GRC 10.0 solution, the master data and organization structure is shared across access control, process control and risk management. Process Control also shares certain capabilities with risk management process.

Following are the key features shared with Access Control:

- Access control and process control shares the compliance structure in below areas:
 - In process control solution, controls are used as mitigation control in access control under SAP GRC 10.0 solution.
 - Access control and process control share same organization.
 - In process control, processes are used as business processes in access control.
 - Process control and access control are integrated with access risk analysis to monitor segregation of duties SoD.

The menu areas common to both Process Control and Risk Management are:

- GRC Role Assignment
- Process Control Planner
- Risk Management Planner
- Central Delegation



The following are the key integration points between Process Control and Risk Management:

- New control points can be purposed for Process Control in Risk Management.
- When a new control is proposed, Process Control needs to evaluate the request from Risk Management.
- Risk Management uses results from Process Control to evaluate new controls.
- Risk Management can also use existing controls from Process Control as responses in Risk Management.

9. SAP GRC — Integration with IAM

Internal Audit Management allows you to process the information from Risk Management and Process Control to use in audit planning. Audit proposal can be transferred to audit management for processing when required and audit items can be used to generate issues for reporting. IAM provides you a place where you can perform complete audit planning, create audit items, define audit universe and create and view audit reports and audit issues.

Internal Audit Management Work Center provides a central location for the following activities:

- Define the audit universe for your organization
- Audit risk rating
- Audit planning to define procedure for audit compliance
- Audit issues from audit actions
- Audit reports to see what risks are there on auditable entities

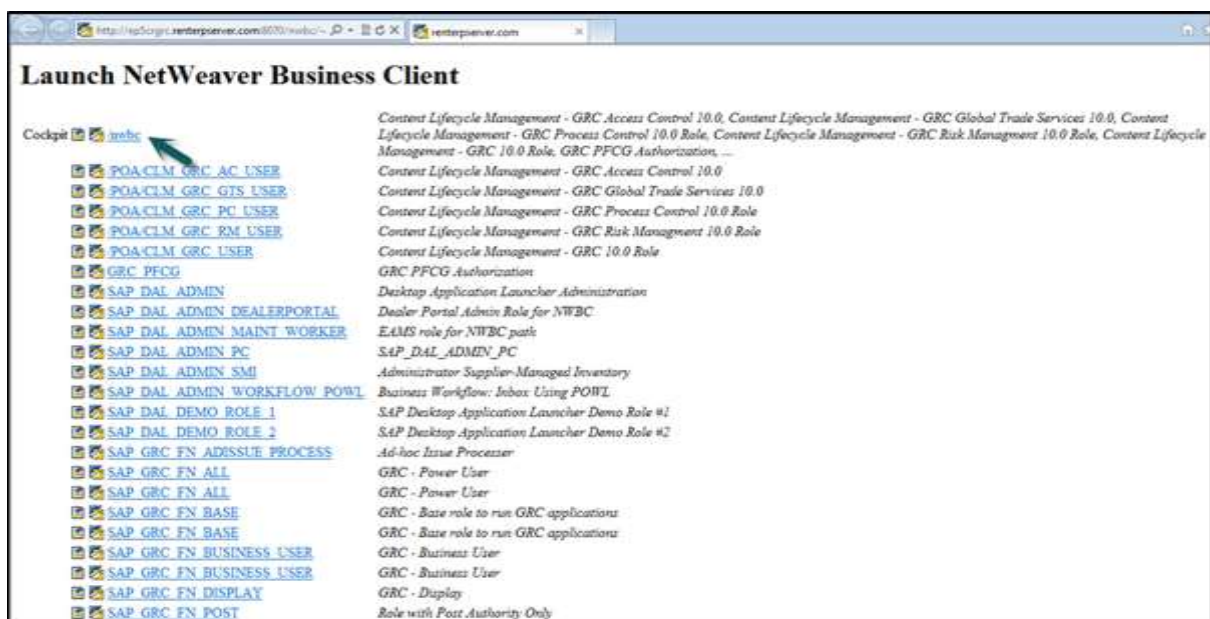
10. SAP GRC — Audit Universe

Audit Universe contains audit entities which can be classified as business units, lines of business or departments. Audit entities define the audit planning strategy and these can be linked to Process Control and Risk Management to find risks, controls, etc.

Create an Auditable Entity

Let us now understand how to create an auditable entity.

Step 1: Go to **/nwbc** option at the top to open Work Centers



Step 2: In SAP NetWeaver Business Client, go to IAM Work Center.



Step 3: Navigate to Internal Audit Management -> Audit Universe

Step 4: Click on **Create** button and go to **General** tab.

Step 5: Enter the following details for auditable entity:

- Name
- Description
- Type
- Status
- Notes to add any additional information

Step 6: Go to **Audit Plan** tab to view audit proposals and audit plan proposals with the transfer date.

Step 7: Select the **attachments and links** tab to add any type of files or links.

Step 8: When you enter the required details, you can select from the following options:

- Select **Save** to save the entity.
- Select **Close** to exit without saving.

SAP Process Control — Audit Risk Rating

Audit Risk rating is used to define the criteria for an organization to find risk rating and establish ranking for risk rating. Each auditable entity is rated as per management feedback in ARR. You can use ARR to perform the following functions:

- You can find the set of auditable entities and risk factors.
- Define and evaluate risk scores for risk factor in each auditable entity.
- As per risk score, you can rate the auditable entity.
- You can also generate an audit plan from ARR by comparing risk scores for different auditable entities. In addition to this, you can select the high risk score auditable entities and generate audit proposal and audit plan proposal.

Create an Audit Risk Rating

Let us now understand the steps to create an Audit Risk Rating

Step 1: In SAP NetWeaver Business Client, go to IAM Work Center.



Step 2: Navigate to Internal Audit Management -> Audit Risk Rating -> Create

Step 3: In General tab, enter the following details:

- Name
- Description
- Valid from
- Valid to
- Responsible person
- Status

Step 4: Go to Auditable Entities and click **Add** button to choose from auditable entities.

Step 5: Go to **Risk Factor** tab, and select **ARR** risk factor. Select **Add** to add a risk factor -> OK.

Step 6: Go to **Risk Scores** tab, select entity and input risk scores on risk factor table. Click **Calculate** button to view average score. Go to Risk level and risk priority column to enter the details.

Go to **Audit Plan Proposal** tab, to ensure that you are creating an audit plan proposal. Select export to create an excel spreadsheet to view information in table form for your ARR.

Select **Save** button to save audit risk rating for auditable entity.

11. SAP GRC — Process Control Work Centers

Work centers provide a central access point for the entire GRC functionality. They are organized to provide easy access to application activities, and contain menu groups and links to further activities.

The following work centers are shared by Access Control, Process Control and Risk Management:

- My Home
- Master Data
- Rule Setup
- Assessments
- Access Management
- Reports and Analytics

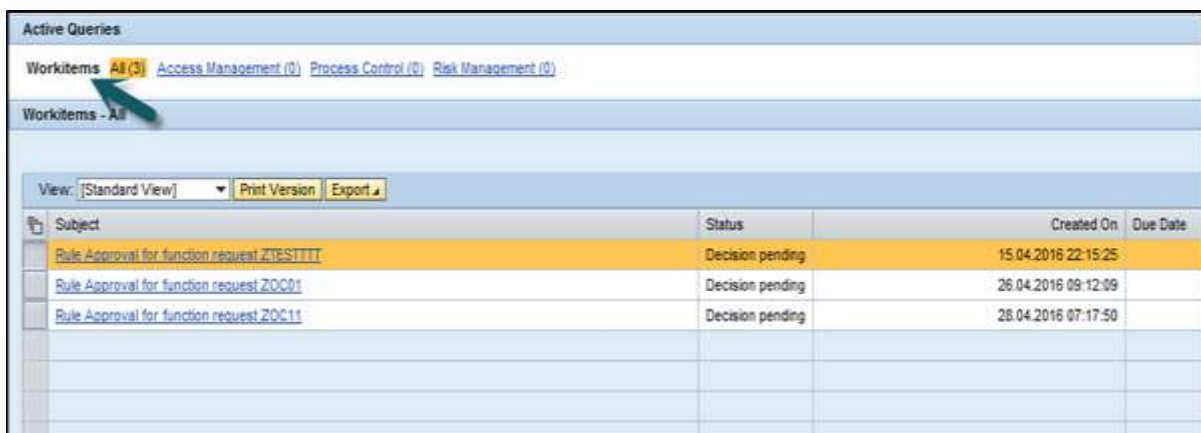
Let us discuss the major work centers.

My Home

My Home Work Center is shared by Process Control, Risk management and Access Control. This provides a centralized location where you can manage assigned tasks and accessible objects in GRC application. My Home comes with a number of sections. Let us now understand the Work Inbox section:

Work Inbox

Using Work Inbox, you can view the tasks that you have to process in GRC software.



Subject	Status	Created On	Due Date
Rule Approval for function request ZTESTTTT	Decision pending	15.04.2016 22:15:25	
Rule Approval for function request ZOC01	Decision pending	26.04.2016 09:12:09	
Rule Approval for function request ZOC11	Decision pending	28.04.2016 07:17:50	

If you want to process a task, click on task in the table.

It will open the workflow window wherein, you can process the task.

Master Data

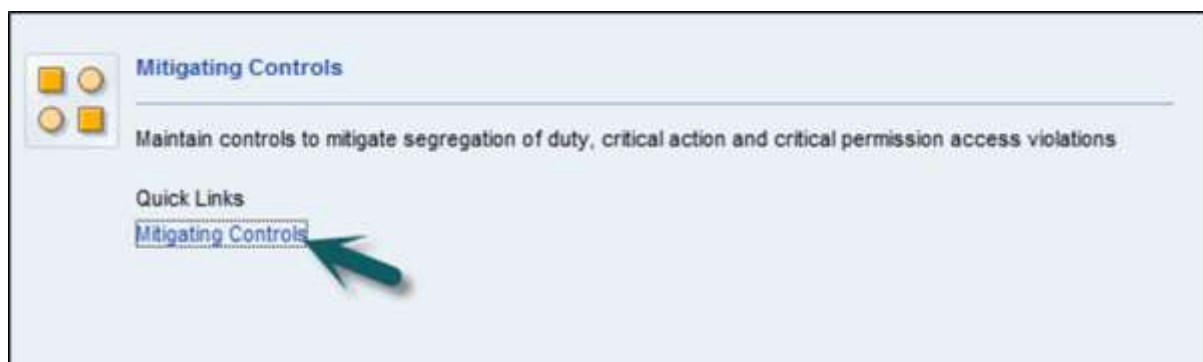
Master Data Work Center is shared by Process Control, Risk management and access control. The Process Control Master Data Work center contains the following sections:

- Organizations
- Regulations and Policies
- Objectives
- Activities and Processes
- Risks and Responses
- Accounts
- Reports

Let us now discuss the major work centers under Master Data Work Center:

Organizations: Maintain the company's organization structure for compliance and risk management with related assignments

Mitigation Controls: Maintain controls to mitigate segregation of duty, critical action and critical permission access violations



To create mitigation control, click Create button.



You will be directed to a new window, enter the details for mitigation control and click Save button.

Control

Save Cancel Submit

General Access Risks Owners Reports Attachments and Links

Mitigating Control ID: *

Name: *

Description:

Organization: *

Process:

Subprocess:

Notes

B I H1 H2 H3

Reports and Analytics

Reports and Analytics Work Center is shared by Process Control, Risk management and Access Control. The Process Control Reports and Analytics Work Center consists of Compliance section in GRC application.

In compliance section, you can create the following reports under Process Control:

Evaluation Status Dashboard

Shows a high-level picture of the overall status of corporate compliance throughout different business entities and provides analytics and drilldown capabilities to view data on different levels and dimensions.

Survey Results

Displays the results of surveys.

Datasheet

Provides comprehensive information on master data, evaluation, and remediation activities for subprocesses and controls.

The following roles that use the datasheet functionality:

- **Internal Auditors:** They can use datasheets to get a picture of the controls and subprocesses in an organization under GRC.
- **Process Owners:** In GRC application, Process Owners and Control Owners can request datasheets to get an overview of their subprocesses. Datasheet information provides the definition of the subprocess, assessments completed on subprocess, controls encompassed by the subprocess, and the assessments and testing done on these controls.
- **Control Owners:** Control owners can use datasheets to check the design of their controls. Control owner can assess controls to check the controls and their effectiveness.
- **External Auditors:** Datasheets can be used by external auditors; this can be used to request the information to research controls or subprocesses.

Note: Other work centers like access management, assessments and rule set up are also share by process control, access control and risk management.

The Process Control Access Management Work Center has the GRC Role Assignments section.

12. SAP GRC — SoD Risk Management

In every business, it is required to perform Segregation of Duties (SoD) Risk Management — starting from risk recognition to rule building validation and various other risk management activities to follow continuous compliance.

As per different roles, there is a need to perform Segregation of Duties in GRC system. SAP GRC defines various roles and responsibilities under SoD Risk Management:

Business Process Owners

Business Process Owners perform the following tasks:

- Identify risks and approve risks for monitoring
- Approve remediation involving user access
- Design controls to mitigate conflicts
- Communicate access assignments or role changes
- Perform proactive continuous compliance

Senior Officers

Senior Officers perform the following tasks:

- Approve or reject risks between business areas
- Approve mitigation controls for selected risks

Security Administrators

Security Administrators perform the following tasks:

- Assume ownership of GRC tools and security process
- Design and maintain rules to identify risk conditions
- Customize GRC roles to enforce roles and responsibilities
- Analyze and remediate SoD conflicts at role level

Auditors

Auditors perform the following tasks:

- Risk assessment on a regular basis
- Provide specific requirements for audit purposes

- Periodic testing of rules and mitigation controls
- Act as liaison between external auditors

SoD Rule Keeper

SoD Rule Keeper performs the following tasks:

- GRC tool configuration and administration
- Maintains controls over rules to ensure integrity
- Acts as liaison between basis and GRC support center

13. SAP GRC — Risk Management

SAP Risk Management in GRC is used to manage risk-adjusted management of enterprise performance that empowers an organization to optimize efficiency, increase effectiveness, and maximize visibility across risk initiatives.

The following are the **key functions** under Risk Management:

- Risk management emphasizes on organizational alignment towards top risks, associated thresholds, and risk mitigation.
- Risk analysis includes performing qualitative and quantitative analysis.
- Risk management involves Identification of key risks in an organization.
- Risk management also includes resolution/remediation strategies for risks.
- Risk management performs the alignment of key risk and performance indicators across all business functions permitting earlier risk identification and dynamic risk mitigation.

Risk management also involves proactive monitoring into existing business processes and strategies.

Phases in Risk Management

Let us now discuss the various phases in Risk Management. The following are the various phases in risk management:

- Risk Recognition
- Rule Building and Validation
- Analysis
- Remediation
- Mitigation
- Continuous Compliance

Risk Recognition

In a risk recognition process under risk management, the following steps can be performed:

- Identify authorization risks and approve exceptions

- Clarify and classify risk as high, medium or low
- Identify new risks and conditions for monitoring in the future

Rule Building and Validation

Perform the following tasks under Rule Building and Validation:

- Reference the best practices rules for environment
- Validate the rules
- Customize rules and test
- Verify against test user and role cases

Analysis

Perform the following tasks under Analysis:

- Run the analytical reports
- Estimate cleanup efforts
- Analyze roles and users
- Modify rules based on analysis
- Set alerts to distinguish executed risks

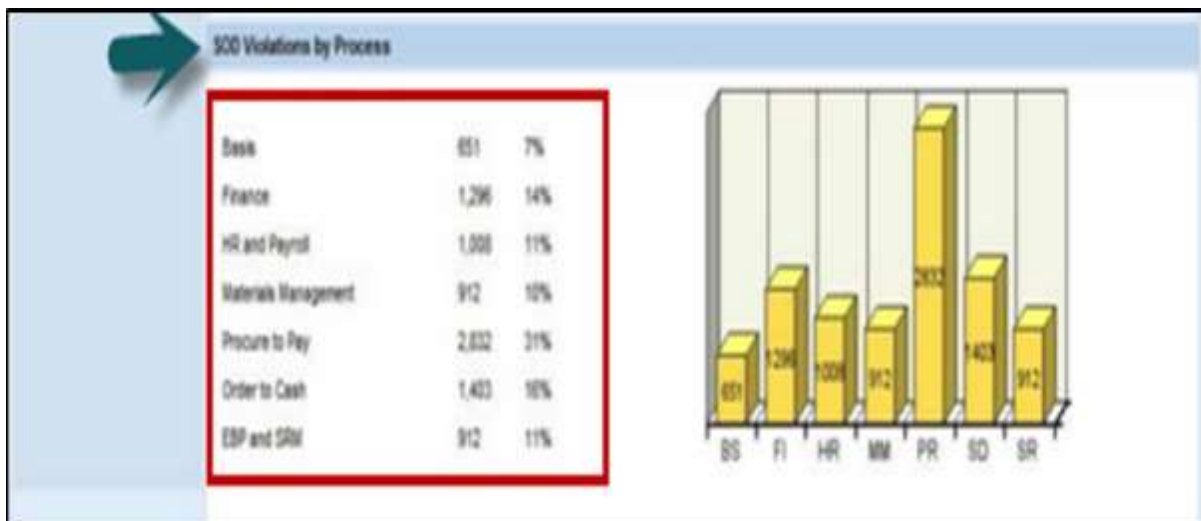
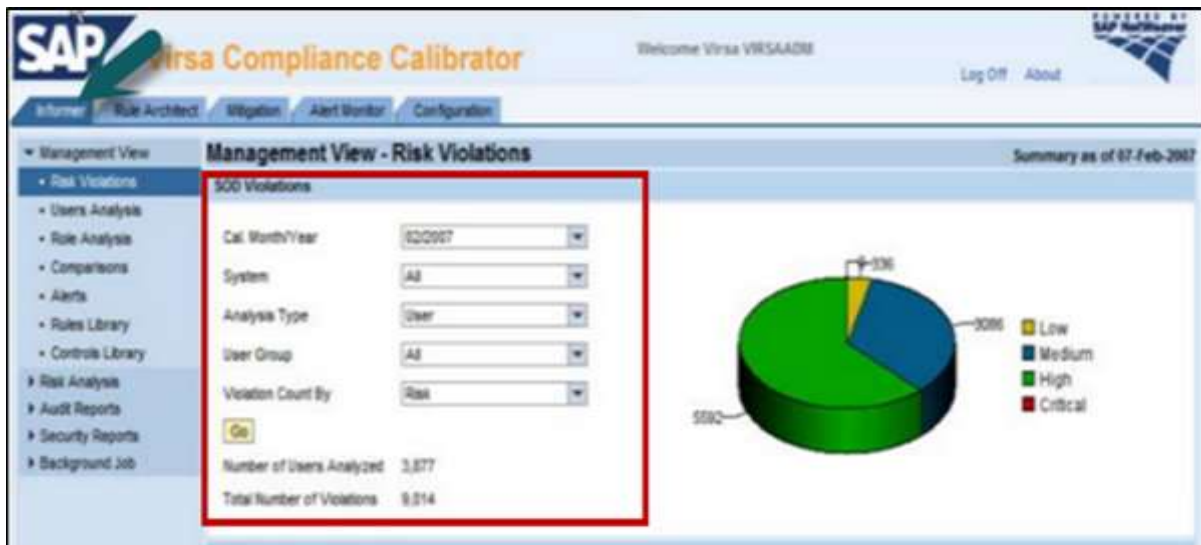
From the management aspect, you can see compact view of risk violations that are grouped by severity and time.

Step 1: Go to Virsa Compliance Calibrator -> Informer tab

Step 2: For SoD violations, you can display a pie chart and a bar chart to represent current and past violations in the system landscape.

The following are the two different views to these violations:

- Violations by risk level
- Violations by process



Remediation

Perform the following tasks under remediation:

- Determine alternatives for eliminating risks
- Present analysis and select corrective actions
- Document approval of corrective actions
- Modify or create roles or user assignments

Mitigation

Perform the following tasks under mitigation:

- Determine alternative controls to mitigate risk

- Educate management about conflict approval and monitoring
- Document a process to monitor mitigation controls
- Implement controls

Continuous Compliance

Perform the following tasks under Continuous Compliance:

- Communicate changes in roles and user assignments
- Simulate changes to roles and users
- Implement alerts to monitor for selected risks and mitigate control testing

Risk Classification

Risks should be classified as per the company policy. The following are the various risk classifications that you can define as per risk priority and company policy:

Critical

Critical classification is done for risks that contain company's critical assets that are very likely to be compromised by fraud or system disruptions.

High

This includes physical or monetary loss or system-wide disruption that includes fraud, loss of any asset or failure of a system.

Medium

This includes multiple system disruption like overwriting master data in the system.

Low

This includes risk where the productivity losses or system failures compromised by fraud or system disruptions and loss is minimum.

14. SAP GRC — Risk Remediation

In SAP GRC 10.0 Risk Management, risk remediation phase determines the method to eliminate risks in roles. The purpose of the remediation phase is to determine alternatives for eliminating issues under risk management.

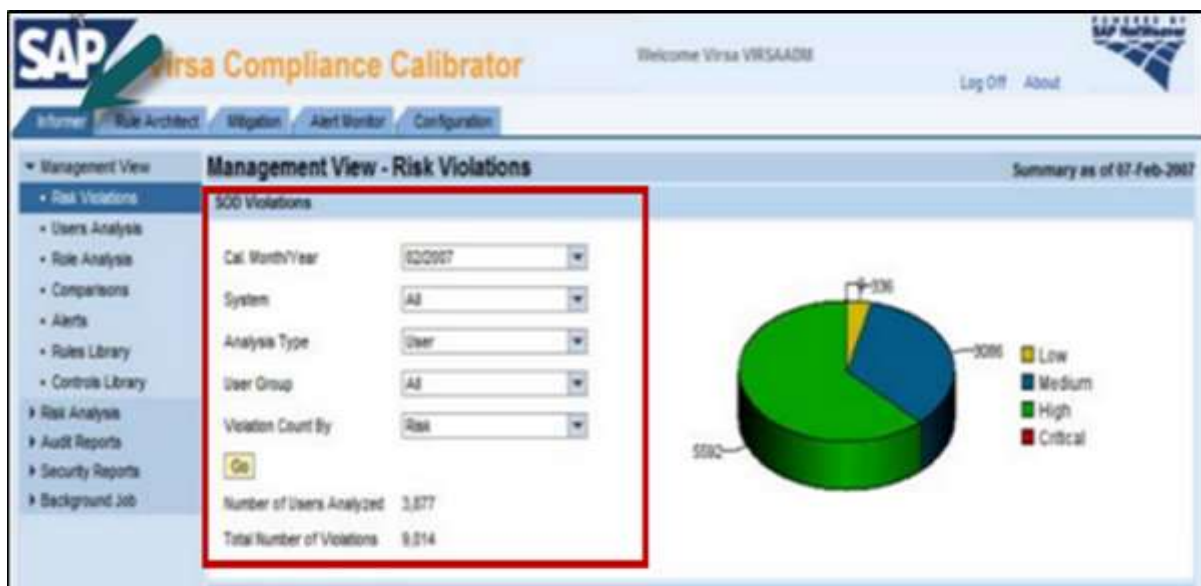
The following approaches are recommended to resolve issues in roles:

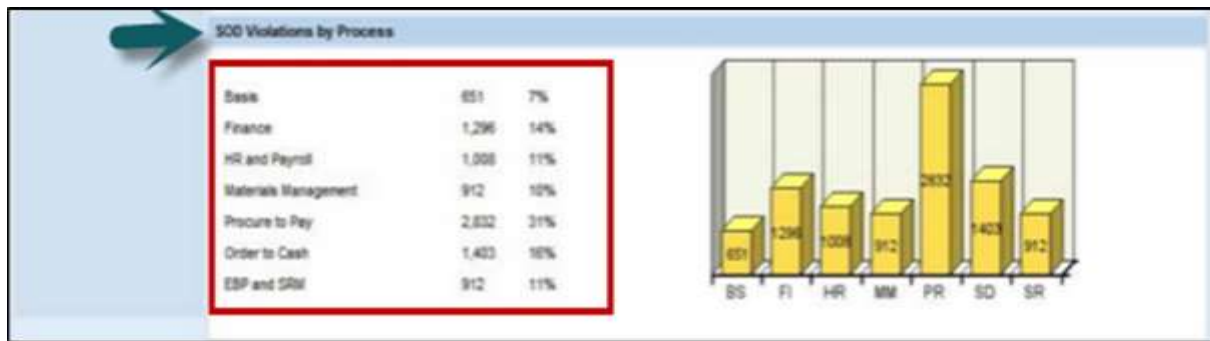
Single Roles

- You can start with single roles as it is easy and simplest way to start.
- You can check for any Segregation of Duties SoD violations from being reintroduced.

Composite roles

- You can perform various analysis to check the user assignment on the assignment or removal of user actions.
- You can use Management view or Risk Analysis reports for analysis as mentioned in previous topic.





In Risk Remediation, Security Administrators should document the plan and Business Process Owners should be involved and approve the plan.

SAP GRC — Report Type

You can generate different Risk Analysis reports as per the required analysis:

- **Action Level** — You can use it to perform SoD analysis at action level.
- **Permission Level** — This can be used to perform SoD analysis at action and permission levels.
- **Critical Actions** — This can be used to analyze the users who have access to one of the critical functions.
- **Critical Permissions** — This can be used to analyze users having access to one critical function.
- **Critical Roles/Profiles** — This can be used to analyze the users who has access to critical roles or profiles.

15. SAP GRC — Mitigation Controls

In SAP GRC 10.0, you can use mitigation controls when it is not possible to separate Segregation of duties SoD from the business process.

Example

In an organization, consider a scenario where a person takes care of roles within business processes that cause a missing SoD conflict.

There are different examples that are possible for mitigation controls:

- Release strategies and authorization limits
- Review of user logs
- Review of exception reports
- Detailed variance analysis
- Establish insurance to cover impact of a security incident

Mitigation Control Types

There are two types of mitigation control under SAP GRC Risk management:

- Preventive
- Detective

Preventive Mitigation Controls

Preventive mitigation control is used to reduce the impact of risk before it actually occurs. There are various activities that you can perform under preventive mitigation control:

- Configuration
- User Exits
- Security
- Defining workflow
- Custom Objects

Detective Mitigation Controls

Detective mitigation control is used when an alert is received and a risk occurs. In this case, the person who is responsible to initiate corrective measure mitigates the risk.

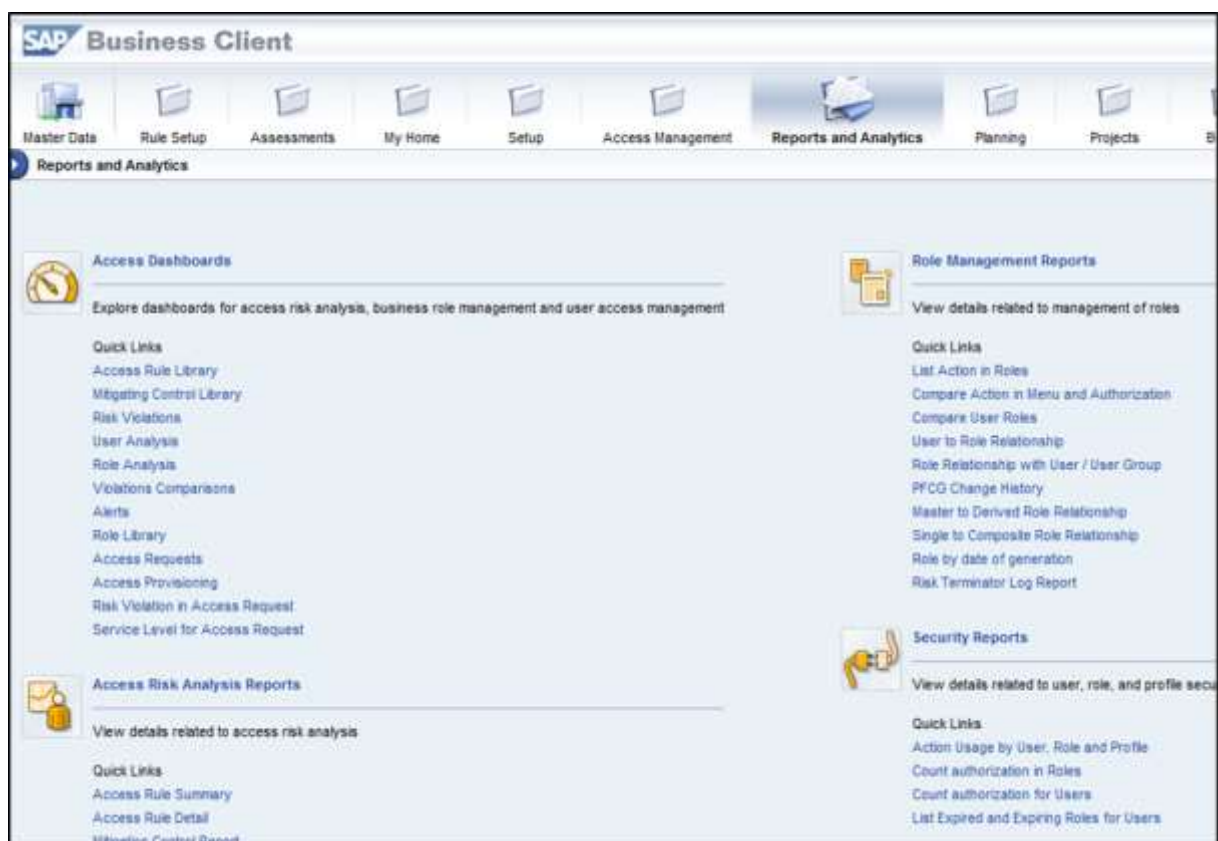
There are various activities that you can perform under detective mitigation control:

- Activity Reports
- Comparison of plan vs actual review
- Budget review
- Alerts

Setting up Migration Controls

Follow these steps to set up migration controls:

Step 1: Login to SAP GRC Access control.





Step 2: Perform a risk analysis on user level. Enter the below details:

- Report Type
- Report Format

Step 3: Click Execute.

Risk Analysis : User Level

Analysis Criteria

Saved Variants:

System	is		<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
User	is		<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
User Group	is		<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Custom Group	is		<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Risk Level	is	Critical	<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Rule Set	is	Global Rule	<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
User Type	is	Dialog	<input type="button" value="Copy"/>	<input type="button" value="Add"/>	<input type="button" value="Remove"/>

Report Options

Format:

Type:

- ☒ Access Risk Analysis ☐ Action Level ☐ Critical Action ☐ Critical Role/Profile
- ☒ Permission Level ☐ Critical Permission
- ☒ Include Mitigated Risks ☒ Show All Objects

Save Variant as:

Step 4: You can toggle between different report types as in the following screenshot:

The screenshot shows the 'Analysis Results' section with a 'Result' sub-section. The 'Display As' dropdown menu is open, showing options: 'Table' (selected), 'Executive Summary', 'Summary', 'Detail', 'Management Summary', and 'Executive Summary' (highlighted in yellow). The 'Type' is set to 'Permission Level' and the 'Format' is set to 'Executive Summary'. A red box highlights the 'Display As' dropdown and its menu.

The screenshot shows the 'Result' section with the 'Display As' dropdown set to 'Table' and the 'Format' set to 'Summary'. A green arrow points to the 'Summary' option in the 'Format' dropdown. The table below shows the results of the risk analysis.

User ID	Access Risk ID	System	Rule ID	Risk Level	Action	Last Executed On	Execution Count
GR10_ADM		SOD-CROSS			No rules were selected		0
GR11_ADM		SOD-CROSS			No rules were selected		0
GR12_ADM		SOD-CROSS			No rules were selected		0
GR13_ADM		SOD-CROSS			No rules were selected		0
GR14_ADM		SOD-CROSS			No rules were selected		0
GR15_ADM		SOD-CROSS			No rules were selected		0
GR16_ADM		SOD-CROSS			No rules were selected		0
GR17_ADM		SOD-CROSS			No rules were selected		0
GR18_ADM		SOD-CROSS			No rules were selected		0
GR19_ADM		SOD-CROSS			No rules were selected		0

Step 5: Logon to SAP GRC Access Control and schedule a risk analysis background job on role level.

Enter the following details:

- Report Type: Permission Level
- Report Format: Summary

Step 6: Click **Run in Background** as shown in the following screenshot:

Risk Analysis : Role Level

Analysis Criteria

Saved Variants:

System	is		<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Role Type	is	Technical Role	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Role	is		<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Risk by Process	is		<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Risk Level	is	Critical	<input type="button" value="Add"/>	<input type="button" value="Remove"/>
Rule Set	is	Global Rule	<input type="button" value="Add"/>	<input type="button" value="Remove"/>

Report Options

Format:

Type:

☒ Access Risk Analysis ☐ Action Level ☐ Critical Action ☐ Critical Role/Profile

☒ Permission Level ☐ Critical Permission ☐ Analytical Report

Additional Criteria:

☒ Include Mitigated Risks ☒ Show All Objects

Save Variant as:

Step 7: In the next window, you can select **Start Immediately**. Then, click **OK**.

Background Scheduler

Schedule Name: *

Schedule Activity: *

Recurring Plan: * ☐ Yes ☒ No

Start Immediately: * ☒ Yes ☐ No

16. SAP GRC — Superuser Privilege

In SAP GRC 10.0, Superuser Privilege Management needs to be implemented in your organization to eliminate the excessive authorizations and risks that your company experiences with the current emergency user approach.

The following are the key features in Superuser Privilege:

- You can allow Superuser to perform emergency activities within a controlled and auditable environment
- Using Superuser, you can report all the user activities accessing higher authorization privileges.
- You can generate an audit trail, which can be used to document reasons for using higher access privileges.
- This audit trail can be used for SOX compliance.
- Superuser can act as firefighter and have the following additional capabilities:
 - It can be used to perform tasks outside of their normal role or profile in an emergency situation.
 - Only certain individuals (owners) can assign Firefighter IDs.
 - It provides an extended capability to users while creating an auditing layer to monitor and record usage.

Standard Roles under Superuser Privilege Management

You can use the following standard roles for Superuser Privilege Management:

/VIRSA/Z_VFAT_ADMINISTRATOR

- This has the Ability to configure Firefighter
- Assign Firefighter role owners and controllers to Firefighter IDs
- Run Reports

/VIRSA/Z_VFAT_ID_OWNER

- Assign Firefighter IDs to Firefighter users
- Upload, download, and view Firefighter history log

VIRSA/Z_VFAT_FIREFIGHTER

- Access the firefighter program

17. SAP GRC — Implementing Superuser

Let us now understand how to implement Superuser.

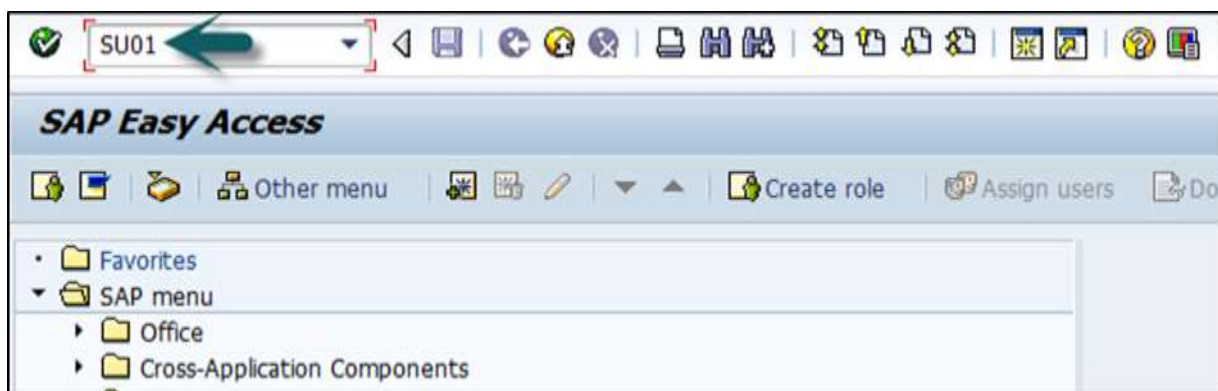
You can implement firefighter IDs by working on the following steps:

Step 1: Create Firefighter IDs for each business process area

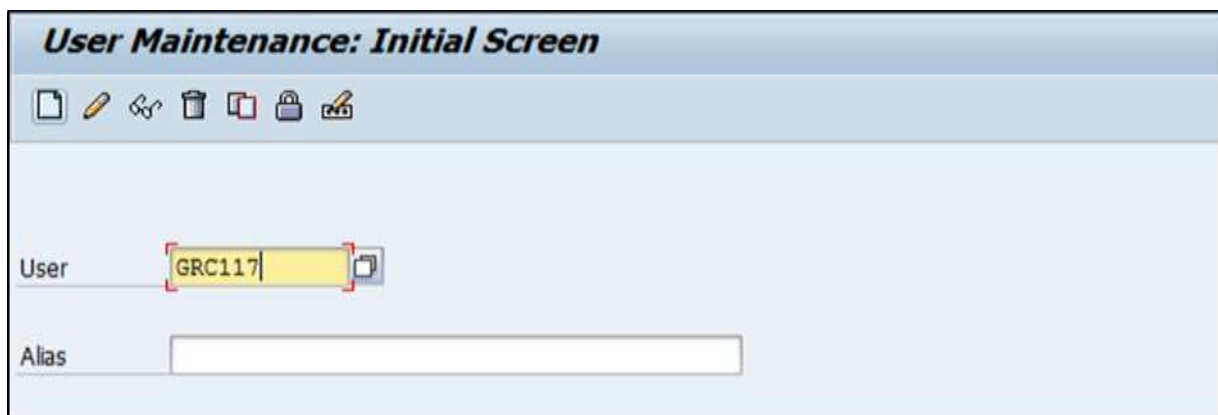
Step 2: Assign necessary roles and profiles to carry firefighting tasks.

You shouldn't assign profile SAP_ALL

Step 3: Use T-Code – SU01



Step 4: Click **Create** button to create a new user.



Step 5: Assign Firefighter roles as mentioned above to user id:

- Assign Firefighter roles to applicable user IDs.
- Assign administrator role /VIRSA/Z_VFAT_ADMINISTRATOR to superuser privilege management administrator:
- Administrator user should not be assigned any firefighting

- Assign the standard role /VIRSA/ Z_VFAT_FIREFIGHTER to:
 - **Firefighter ID:** Service user used for logon
 - **Firefighter user:** Standard user acting as a Firefighter in case
- Assign the ID owner role /VIRSA/Z_VFAT_ID_OWNER to:
 - Owner: Responsible for determining who will be assigned to
 - Controller: Receives notification when the Firefighter ID is responsibilities of emergency Firefighter IDs for his or her business area used.

Step 6: Go to **Roles** tab and select the mentioned roles as per the requirement.

Maintain User

User: GRC117
Last Changed On: 00:00:00
Status: Not saved

Address Logon data SNC Defaults Parameters **Roles** Profiles Gr...

Role Assignments

S...	Role	Type	Valid From	Valid to	Name
------	------	------	------------	----------	------

Role Name (1) 500 Entries found

Single Roles Composite Roles

Single role	Role name
<input type="checkbox"/> /VIRSA/Z_CC_ADMINISTRATOR	Compliance Calibrator Administrator
<input type="checkbox"/> /VIRSA/Z_CC_BUSINESS_OWNER	Compliance Calibrator Business Owner
<input type="checkbox"/> /VIRSA/Z_CC_REPORTING	Compliance Calibrator Reporting, Simulation and Display
<input type="checkbox"/> /VIRSA/Z_CC_SECURITY_ADMIN	Compliance Calibrator Security Admin
<input type="checkbox"/> /VIRSA/Z_CC_USER_ADMIN	Compliance Calibrator User Administrator
<input type="checkbox"/> /VIRSA/Z_RT_ADMINISTRATOR	
<input checked="" type="checkbox"/> /VIRSA/Z_VFAT_ADMINISTRATOR	Firefighter Administrator Role with full access
<input checked="" type="checkbox"/> /VIRSA/Z_VFAT_FIREFIGHTER	Firefighter Firefighter's role
<input checked="" type="checkbox"/> /VIRSA/Z_VFAT_ID_OWNER	Firefighter FirefighID owner's role
<input type="checkbox"/> /VIRSA/Z_VRMT_ADMINISTRATOR	Role Expert Administrator
<input type="checkbox"/> /VIRSA/Z_VRMT_ROLE_OWNER	Role Expert Role Owner
<input type="checkbox"/> /VIRSA/Z_VRMT_SECURITY	Role Expert Security Administrator
<input type="checkbox"/> /VIRSA/Z_VRMT_USER	Role Expert User

Step 7: Create RFC destination for internal switch to Firefighter ID:

- Name: Enter RFC connection name
- Connection Type: 3
- Enter a Description
(No username, passwords, or other logon data are required)
- Enter passwords for each Firefighter ID in the Security table: Passwords are stored as hash values and are unreadable after the administrator saves the value.

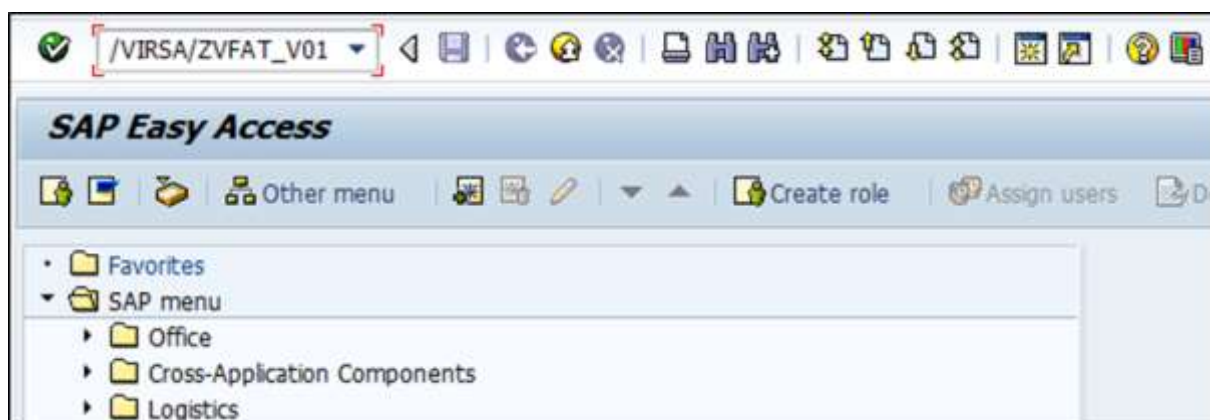
Step 8: To create firefighter log, you can schedule a background job.

Name the job **/VIRSA/ZVFATBAK** as in the following screenshot:

Superuser Log

Let us understand these steps for Superuser Log.

Step 1: Use T-Code: Transaction: /n/VIRSA/ZVFAT_V01





Step 2: You can now find the logs in the toolbox area.

Step 3: You can use **transaction code — SM37** to review the logs for individual user.

Job Overview

Release Spool Job log Step Application servers

Job overview from: 03.07.2016 at: : :
to: 03.07.2016 at: : :
Selected job names: *
Selected user names: GRC117

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

Job	Spool	Job doc	Job Created	Status	Start date	Start time	Duration(sec.)	Delay (sec.)
-----	-------	---------	-------------	--------	------------	------------	----------------	--------------

You can also use the web GUI to access all Firefighter information. Go to SAP GRC Access control -> Superuser privilege management.

So it is possible to access the data of different Firefighter installations on different SAP backend systems. And **it is not necessary to log on to each system anymore.**

Reports Configuration

Log Report

System: TRN
Reason Code: All
Firefighter ID: All
Firefighter ID Owner: All
Firefighter: All
Date: All
Time: All
Transaction: All

Firefighter ID: GRCFFID-00
Session Date: 6/2/07

Firefighter: GRC300-00
Session Time: 01:57:47

Firefighter ID Owner: GRCFFOWN-00
Reason Code: CODE1

Transaction	Report Name	Server	Date	Time
SMEN	RFC	xd0ldc00_XD0_50	6/2/07	01:57:54
F110	RFC	xd0ldc00_XD0_50	6/2/07	01:57:58

Firefighter ID: GRCFFID-00
Session Date: 6/2/07

Firefighter: GRC300-00
Session Time: 02:12:01

Firefighter ID Owner: GRCFFOWN-00
Reason Code: CODE1

Transaction	Report Name	Server	Date	Time
SMEN	RFC	xd0ldc00_XD0_50	6/2/07	02:12:11

Firefighter ID: GRCFFID-00
Session Date: 6/2/07

Firefighter: GRC300-00
Session Time: 02:13:36

Firefighter ID Owner: GRCFFOWN-00
Reason Code: CODE1

18. SAP GRC — Enhanced Risk Analysis

You can implement enhanced risk analysis using organization rules. In shared service business units, you can use organization rules to achieve procedures for risk analysis and management of user groups.

Consider a case where a user has created a fictitious vendor and invoices have been generated to gain financial benefit.

You can create an organization rule with company code enabled to eliminate this scenario.

Following steps should be performed to prevent this situation:

- Enable organization level fields in functions
- Create org rules
- Update org user mapping table
- Configure risk analysis web service

Enable organization level fields in functions

Follow these steps to enable organization level fields in functions:

- Find out functions to be segregated by organization level in shared service environment.
- Maintain permissions for affected transactions.

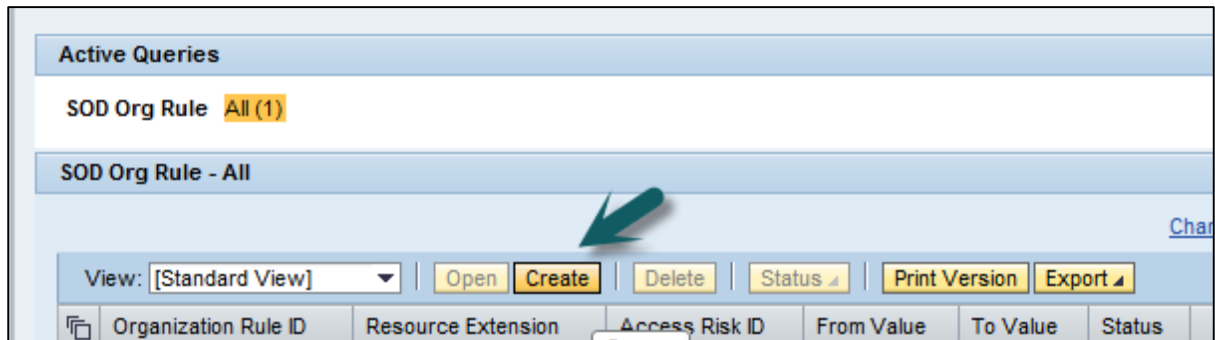
Create organization rules

Follow these steps to create organization rules:

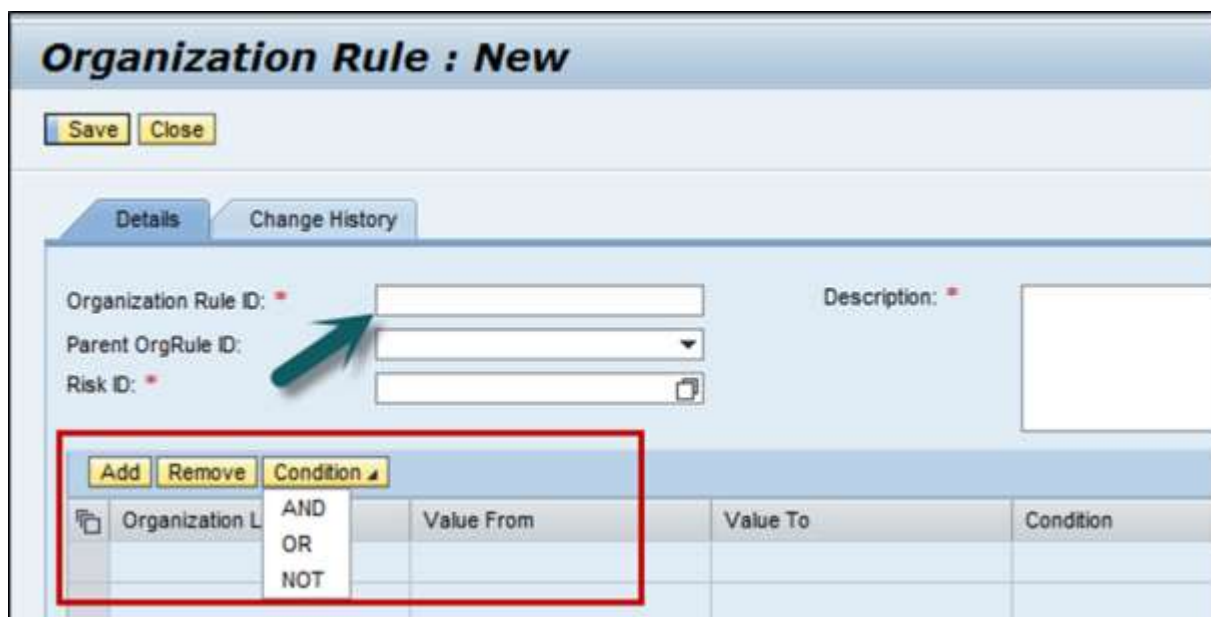
Step 1: Create organization rules for every possible value of organization field.

Step 2: Go to rule architect -> Organization level -> Create





Step 3: Enter the organization rule ID field.



Step 4: Enter the related task.

Step 5: Define organization level field and combine them with Boolean operators.

Step 6: Click **Save** button to save the Organization rule.

Benefits of Using Organization Rules

Let us now understand the benefits of using organization rules.

You can use organizational rules for companies to implement following features:

- You can use organization rules to implement shared services. They segregate duties with the help of organizational restrictions.
- Go to Risk Analysis -> Org Level
- Perform a risk analysis of analysis type Org Rule against a user

- You will receive the following output:
 - The risk analysis will only show a risk if the user has access to the same specific company code in each of the conflicting functions.

19. SAP GRC — Assigning Mitigation Controls

In an organization, you have control owners at different organization hierarchy levels. Risk should be managed and mitigated as per level of access.

The following are the control owners in an organization:

- One control owner for global level
- Different control owners for regional levels
- Multiple control owners for local level

You have to assign mitigation controls to different levels of responsibility. Now if there is a risk violation at region and local level, you should perform risk mitigation at highest level.

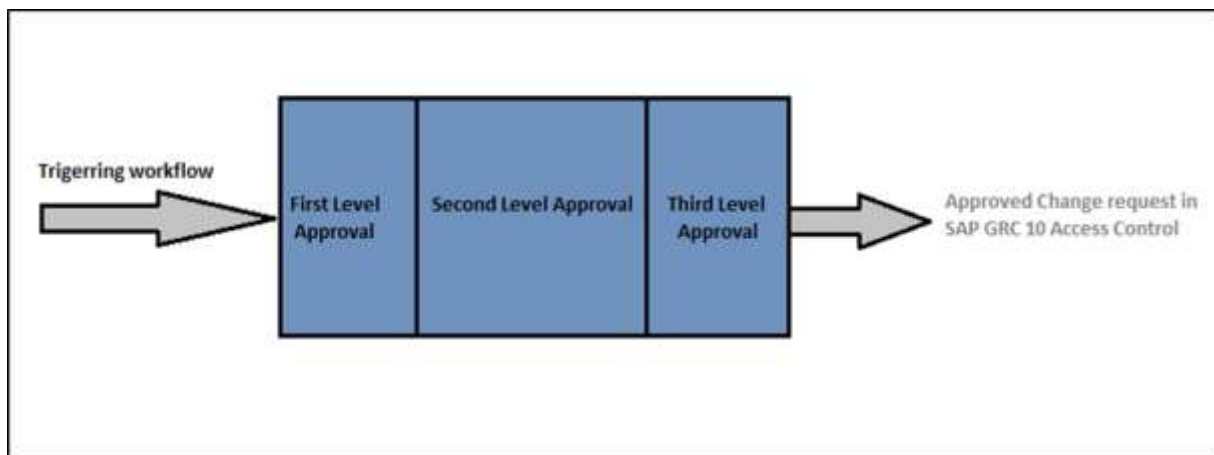
To use mitigation control at organization hierarchy, let us say you have performed risk analysis at organization level and the user violates all child organization rules and meets the condition of parent rule and only parent rule shows up; you can perform risk mitigation in the following ways:

- Mitigation on user level
- Mitigation on organization level

20. SAP GRC – Workflow Integration

In SAP GRC 10.0, a workflow is triggered in the following situations:

- To create or update risks.
- To create or update mitigation controls.
- To assign mitigation controls.



Activate workflow-based risk and control maintenance

As you follow workflow-based change management approach in risk analysis and remediation, you have to perform the following steps:

- Go to Configuration tab -> workflow options
- Set the below parameters:
- Set parameter Risk Maintenance to YES
- Set parameter Mitigation Control Maintenance to YES
- Set parameter Mitigation to YES
- Set up the Workflow Web Service URL:

http://<server>:<port>/AEWFRequestSubmissionService_5_2/Config1?wsdl&style=document

- Customize the workflows need to be performed inside the Workflow Engine.

Workflow-based Risk and Control Maintenance

When you maintain a risk or a control in SAP GRC, you perform the following steps:

Step 1: In Access Control, a workflow is triggered to perform a risk or a control workflow

Step 2: When you get the required approvals, approval steps depend on customer requirement.

Step 3: Get an audit trail documenting the complete approval process.

SAP GRC — Global Trade Services

Using SAP GRC Global Trade Services, you can improve cross-border supply chain of goods in an organization. This application allows you to automate the trade processes and helps you to control the cost and reduce the risk of penalties and also to manage inbound and outbound processes.

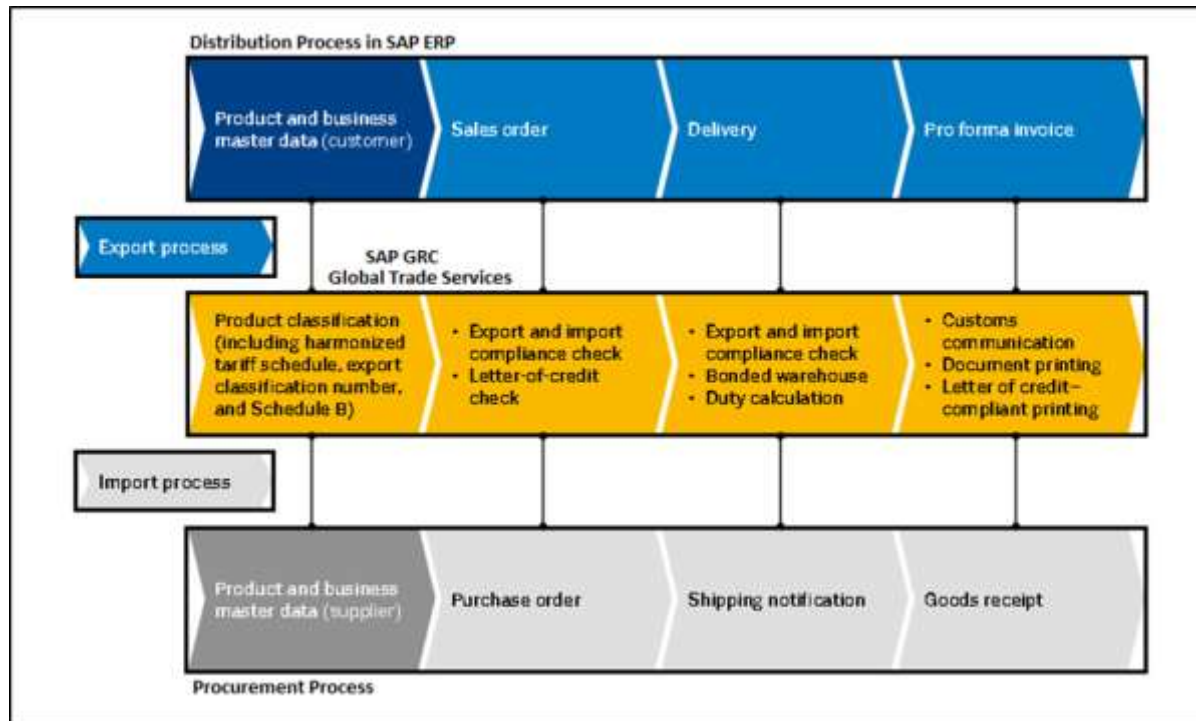
Using GTS, you can create **centralize single repository** that is used to contain all compliance master data and content.

The following are the key advantages of using Global Trade Services:

- It helps in reducing the cost and effort of managing compliance for global trading.
- It can ease time-consuming manual tasks and helps in improving productivity.
- Reduces the penalties for trade compliance violations
- It helps you to create and improve the brand and image and avoid trade with sanctioned or denied parties.
- Paves way for customer satisfaction and improves the quality of service.
- It fastens the inbound and outbound processes by performing customs clearance and also helps in removing unnecessary delays.

Integration between SAP ERP and SAP Global Trade Services

The following illustration shows the process flow of integration between SAP ERP and SAP Global Trade Services:



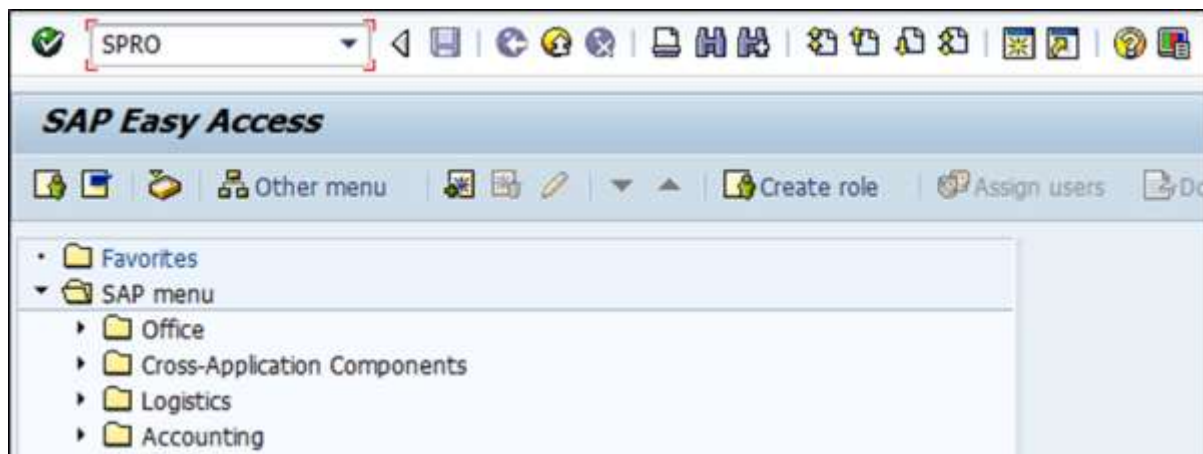
21. SAP GRC — Installation and Configuration

When you install SAP GRC, there are various configuration and settings that you need to perform in GRC. The key activities include:

- Creating connectors in GRC
- Configuring AMF to use the connectors
- Creating callback connectors
- Creating connections in GRC is standard process of creating RFC connection using T-Code: SM59

SAP GRC is available in SAP Easy Access -> under Governance Risk Compliance folder.

Step 1: Open SAP Easy access menu and use T-Code: SPRO



Step 2: Go to Governance, Risk and Compliance under SAP Reference IMG -> Common Component Settings -> Integration Framework -> Create Connectors



Step 3: Create connector is shortcut for creating SM59 connection.

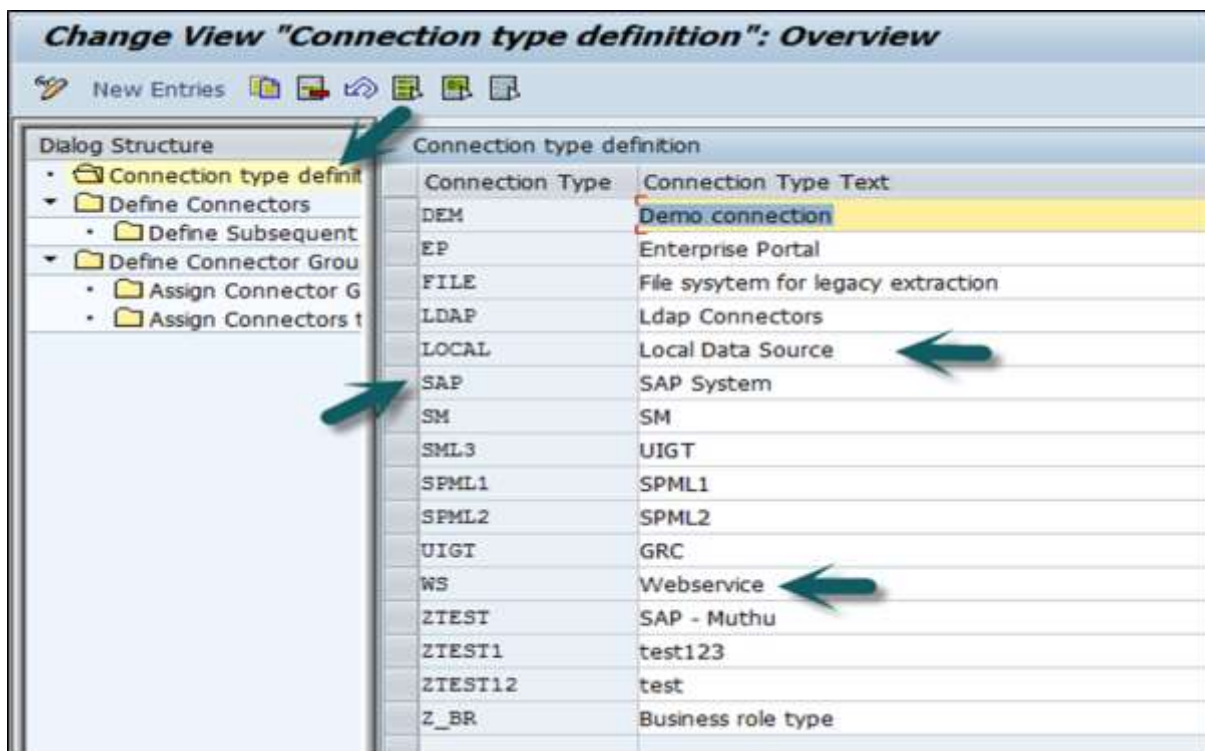
Step 4: To see existing connections, go to Maintain Connectors and Connection Types:



You can see connector types as shown below. These connector types can be used for configuration for different purposes:

- Local system connectors are used to integrate with the SAP BusinessObjects Access Control application for monitoring segregation of duty violations
- Web service connectors are used for external partner data sources (see section
- SAP system connectors are used in all other cases.

Step 5: Go to **Connection Type Definition** tab:



Step 6: Define which of the connectors previously defined in SM59 can be used in monitoring. Go to define Connectors



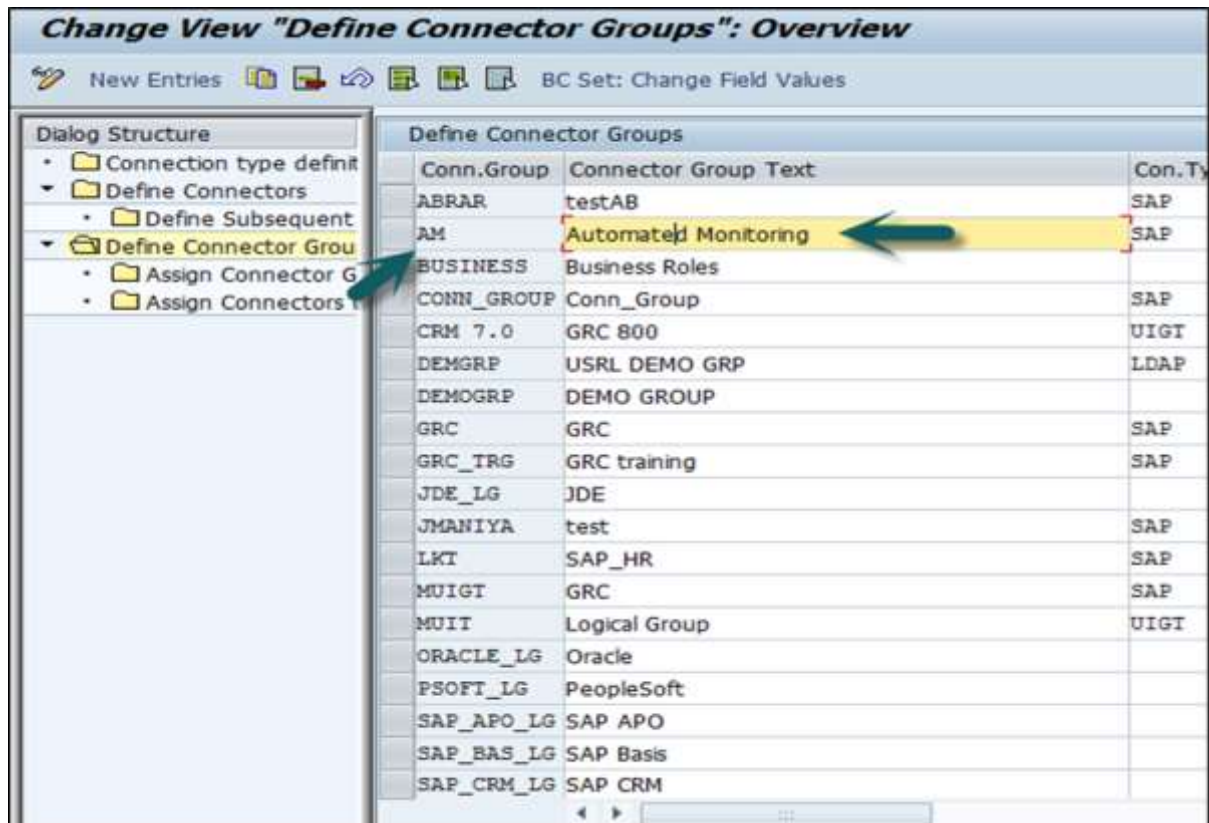
Step 7: In the screen you can see a connector name — SMEA5_100. This is a connector which shows a connector to an ECC system.

Define Connectors			
	Target Connector	Connection Type	Source Connector
	ARIBA_GRC	FILE	ARIBA_GRC
	D9M PORTAL	EP	D9M PORTAL
	D9MPORTAL	EP	D9MPORTAL
	DBM	SAP	DBM
	DBM - GRC DEV BI	SAP	DBM - GRC DEV BI
	DCM	SAP	DCM
	DL3_800	SAP	
	GI7CLNT600	SAP	SM2
	OR_PRD	SAP	OR_PRD
	PS_PRD	SAP	PS_PRD
	SMEA5_100	SAP	SM2
	XD3CLNT800	SAP	D9MCLNT800

The third column that lists the name of a connector which is defined in the monitored system, and which is configured to point back to the GRC system being configured here.

SMEA5_100 is another connector in the GRC system and it points to an ERP system which is to be monitored. SM2 is a connector on the ECC system and it points back to GRC system.

Step 8: Define Connector Group Screen on the left side.



Step 9: Here you have to ensure that all the connector configurations for automated monitoring should belong to the configuration group called **Automated Monitoring** as shown above under **define automated monitoring connector group**.

Step 10: Go to **assign connectors to connector group** on the left side.



Step 11: Assign the connector to AM connector group as mentioned in the above screenshot.

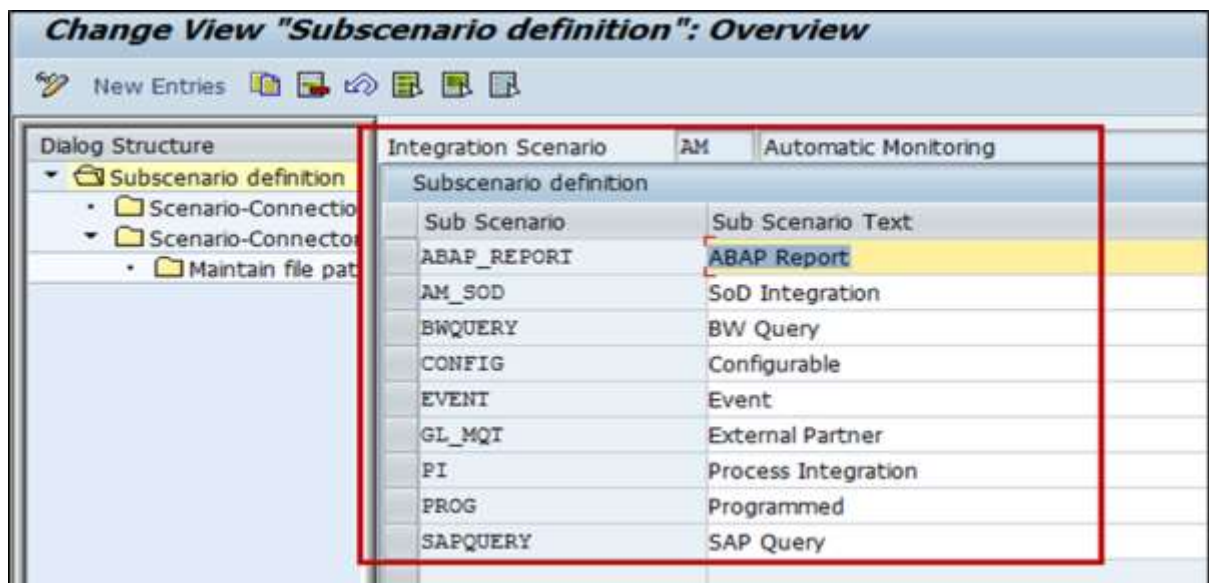
Step 12: Go to **Maintain Connection Settings** in main menu as in the following screenshot.



Step 13: You need to enter the integration scenario you want, enter AM as in the following screenshot:



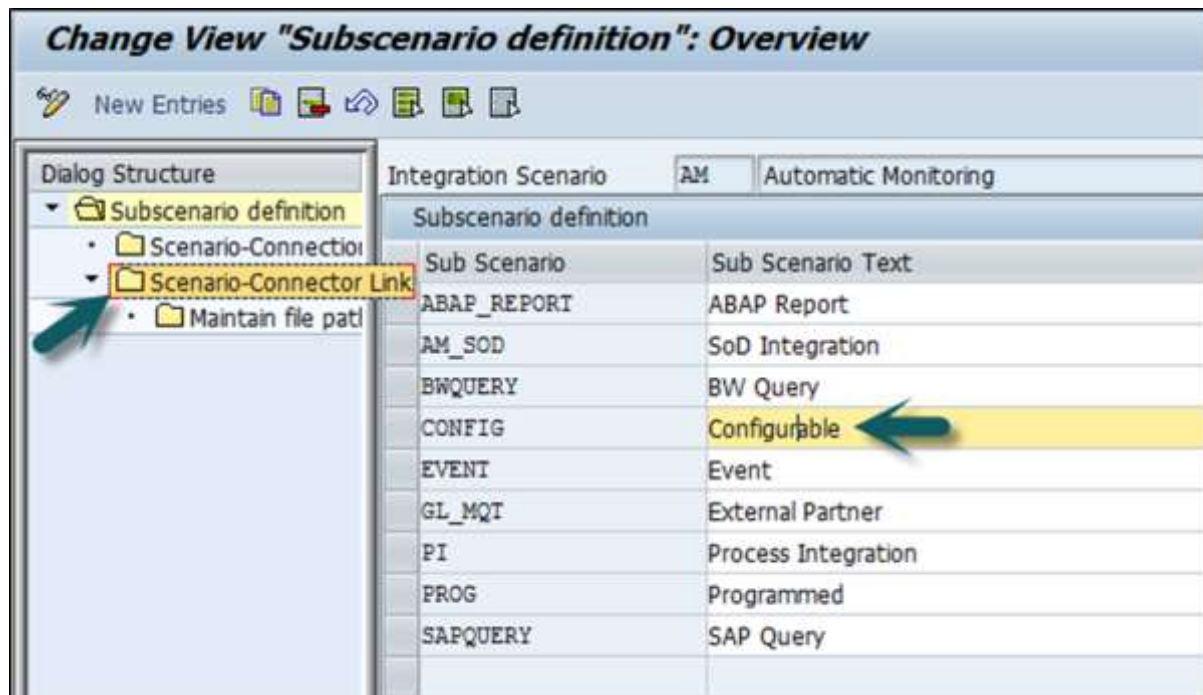
Step 14: Click on the green tick mark as shown in the above screenshot; you will be directed to the following screen with nine sub-scenarios.



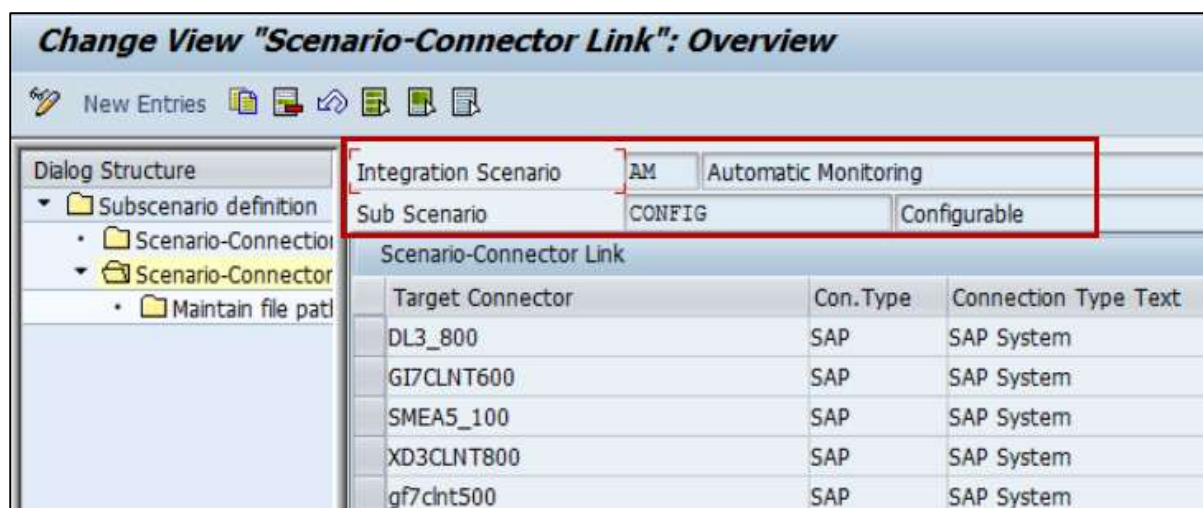
The highlighted box shows nine entries called sub-scenarios and they represent the different types of data sources and business rules supported under Process Control 10.

Step 15: For the System to be monitored, you need to link the corresponding connector to that sub-scenario.

Step 16: Select the sub-scenario you want configurable and then choose Scenario Connector Link in the left side as shown below:

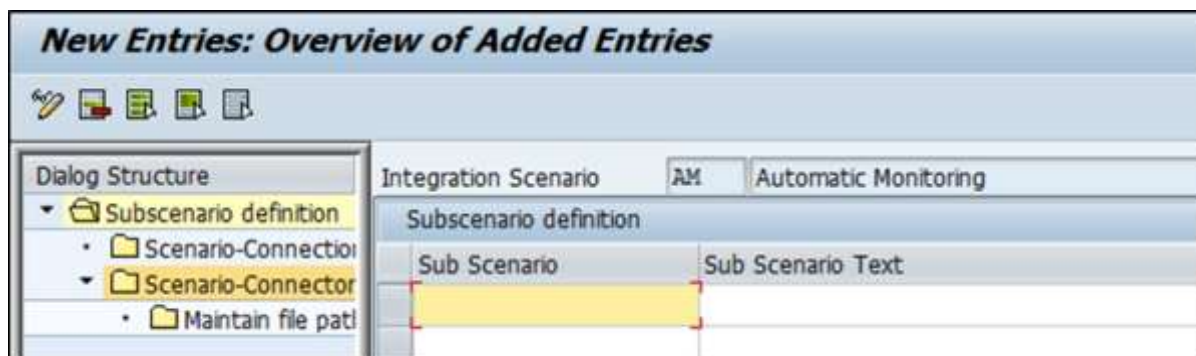


Step 17: You will be directed to the following screen:



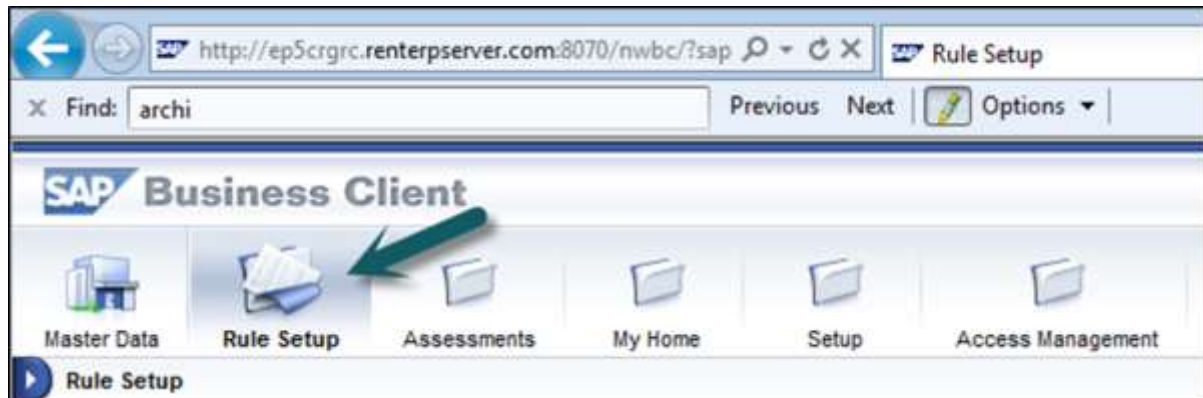
Step 18: Now the connector you want to use for that scenario is not already in the list for that sub-scenario,

- You can click on New Entries button at the top to add it.
- You can follow these recommendations to add subscenarios:
 - ABAP Applications: ABAP report, SAP query, configurable program
 - SAP BW: BW query
 - Non SAP System: External Partner
 - Process Integrator: PI
 - GRC System: SoD integration

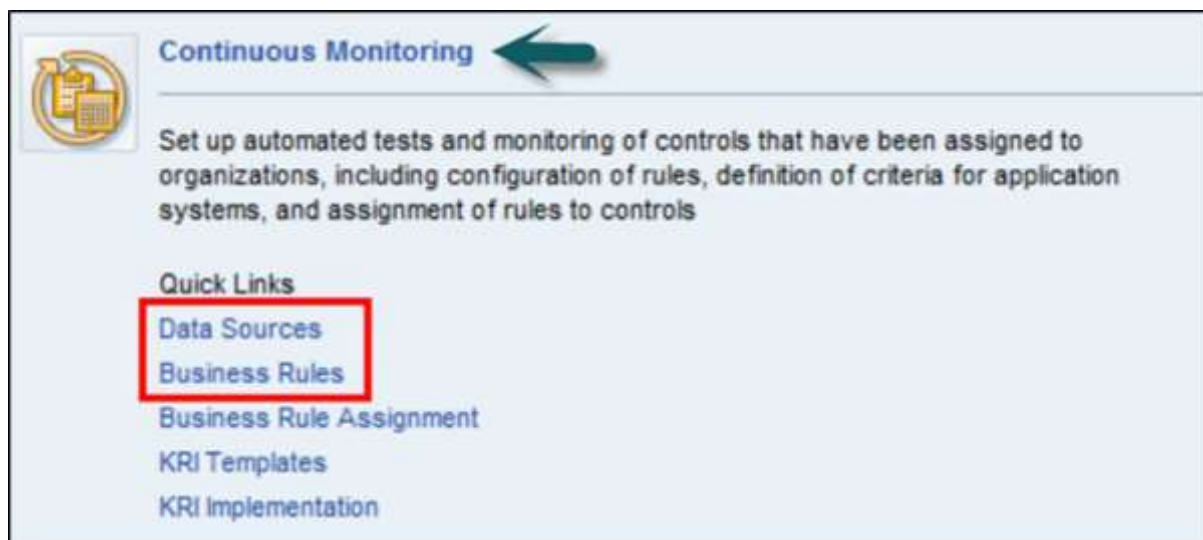


22. SAP GRC — Data Sources and Business Rules

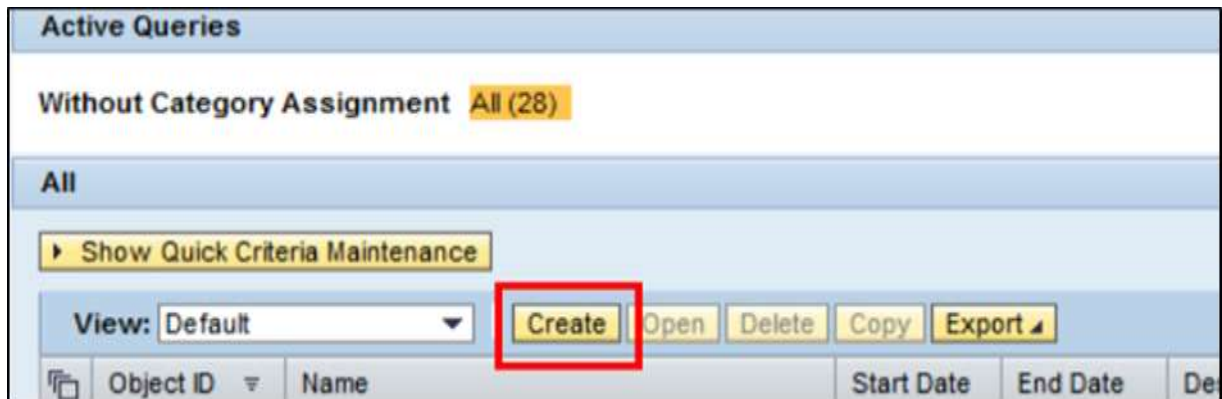
In SAP GRC Process Control, you can create data sources. Here, the design time user interfaces are under Rule Setup option in Business client.



Go to continuous monitoring section where you can find **Data Sources** and **Business Rules** option.



To create a new Data Source, click on Data Sources -> Create.



In the next field, you can see three different tabs to define the data source.

- General Tab
- Object Field
- Link and Attachment

In General tab, enter the following details:

- Name of data source
- Start date of the validity period
- End date of the validity period
- Status

Go to **Object Field** tab, select the following fields:

The screenshot shows the 'Data Source' configuration window in SAP GRC. The 'Object Field' tab is selected. The 'Sub Scenario' dropdown menu is open, showing a list of options: ABAP Report, SoD Integration, BW Query, Configurable, Event, External Partner, Process Integration, Programmed, and SAP Query. A red box highlights the dropdown menu. A green arrow points to the 'Save' button at the top left. Another green arrow points to the 'Connection Type' field on the right.

Data Source

Timeframe 10/26/2011 ID 50003415 Last Modified On

Save Close

General **Object Field** Attachments and Links

Sub Scenario

Sub Scenario: * [Dropdown Menu]

Parameters

Fields

Save Close

Connection Type: *

- ABAP Report
- SoD Integration
- BW Query
- Configurable
- Event
- External Partner
- Process Integration
- Programmed
- SAP Query

23. SAP GRC — Creating Business Rules

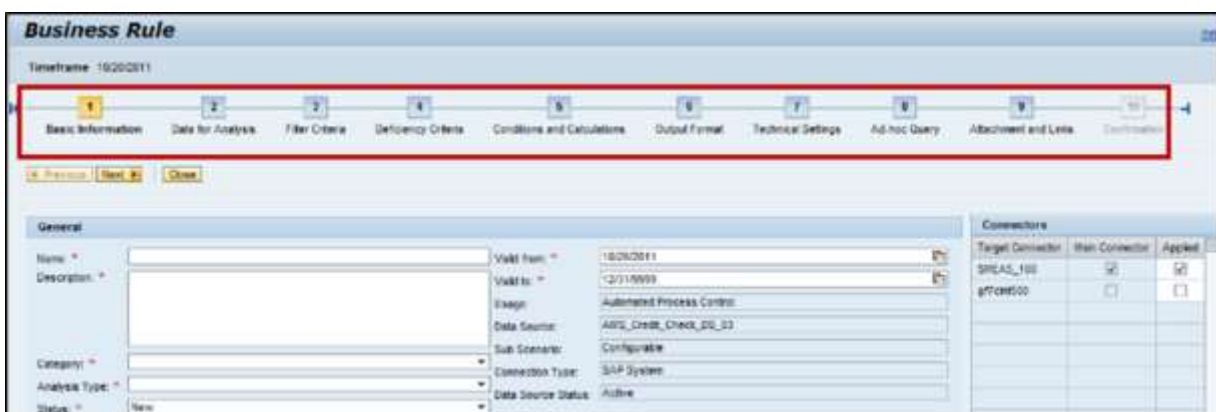
In SAP GRC 10.0, you can use Business Rules to filter the data stream that is coming from the data sources and you can apply the user configured conditions/calculations against that data to determine if there is a problem which requires attention.

The Business Rule type purely depends on the Data Source type.

Go to Business Rules under Rule Setup.



To create new business rules, there is a list of steps that you need to follow with few of the Data Source types.



Target Connector	Main Connector	Applied
SREAS_100	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
gTCMS00	<input type="checkbox"/>	<input type="checkbox"/>

You need to define details in each tab. For example, in the **General** tab, you need to enter the basic information about business rule. **Business rule gives you data to filter the deficiencies.**

In Data for Analysis tab, you will see a list of available fields.

1 Basic Information 2 Data for Analysis 3 Filter Criteria 4 Deficiency Criteria 5 Conditions and Calculations

Previous Next Close

Available Fields

<input type="checkbox"/>	Field Description
<input type="checkbox"/>	Credit control area
<input type="checkbox"/>	Client
<input type="checkbox"/>	Currency Key
<input type="checkbox"/>	Credit check: Set credit status (block)
<input type="checkbox"/>	Maximum document value
<input type="checkbox"/>	Credit check: Static check
<input type="checkbox"/>	Credit check: dynamic check

Selected Fields

<input type="checkbox"/>	Field Description
--------------------------	-------------------

Go to filter criterion to pass the filter condition on available objects. You can select from different operators.

Save Close

Basic Information Data for Analysis Filter Criteria Deficiency Criteria Conditions and Calculations

Filter Fields

Select/Unselect Filters

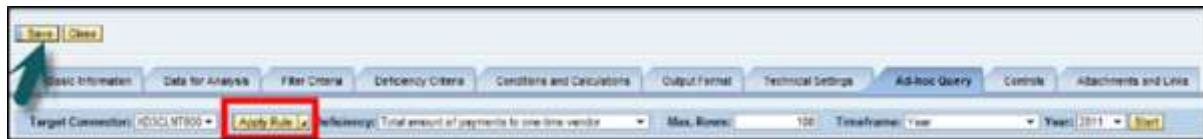
Field Description	Value Required	Field An
<input type="checkbox"/> Company Code		Filter
<input type="checkbox"/> Debit/Credit Indicator		Filter
<input type="checkbox"/> One-time account?		Filter

Filter Value

Add Delete

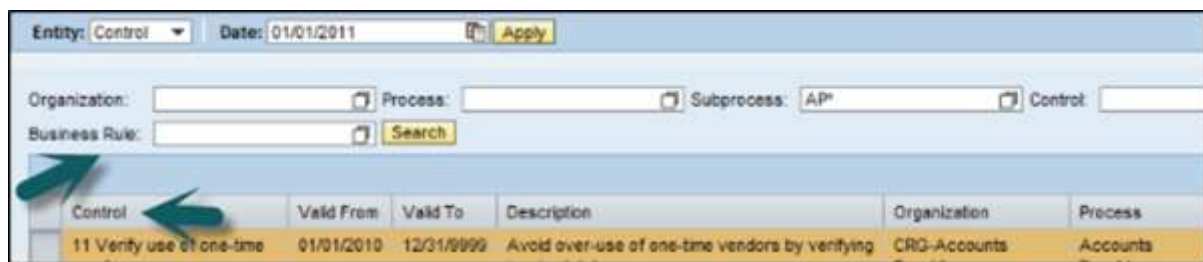
Sign	Option	Low
Range limit included	Not Equal to	

When you define all the steps, you have an option to save the rule. If you want to apply the rule to Process Control, you can do by clicking **Apply** button.



To assign business rule to a process control, go to Business rule assignment under Continuous Monitoring in Rule Setup.

Select the control and search for the Business rule to apply.



We have now understood how to create Data Sources and Business Rules to apply filter on Data Sources and how to assign business rules to process controls.