



Royal Cyber Inc.

Individualized E-business Solution.

**Use of Cognos APIs for querying and adding LDAP
users to custom access groups**



IBM COGNOS 10.1



Muhammad Haris Siddiqui

9/30/2011

Cognos Technical White Paper | Use of Cognos APIs for querying and adding LDAP users to custom access groups

Contents

Introduction	2
Business Case	2
Problem Statement	2
Getting all the LDAP Users:	3
Getting all the Cognos Groups:	3
Adding LDAP users in selected Cognos Groups without using Admin console:.....	3
Proposed Solution	3
Conclusion	4
Figure 1 Problem Statement	2
Figure 2 Proposed Solution	3

Cognos Technical White Paper | Use of Cognos APIs for querying and adding LDAP users to custom access groups

Introduction

IBM Cognos Software Development Kit, allows us to manage IBM Cognos processes and implement custom reporting solutions by using the cross platform Web services, libraries, and programming interfaces provided with the IBM Cognos Software Development Kit. As a developer, you can use the Software Development Kit to create and modify reports and queries, schedule and deploy reports and other objects, and administer IBM Cognos Business Intelligence servers and security.

Business Case

With rapid increase in the usage of IBM Cognos by designing a solution to address the challenges of enterprise-scale reporting, analysis, score carding, event notification and security. There is a need of customizing the administrative tasks of IBM Cognos. In this paper I will focus on the customization of Cognos Groups and LDAP Users through the programming interface. I will get all the LDAP Users and then add selected users in selected Cognos groups. I will use Search Path to operate the objects in the Content Store.

Problem Statement

IBM Cognos is integrated with Portal. And according to the requirements client wants to add all the LDAP users in custom Cognos groups from Portal not from the Administrator console. The problem arises is that, how to add this functionality in the portal which gets all the LDAP users and then add in the selected Cognos groups. I divide the problem of this use case into following three tasks which clearly describe the actual problem for implementing this functionality and also shown in the Figure 1:

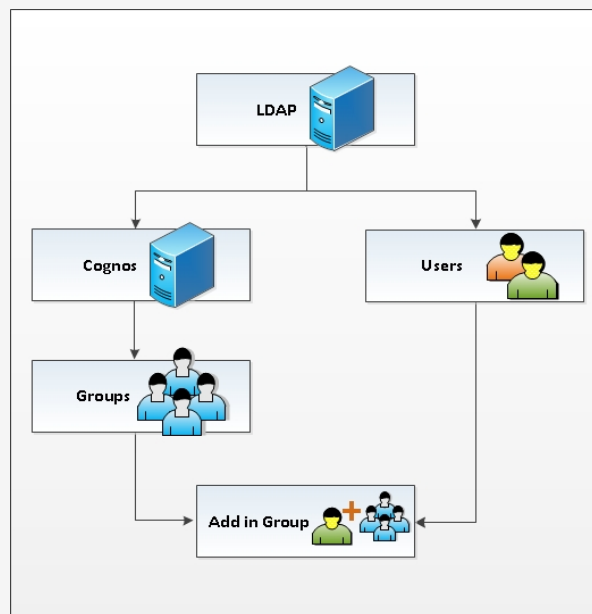


Figure 1 Problem Statement

Cognos Technical White Paper | Use of Cognos APIs for querying and adding LDAP users to custom access groups

Getting all the LDAP Users:

For getting all the LDAP users we need to make extra connection with one of the Authentication Provider, LDAP, to extract all the authorized users. If for example we change our Authentication provider from LDAP to SAP, then we also make extra change in making a new connection. Secondly, if the authorized users are from two or more different Authentication providers then we have to make separate connections with each authentication providers.

Getting all the Cognos Groups:

For getting all the Cognos Groups we need to make a connection with the Cognos server and need to authorize a user from LDAP that can login into the system. So, this user can extract all the groups from the Cognos server.

Adding LDAP users in selected Cognos Groups without using Admin console:

For Adding LDAP users in selected Cognos Groups without using Admin console we have to make sure that only authorize user can login to the system and that user must have access rights to add or remove a user from Cognos groups. Then by using the programming interface we add the user in Cognos groups.

Proposed Solution

Pre-condition for my proposed solution is that the Cognos Server has already configured with one or more Authentication providers. Now if we make connection only with the Cognos server then all the Authorized Users that defines in the Authentication provider is available in the Cognos Content Store and we do not need to make a separate connection with the Authentication provider to get all the authorize Users as shown in Figure 2.

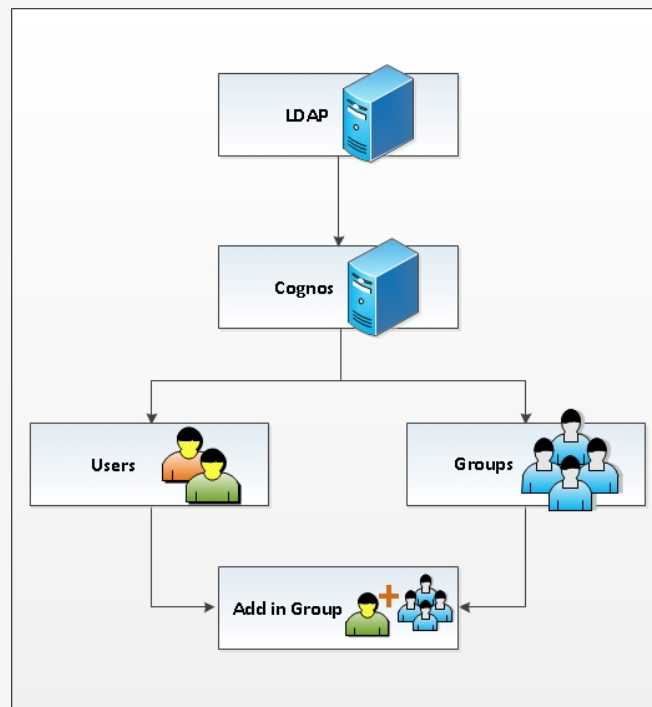


Figure 2 Proposed Solution

Cognos Technical White Paper | Use of Cognos APIs for querying and adding LDAP users to custom access groups

We can use Search path to get all the Users from Cognos. Search Path syntax resembles XPATH. However, XPATH operates on XML documents, and the search path operates on objects in the content store. Below is the example code (Listing 1) of the search path which can be used to get list of user objects from CognosContent Store.

Listing 1:

```
conn.getContentManagerService().query(  
    new SearchPathMultipleObject( "CAMID('Ara:f:1fbffaa82a9d10419352530877f278ad')/*"), props, new  
Sort[{}], new QueryOptions()  
);
```

In the above code snippet “CAMID('Ara:f:1fbffaa82a9d10419352530877f278ad')” is the search path of the User folder in the Cognos Content Store and “/*” selects all the child objects of this folder.

We can filter the Users list by adding a check in the loop of users list so that we can get only User objects. “com.cognos.developer.schemas.bibus._3.Account” is the Account class which stores User objects. Below is the code snippet (Listing 2):

Listing 2:

```
if(usersList[i].getClass().getName().equalsIgnoreCase(  
"com.cognos.developer.schemas.bibus._3.Account")){  
    //All filtered Users get here  
}
```

When we are getting all the users from Cognos then in similar way we can get all the groups too. So that in selected Cognos groups we add Users as well as groups. I did one extra step to get all the groups from the Cognos in similar way by using the following class “com.cognos.developer.schemas.bibus._3.Group”

Conclusion

In this paper I proposed a solution of a problem that how we can get all the LDAP users and then add these users in Cognos groups by using the SDK. The good thing about this solution is that this is purely customized solution using the SDK and secondly it solves the current problem in easy and simple way with the help of methods provided by the SDK. There is also a second solution possible to solve this problem by directly querying database but for that we have to explicitly write complex queries and creating a separate database connection. I prefer to use API because it internally handles all these queries and communication with the database.

Cognos Technical White Paper | Use of Cognos APIs for querying and adding LDAP users to custom access groups

Company's Introduction

Established: Based in Illinois (USA), serving Big businesses including many Fortune 1000+ companies from 1997 by experienced IT professionals.

Objective: To Offer cutting edge IT services globally & help Organizations both in Public & Private sector to improve & modernize their services supplementing their skill set with Team augmentation, On-site resource deployment, Mentoring, and improved Return on Investment.

Achievements: To date, Royal Cyber Inc. has grown into a reputable IT firm not only in USA but also in Europe, Middle Eastern & South Asian Markets. Further;

- Royal Cyber Inc. awarded as an IBM Premier Business Partner
- We have acquired IBM Authorized Trainer Status
- Specialized in in-house skills in TIVOLI Brand
- Global Leader in Rational HATS (Application Modernization)
- Implemented several B2B & B2C Portals on Websphere Commerce
- Helped out large media organizations with their web presence using websphere portal
- Brand Leader in Microsoft SharePoint providing consultancy services to Pizza hut USA, American Express, Bell Canada, etc.

And more.. .

Partners

IBM:

- IBM Premier Business Partner
- IBM Authorized Trainer for Websphere

Microsoft:

- Microsoft Certified Gold Partner

Outsourcing: Royal Cyber has established an Offshore outsourcing Company in Asia and Europe. Core objective to reduce the software development cost and offer highly competitive rates to our clients which has given us an edge over other US based IT companies.

USA Headquarter:

300 East 5th Avenue,
suite # 425, Naperville
Illinois 60563, USA
Tel: +1.630.355.6292

UK Office:

RC Technology Limited.
suite # 7, Peel House 30,
the downs Altrincham
Cheshire, WA14 2PX
Tel: +44.203.004.9303

Dubai Office:

Oracle Building 12,
P.O Box 73030,
Dubai Internet City,
Dubai - UAE
Tel: +971.50.637.1864

Canada Office:

A7-560 GreenField Avenue, Kitchener,
Ontario, N2C 2M2, Canada
Tel: +1.416.848.3816

KSA Office:

Office # 11, First Flour,
Quick Pay Building,
Prince Mamdouh Street,
Sulaymaniyah District,
P.O Box 240761,
Riyadh-11322,
Kingdom of Saudi Arabia
Tel: +966.54.125.1739