



Implementation of

Rota Tool, DAD

Edit and frame for

Account Actions

Management in

Oracle APEX

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Implementation of Rota Tool, DAD Edit and frame for Account Actions Management in Oracle Application Express

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Abstract

The aim of this document is to describe the projects that were implemented during the openlab Summer Student Programme 2012: Rota Tool – an application to manage people on support in different domains in DB group of the IT department, DAD Edit – an application that enables the users, that have accounts on databases that are managed by DB group to easily access their Data Access Descriptors and edit them if needed and a frame for an Account Actions Management project.

Introduction

My main goal during the openlab Summer Student Programme was to create two applications and a frame for a third one, which would be used mainly internally by DB group of IT department.

The first one – Rota Tool - was connected with management of people on support for different domains. It was designed to replace edited by hand twiki pages by creating database storage and user friendly interface to display and update information.

The second one – DAD Edit – was related to Data Access Descriptors created for databases' users. It was made to replace the old tool, which was not using data from FIM, which correlates users with their schemas defining DAD ownership. It made it difficult to display all the user's DADs or to quickly edit few of them.

For both applications there was also created technical documentation on a group's twiki page, which is accompanied by small manuals on making extensions to the applications. This will enable others to maintain projects and keep them up to date as it will be needed.

The third one was only a frame for an Account Actions Management application. It will be an interface for simple database account operations for users and administrators.

1.1 Oracle Application Express

Oracle Application Express (APEX) is a tool for rapid web application development over Oracle databases. It provides an easy access to database objects as well as intuitive creation of standard interface elements – like reports, forms and calendar reports. Due to this features and because there were already tools in APEX (what makes it easier to maintain in the future) this technology was chosen to create both applications.



2 Rota Tool

When I came to CERN there were 3 domains: oracle, non-oracle and physics piquet that had their own support system management –on separate twiki pages, editable by typing in the names. Only one was based on database, which in fact was not automatically synchronised with the twiki page. It was only a display – if somebody wanted to change data he had to change it in database and then on twiki page manually. The application combines data display for all of these three domains and management system for two of them, due to differences in a support system.

2.1 Introduction

The Rota Tool is application that enables easy management of people on support in different domains in DB group of IT department. Each member of defined valid e-group can use this application: view and edit all the other domains' support teams (members limited to people assigned to e-group defined for this domain). Support team is always defined for a domain for the whole week from Monday to Sunday and consists of a main employee on support and a backup one. Moreover, there is also possibility to leave a comment for a period of time reminding of an event affecting the support process.

Additionally, the application sends weekly mails reminding of overtaking of support for the week to people assigned to the domain's support and to people that subscribed themselves for mailing service for specific domain and week. Mail to support team consists of fixed information defined for the team's domain and comments concerning this domain for the forthcoming week. If there is nobody assigned for the forthcoming week the mail is sent to everyone assigned to an e-group defined for this domain.

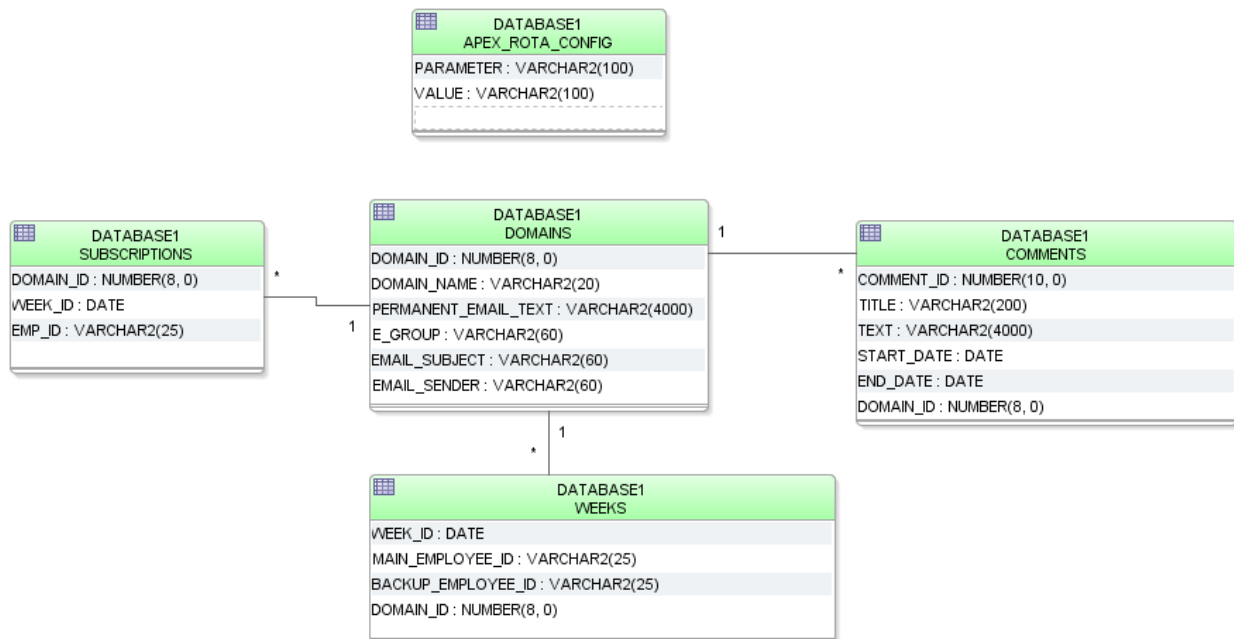
2.2 Specification

One of the most important requirements in this application was scalability, so that new domains could be easily added. Therefore we decided for data driven design - thanks to this approach adding a domain into database effects in adding the domain to whole application. And then right away there can be defined support team and the domain will be taken into account in weekly mailing.

The second important requirement was usability – as an internal application it had to be easy and fast to use. That is why the workflow was designed to enable data browsing in a convenient way e.g. after adding a comment user is redirected to week details containing this comment, there is a direct button to browse forthcoming week etc..

2.3 Data structure

The Rota Tool uses a database to store data. It also uses [LDAP](#) connection which is used to fetch personal data of employees and data concerning e-groups' members and e-group membership. Below there is database tables' diagram:



The application's database consists of 5 tables. One of them stores settings and the rest of them stores Rota Tool's application data.

2.3.1 APEX_ROTA_CONFIG

In this table application's settings are kept. They are stored as name of parameter and its value. They are mainly used for authorization and defining a LDAP connection.

2.3.2 DOMAINS

This table stores the domains and data defining content, subject, sender of a weekly email and e-group, which members can be on support for this domain.

2.3.3 COMMENTS

This table contains all comments that were left for various domains and periods of time. Comment has its title, which can be displayed in calendar region, text, domain that it affects, start date and end date. It can be connected with only one domain.

2.3.4 WEEKS

In this table the support teams (main support and backup/second line support) for specific week and domain are saved.



2.3.5 SUBSCRIPTIONS

In this table users' subscriptions for extra mailing service are kept. It contains specified week, domain and user login.

2.4 Isolation of business logic

To create an easily maintainable system the business logic was isolated from the application definition. In APEX it is very important, because the interface of this tool spreads business logic between various items' definitions, dynamic actions, processes and calculations which makes it almost impossible to gather all the information later on.

Therefore whole business logic is stored in database as a rota package of functions and procedures, which are then called only from within application items or actions. If function should return many rows of results, there is also special type defined for this data suiting the needs of target item. If it is the case all the data is returned as a pipelined table.

2.5 LDAP

Lightweight Directory Access Protocol is an application protocol used for accessing and maintaining distributed directory information.

2.5.1 What is LDAP data used for?

In CERN one of the usages of LDAP is storing information and enabling access to information stored in other databases about the relations between employees and e-groups and about employees themselves. In Rota Tool information stored in LDAP is used in three ways.

First of all it is used for authorization – only employees who are members of valid e-group defined in APEX_ROTA_CONFIG can access the whole application.

Secondly, the data fetched from LDAP is used to create select lists of employees legitimate to be on support for defined domain.

Lastly, the LDAP information is used for getting personal data of employees such as last name, first name, mail.

2.5.2 LDAP queries

In order to fetch data described in the previous paragraph three queries needed:

- ✓ Fetching boolean indicating whether specified user is a member of an e-group. This was achieved by searching for attribute 'member' using filter '(member=CN=|| p_username ||,OU=Users,OU=Organic Units,DC=cern,DC=ch)', where p_username is a variable containing login of currently authenticated person, while base group was defined as valid e-group



- ✓ Fetching all members of given e-group. This was achieved by finding group entry and fetching its member attribute.
- ✓ Getting information such as fist name, last name, mail was achieved by querying about related attributes using filter
'(&(objectClass=user)(sAMAccountName=||login|'))'

2.6 Jobs and scheduler

For regular mail sending there is a schedule created, which would trigger a job every week. Job is defined as a call of a procedure SEND_MAIL from rota package. This procedure calculates date and sends mails for all domains kept in the database for the current week (mailing service is scheduled for Monday morning): mails to support team, mails to everyone if there is nobody on support and mails to all users who have subscribed for them.

2.7 Interface overview

2.7.1 Home Page

This page contains calendar region. There are support teams displayed as well as all the comments or comment indicators. There is also an option to go directly to a comment form or any week details (using the calendar region).

Welcome: JSADLO Logout

Calendar
Comment form
Duty report
My scheduled support
Physics piquet

Home

< Previous Today Next >

August 2012

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
30	31	01	02	03	04	05
oracle: 06 • Marcin Blaszczyk • Mariusz Piorowski non-oracle: • Paul Smith • Ewan Roche	07	08	09	10	11	12
oracle: 13 • Mariusz Piorowski • Giacomo Tenaglia non-oracle: • Ewan Roche • Borja Aparicio Cotarelo	14	15	16	17	18	19
oracle: 20 • Giacomo Tenaglia • Nicolas Bernard Marescaux non-oracle: • Borja Aparicio Cotarelo • Artur Wiecek	21	22	23	24	25	26
oracle: 27 • Lucja Canali • Katarzyna Maria Dziejdziewicz-Wojcik non-oracle: • Artur Wiecek • Giacomo Tenaglia	28	29	30	31	01	02



2.7.2 Week details

Page displays details for chosen week: support team for the chosen domain and all the comments in the interactive report. The decision on displaying all the comments for the displayed week instead of only ones concerning chosen domain was based on a fact, that comments for the other domains might also be useful for other domain's support (so viewing all of them is more convenient) and if user would like to see comments only for a chosen domain there can be filters in the report used.

On this page there is also possibility to subscribe for mailing service for a specific domain and week and see who has already subscribed.

2.7.3 Comment form

This page consists of simple form for adding, editing and deleting comments.



2.7.4 Duty report

This is a simple interactive report that displays all stored support teams (all rows from weeks displayed with name and first name instead of user login and domain name instead of domain_id). It is designed for fast browsing based on domain, given week or person on support.

Welcome: JSADLO Logout

Calendar Comment form **Duty report** My scheduled support Physics piquet

Domain Name = 'oracle'

Domain Name	Main Employee	Backup Employee	From	To
oracle	Nilo Segura Chinchilla	Eva Dafonte Perez	24-SEP-2012	30-SEP-2012
oracle	Eva Dafonte Perez	Anton Topurov	01-OCT-2012	07-OCT-2012
oracle	Anton Topurov	Dawid Wojcik	08-OCT-2012	14-OCT-2012
oracle	Dawid Wojcik	Zbigniew Baranowski	15-OCT-2012	21-OCT-2012
oracle	Zbigniew Baranowski	Eric Grancher	22-OCT-2012	28-OCT-2012
oracle	Eric Grancher	Arash Khodabandeh	29-OCT-2012	04-NOV-2012
oracle	Arash Khodabandeh	Ruben Domingo Gaspar Aparicio	05-NOV-2012	11-NOV-2012
oracle	Ruben Domingo Gaspar Aparicio	Katarzyna Maria Dziedziniwicz-Wojcik	12-NOV-2012	18-NOV-2012
oracle	Katarzyna Maria Dziedziniwicz-Wojcik	Marcin Blaszczyk	19-NOV-2012	25-NOV-2012
oracle	Marcin Blaszczyk	Mariusz Piorkowski	26-NOV-2012	02-DEC-2012
oracle	Mariusz Piorkowski	Giacomo Tenaglia	03-DEC-2012	09-DEC-2012
oracle	Giacomo Tenaglia	Luca Canali	10-DEC-2012	16-DEC-2012
oracle	Luca Canali	Nicolas Bernard Marescaux	17-DEC-2012	23-DEC-2012
oracle	Nicolas Bernard Marescaux	Szymon Skorupinski	07-JAN-2013	13-JAN-2013
oracle	Szymon Skorupinski	Przemyslaw Adam Radowiecki	14-JAN-2013	20-JAN-2013

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2.7.5 My scheduled support

This is an interactive report, which displays data based on user's login. It shows all the scheduled supports and subscriptions for logged employee. In addition there is a small calendar added with support indicators for a visualisation.

Calendar Comment form Duty report **My scheduled support** Physics piquet

Calendar

August 2012

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
30	31	01	02	03	04	05
06 non-oracle	07 oracle	08	09	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	01	02

Domain Name	From	To	Type Of Support
oracle	05-NOV-2012	11-NOV-2012	Main support
oracle	16-JUL-2012	22-JUL-2012	Main support
oracle	26-MAR-2012	01-APR-2012	Main support
oracle	29-OCT-2012	04-NOV-2012	Backup support
oracle	19-MAR-2012	25-MAR-2012	Backup support
oracle	09-JUL-2012	15-JUL-2012	Backup support
oracle	23-JUL-2012	29-JUL-2012	Subscription
oracle	06-AUG-2012	12-AUG-2012	Subscription
non-oracle	23-JUL-2012	29-JUL-2012	Subscription
non-oracle	06-AUG-2012	12-AUG-2012	Subscription

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2.7.6 Physics piquet

On this page there is only simple calendar displaying data about physics piquet based on a view in the database. After consulting users it was decided to display a support team for each day – this was based on a fact that this looks more like a system used to change the support team and that there are no comments in this calendar so there is no problem of too much data.

Welcome: JSADLO Logout

Calendar							Comment form	Duty report	My scheduled support	Physics piquet
Physics piquet										
< Previous Today Next >										
July 2012										
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday				
25	26	27	28	29	30	01	To 12:00 Przemyslaw Adam RADOWIECKI From 12:00 Zbigniew BARANOWSKI			
Zbigniew BARANOWSKI 02	Zbigniew BARANOWSKI 03	Zbigniew BARANOWSKI 04	Zbigniew BARANOWSKI 05	Zbigniew BARANOWSKI 06	Zbigniew BARANOWSKI 07	Zbigniew BARANOWSKI 08				
Zbigniew BARANOWSKI 09	Zbigniew BARANOWSKI 10	To 08:00 Zbigniew BARANOWSKI From 08:00 Szymon SKORUPINSKI	Szymon SKORUPINSKI 12	Szymon SKORUPINSKI 13	Szymon SKORUPINSKI 14	Szymon SKORUPINSKI 15				
To 08:00 Szymon SKORUPINSKI From 08:00 Dawid WOJCIK	Dawid WOJCIK 17	Dawid WOJCIK 18	Dawid WOJCIK 19	Dawid WOJCIK 20	Dawid WOJCIK 21	Dawid WOJCIK 22				
To 08:00 Dawid WOJCIK From 08:00 Eva DAFONTE PEREZ	Eva DAFONTE PEREZ 24	Eva DAFONTE PEREZ 25	Eva DAFONTE PEREZ 26	Eva DAFONTE PEREZ 27	Eva DAFONTE PEREZ 28	Eva DAFONTE PEREZ 29				
To 08:00 Eva DAFONTE PEREZ 30	Katarzyna Maria DZIEDZINIEWICZ-WOJCIK 31	01	02	03	04	05				
To 08:00 Katarzyna Maria DZIEDZINIEWICZ-WOJCIK										



3 DAD Edit

3.1 Introduction

Before I have started my work at CERN there already was a DAD Edit tool, which enabled users of databases managed by DB group to modify their DADs online, but this tool was made, when the information about ownership of account was not easily accessible. Because of this to modify a DAD user had to log in with the password for this account. If somebody wanted to change data in few DADs he had to log to many accounts and change it one by one. Moreover the old tool was only for the IAS type of DADs which was not enough anymore.

Therefore I was asked to create a tool that would, based on information from FIM, authenticate user and then display all DADs he or she can access and modify. It was possible because FIM integrates information about ownership of schemas on database and then this data can be used to define owner of a DAD, which is defined for a specified schema.

3.1.1 What is DAD?

DAD (Data Access Descriptor) is a set of configuration values that are used to define the database access. A DAD specifies information such as:

- ✓ Database alias (Oracle Net service name).
- ✓ Connect string, if the database is remote.
- ✓ Procedure for uploading and downloading documents.

There are also usually specified username and password, which define the schema for which DAD is applying. DAD also enables to define other options e.g. database access configuration.

3.1.2 How DAD editing process works?

In CERN the DAD editing process starts in the web based application where the user or administrator changes the information stored in database. Then process, which runs periodically, compiles it and generates the configuration file for the server.

3.2 Specification

The most important requirement in the application was to make it as simple as it can be for the user. Important feature was to show all the DADs that user owns without any other need of authorization.

The second important requirement was that the application should be generic – there should be an easy way to add a type, a service or a target, for which the DADs should compile. There was already second type which was needed to be introduced and probably there will be another one in the future. The data structure had to be simple but also had to correspond to already existing data, which had a few special cases.



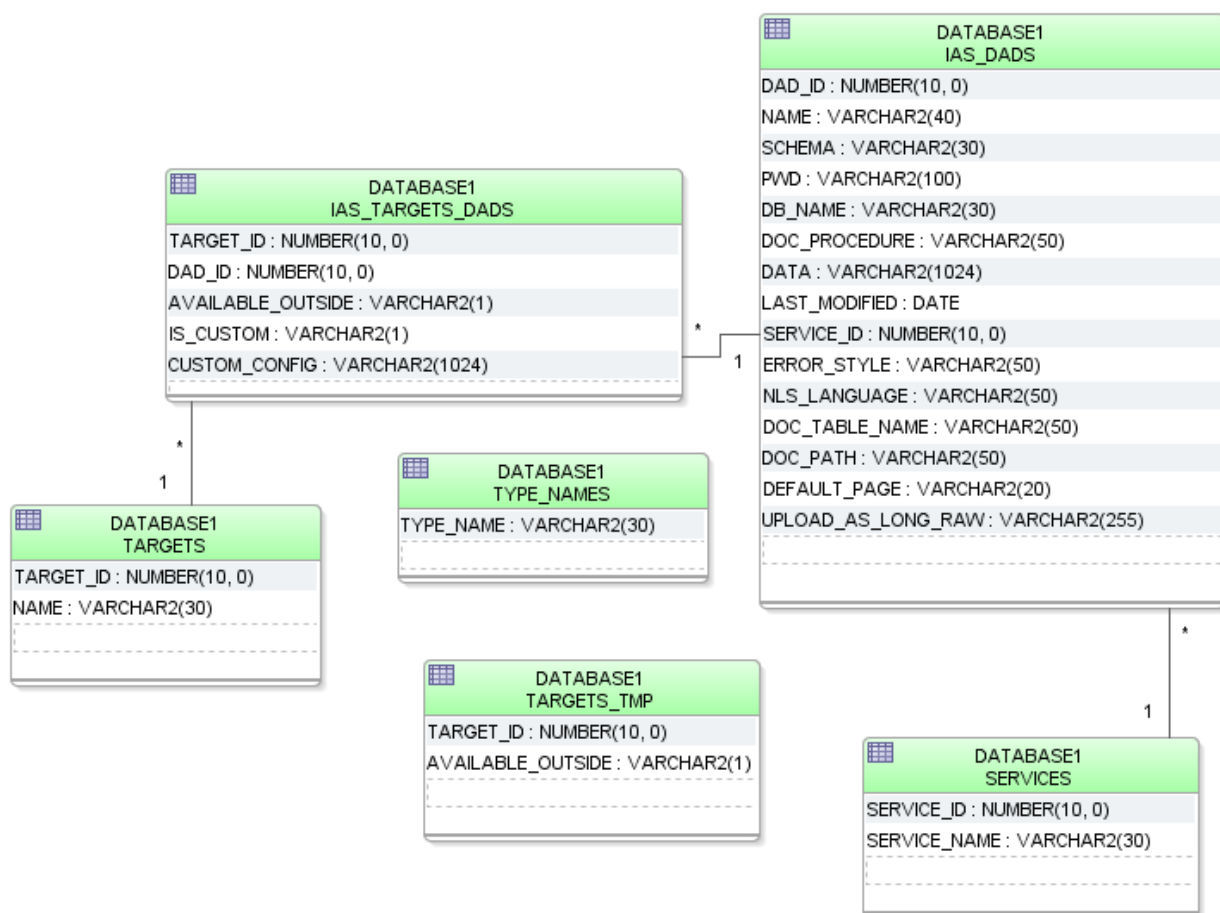
Also important element was the authorization - besides normal users there are also administrators who can edit all the DADs and that they are the only ones allowed to create and to delete DADs. They are also allowed to modify more fields than the standard user.

Administrator also asked for possibility of copying the DADs, they said that it is common that they have to create two DADs for the same purpose – one for production and one for testing or debugging and that it is quite important feature for them.

Moreover there was need to implement logging of actions performed on the database so that the support team will be able to maintain the tool and to respond to users' problems.

3.3 Data structure

The DAD Edit uses tables to store data and LDAP connection to fetch the database aliases and personal data like email address of users. The exemplary table diagram for IAS type storing a DAD data is shown below. There are two tables specific for IAS type and the rest of tables are common for all types that will be stored by the application.



Beside these tables there are two additional tables: one with application configuration (just like in Rota Tool) and second table to store logs that will help the administrators of the DADs (see [Dad logs](#)).



3.3.1 Type names

This is the table that stores all the DAD type names that application uses. They are used to dynamically generate SQL queries and to redirect between application pages using aliases. Due to dynamic generation of queries there are exact rules concerning names and basic fields of tables that are type specific.

3.3.2 Targets

This table stores all possible targets (like SSO, normal, beta) for which the DADs can be generated. One DAD can be generated for various targets with various access configurations (see [las targets dads](#)).

3.3.3 Services

This table contains all the services (like APEX, ORAWEB, TEST) for which the DAD can be generated. Each DAD can have only one service.

3.3.4 las dads

This is exemplary table with DADs of one type. If there is a need of new type there should be a new table created.

3.3.5 las targets dads

This is exemplary table that combines DADs with targets and describes the availability of this DAD - whether it is available outside of CERN or not. It also enables to store custom configuration for each target so that there can be more specific access control e.g. only from few places from CERN, everybody excluding search engines and bots. If there is a new type created such table should be created for the new type.

3.3.6 Targets tmp

This is temporary table created to be used as a buffer space for operations on information concerning correlations between targets and DADs.

3.3.7 Dad logs

This is a table that stores logs from the application. It keeps data about who introduced modifications, when they were done, on which DAD and who is its owner. There is also type of operation, its short description and information that enables easy grouping of logs: the type of log (whether it is from APEX or from validation procedure), name of validation which didn't pass and information whether operation was successful or not. It has some redundant data, but I decided that convenient grouping and searching is a priority.



3.4 Interface overview

The interface consists of few simple pages.

3.4.1 My DAD's

This is page where there are presented all DADs that are owned by logged in user.

Welcome: JSADLO Logout

My DADs Admin View

My DADs

JSADLO's DADs

Go Actions

Dad Name	Service Name	Dad Type	Dad Schema	Db Name	Last Modified
jsadlo	APEX	java_listener	dad_edit	PROD	14-AUG-2012 10:44:07
jsadlo	ORAWEB	ias	jsadlo	DEV	13-AUG-2012 08:54:08

1 - 2

3.4.2 Admin View

This page is available for administrators only. It displays all the existing DADs and enables administrator to create a new DAD. Additionally, it has a few columns more (which are by default switched off) that enable administrators advanced filtering (e.g. highlight DADs that do not have specified password or schema).

Welcome: JSADLO Logout

My DADs Admin View

Admin View

New DAD

DAD Type None

All DADs

Go Actions

Dad Name	Service Name	Dad Type	Dad Schema	Db Name	Last Modified
jsadlo	APEX	java_listener	dad_edit	PROD	14-AUG-2012 10:44:07
edhp	ORAWEB	ias	nilo	ORAWEB	07-AUG-2012 16:19:22
cms_csc_crates	ORAWEB	ias	cms_csc_crates	ORAWEB	07-AUG-2012 16:19:22
cms_csc_prod	ORAWEB	ias	cms_csc_cond	ORAWEB	07-AUG-2012 16:19:22
cms_daq_hdwr	ORAWEB	ias	cms_daq_hdwr	ORAWEB	07-AUG-2012 16:19:22
cms_emu_cem	ORAWEB	ias	cms_emu_cem	ORAWEB	07-AUG-2012 16:19:22
cms_emu_cem.pro	ORAWEB	ias	cms_emu_cem	ORAWEB	07-AUG-2012 16:19:22
cms_emu_fast.pro	ORAWEB	ias	cms_emu_fast	ORAWEB	07-AUG-2012 16:19:22
cms_emu_hv.pro	ORAWEB	ias	cms_emu_hv	ORAWEB	07-AUG-2012 16:19:22
cms_mb_prod	ORAWEB	ias	cms_mb_prod	ORAWEB	07-AUG-2012 16:19:22
cmsintegration	ORAWEB	ias	cmsintegration	ORAWEB	07-AUG-2012 16:19:22
cmsr	ORAWEB	ias	-	ORAWEB	07-AUG-2012 16:19:22
co_inventory	ORAWEB	ias	config	ORAWEB	07-AUG-2012 16:19:22
config	ORAWEB	ias	config	ORAWEB	07-AUG-2012 16:19:22
configlogin	ORAWEB	ias	configlogin	ORAWEB	07-AUG-2012 16:19:22

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3.4.3 Form page

This page is not seen by the users or administrators. It is only used to redirect the user to the appropriate form based on DAD type that is to be edited or created. The redirection is based on application item which is set to the type name of the DAD which is, in the same time, the alias of the page with the form. This mechanism is very important so that whole application is easily extendable - adding type name and page with corresponding alias already enables correct redirections between pages.

3.4.4 Various forms

This is group of pages that have aliases corresponding with DADs' type names. There is a page for each type. Some of the items are read only (for example last modified date of DAD), some are read only for standard user and editable for administrators (for example account and database name) and some are editable for everybody (for example password). There are also some actions available only for administrators – like deleting or copying of the DAD and managing custom access configuration. At the bottom there is also information about custom configuration, which can override the standard one, displayed. The decision to leave the standard configuration on the form page (instead of moving it away with custom access control configuration) was based on a fact that it is commonly used and there is no reason to make it more difficult to find/set.

User view:

Welcome: JSADLO Logout

My DADS

My DADS > IAS form

Form on IAS_DADS Cancel Apply Changes

***Name** edhp
Username nilo ***@** cern.ch

PisqlDatabasePassword

PisqlDocumentProcedure

Data
PisqlSessionStateManagement
StatelessWithResetPackageState

***Last Modified on** 07-AUG-2012 16:19:22

***Service** ORAWEB

PisqlErrorStyle Mod PL/SQL style

PisqlNLSLanguage american_america.WE8ISO8859

PisqlDocumentTablename

PisqlDocumentPath

PisqlDefaultPage

PisqlUploadAsLongRaw

Targets
 SSO SSO available outside CERN
 Beta Beta available outside CERN
 Normal Normal available outside CERN

Custom configuration (overriding the standard ones)
no custom configuration found for this DAD



Administrator view:

Welcome: JSADLO Logout

My DADS Admin View

My DADS > IAS form

Form on IAS_DADS [Cancel] [Delete] [Apply Changes] [Copy]

*Name edhp

Username nilo

PsqlDatabasePassword

PsqlDocumentProcedure

Data PsqlSessionStateManagement
StatelessWithResetPackageState

*Last Modified on 07-AUG-2012 16:19:22

*Service ORAWEB

PsqlErrorStyle Mod PL/SQL style

PsqlNLSLanguage american_america.WE8ISO8859

PsqlDocumentTablename

PsqlDocumentPath

PsqlDefaultPage

PsqlUploadAsLongRaw

Targets SSO Beta Normal

SSO available outside CERN
 Beta available outside CERN
 Normal available outside CERN

Manage custom access configuration

Custom configuration (overriding the standard ones)

no custom configuration found for this DAD

3.4.5 Manage custom configuration page

On this page administrator can change the custom configuration settings for the DAD. The data structure is designed the way that the custom configuration, even if disabled, is saved so that it is easy to go back to it. Also enabling custom configuration does not erase information about what was set in 'Available outside' field.

Welcome: JSADLO Logout

My DADS Admin View

Custom access configuration [Cancel] [Submit]

Target Id	Available Outside	Is Custom	Custom Config
Normal	No	Yes	Order Deny, Allow Deny from all Allow from cdbserv21.cern.ch cdbserv.cern.ch cdbserv01.cern.ch cdbserv02.cern.ch cdbserv08.cern.ch lxremedy01.cern.ch lxremedydev01.cern.ch sunar01p.cern.ch

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4 Frame for Account Actions Management

4.1 Introduction

For now every operation which can be performed on the database account managed by DB group of IT department is in a general purpose system that enables user to change account password or change owner of the account. But this action set is not enough and it is impossible to implement more complicated actions in this interface. Therefore there is a need to implement an application that will be an interface for users and administrators to perform actions on the accounts like unlocking account for certain time or requesting of quota increase on chosen table space.

4.2 Specification

The idea of frame for this application was simple – there was needed an interface that would display all user's accounts and after choosing an account would show list of actions that can be performed. Additionally, just like in DAD Edit, there was need for a group of more privileged users that would be able to perform actions on all accounts, maybe in the future also perform some actions that will not be accessible for standard users.

What was needed to be done was an accounts view for administrator and standard user and a page that will display all possible actions with possibility to change basic action settings. On the page, for now, there will be placeholders that would show how it is supposed to work. Moreover, there was need for a logging mechanism.

4.3 The outcome

4.3.1 The frame overview

During my stay at CERN I have created both accounts views – for standard users and for administrators. I have also created the page that will display all possible actions with placeholders which are prototypes of interface for planned actions.

Additionally, I have created simple table that will store application logs and a function for logging which performs the log insertion as an autonomous transaction, which enables calling it from every place regardless of transaction state – e.g. trigger. I have also created prototype of functions that will perform actions - single function for an action. Besides performing an action it should log what have been done using logging function and it should return a piece of information that will inform user what has just happened – it will be displayed as an inline notification. If the function fails user will be informed about this by error, which will be also displayed as an inline notification.



4.3.2 Interface overview

The 'My accounts' page displays all the account that are owned by logged in user:

Welcome: JSADLO Logout

My accounts

My accounts

Database Name	Schema Name
action	action_management
dad	dad_edit
rota	db_rota
jsadlo	jsadlo

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release 1.0

The 'Admin's view' displays all the accounts that are stored in FIM:

Welcome: JSADLO Logout

My accounts **Admin's view**

Admin's view

Database Name	Schema Name	Owner Login	Owner Last Name	Owner First Name
aisdbdev	aisframework	bfernan	Fernandez Garcia	Benedicto
aisdb	aisframework	bfernan	Fernandez Garcia	Benedicto
laser	laser_tim	zzaharie	Zaharieva	Zornitsa
devdb	oasistest	zzaharie	Zaharieva	Zornitsa
oasisdev	oasisdev	zzaharie	Zaharieva	Zornitsa
eventdb	eventdbdev	zzaharie	Zaharieva	Zornitsa
oasis	naming	zzaharie	Zaharieva	Zornitsa
devdb	vmw_monitor	zzaharie	Zaharieva	Zornitsa
oasis	naming_pub	zzaharie	Zaharieva	Zornitsa
oasis	accref_dev	zzaharie	Zaharieva	Zornitsa
devdb	unicryo_test	zzaharie	Zaharieva	Zornitsa
devdb	unicryo	zzaharie	Zaharieva	Zornitsa
devdb	laserdev	zzaharie	Zaharieva	Zornitsa
devdb	laseruser	zzaharie	Zaharieva	Zornitsa
devdb	laser_public	zzaharie	Zaharieva	Zornitsa

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release 1.0



The 'Account actions' page will display all possible functions that can be performed for chosen account. There is also possibility to hide some actions from a standard user:

Welcome: JSADLO Logout

My accounts Admin's view

My accounts > Account actions

dad_edit on Oracle

Unlock account

Unlock account for 10 minutes

Quota increase

Request for a 5% increase on TABLESPACE1

release 1.0

5 Summary

During the openlab Summer Student Programme 2012 I have worked on two applications and one frame for an application for DB group of IT department. This group manages and supports number of databases and needed applications for internal use: one to manage people on support for different domains, one for editing Data Access Descriptors (DADs) and the last one as an interface for various actions that can be performed on database accounts. During my stay I have implemented these two applications and one frame using Oracle Application Express. One of them was also moved into production and for a month I have supported it.

6 Bibliography

Oracle documentation:

http://docs.oracle.com/cd/E14571_01/portal.1111/e12041/concept.htm,

<http://www.oracle.com/technetwork/developer-tools/apex/overview/index.html>