



Enabling group membership support for WebSphere Member Manager user registry local mode

The presentation discusses the new IBM WebSphere® Member Manager user registry (WMMUR) group membership support feature recently added to WebSphere Member Manager.

Background

- **Many IBM WebSphere Portal environments require that multiple users have access to WebSphere administration functionality**
- **If WebSphere Member Manager initialization fails, WMMUR reverts to using WMMUR Local mode (file registry or direct access LDAP)**
- **Prior to implementing this feature, WMMUR cannot determine group membership using Local mode**

The WMMUR group membership support feature improves the efficiency of administering users who need access to various administrative functions in WebSphere Application Server. This feature pertains specifically to WebSphere Portal environments that use realm support security. Meaning that, if WebSphere Member Manager fails to initialize, or if the server cannot use wmm.xml properties to contact the LDAP server, WMMUR can use either the Local mode options of file registry or direct access LDAP to look up a user. Prior to implementing this feature, you have to add every user to Console Users to authorize them to access various functions of WebSphere Application Server administration. Now, you can create a group of users in the user registry which you can then reference in Console Groups.

Basic steps to implement Console Groups

1. **Install latest cumulative fix for WebSphere Member Manager**
2. **Update Local mode user registry settings**
3. **Add group to Console Groups**
4. **Test login using WebSphere administrative console**

Here are the basic steps for implementing Console Groups through both registry options for WMMUR. First, install the latest cumulative fix for WebSphere Member Manager.

Next, update the appropriate user registry settings for your Local mode environment. Once your user registry is configured, you can add the Console Group through the WebSphere administrative console. Finally, to test the issue, log in to the console using a user ID from the group you just added.

Installing the WebSphere Member Manager cumulative fix

- **Install the latest WebSphere Member Manager cumulative fix:**
 - [WebSphere Portal 6.0](#)
 - [WebSphere Portal 5.1](#)
- **Full Group support added to WebSphere Member Manager (WMM) through:**
 - PK58977 (Applicable to WebSphere Portal 6.0 – 6.0.1.1)
 - PK58976 (Applicable to WebSphere Portal 5.1 – 5.1.0.5)
- **Deployment Manager: Requires that you copy wmm.jar from <WAS_root>/lib on portal server to <DMGR_root>/lib on deployment manager.**

NOTE: WebSphere Member Manager cumulative fix for WebSphere Portal 6.0.1.3 available in March 2008.

For group membership support to function, you must update your WebSphere Member Manager code, as there are no current versions of WebSphere Portal that include the updated code. Here are links to the WebSphere Member Manager code for both WebSphere Portal version 5.1 and version 6.0. Also provided here are the APAR numbers of the fixes necessary for full WMMUR group membership support. You can compare these APAR numbers to your installed version of the WebSphere Member Manager cumulative fix. In a clustered environment, after you install the fix onto WebSphere Portal, you must copy the wmm.jar file from <WAS_root>/lib on the portal server over to the <DMGR_root>/lib on the deployment manager.

Determining your local mode registry type

- **Log in to the WebSphere administrative console**
- **Security -> Global Security -> Custom user registry -> Custom Properties -> wasUserRegistryType**
 - wmmFileRegistry: You are using the wmmWASAdmin.xml as the file registry.
 - wmmLDAP: You are using Direct Access LDAP to contact the LDAP server directly by using custom properties in the console.

The screenshot shows the WebSphere administrative console interface. On the left is a navigation tree with categories like Security, Environment, System administration, etc. The main content area is titled "Global security > Custom user registry > Custom properties". Below the title is a description: "Specifies arbitrary name and value pairs of data. The name is a property key and the value is a s that can be used to set internal system configuration properties." There are "New" and "Delete" buttons. Below that is a table of properties:

| Select | Name | Value |
|--------------------------|-------------------------|--|
| <input type="checkbox"/> | wmmUserSecurityNameAttr | uid |
| <input type="checkbox"/> | wmmURLLogging | true |
| <input type="checkbox"/> | wmmURLConfig | \${USER_INSTALL_ROOT}/config/wmm/wmmur.xml |
| <input type="checkbox"/> | wasUserRegistryType | wmmLDAP |
| <input type="checkbox"/> | wasAdminFileLoc | \${USER_INSTALL_ROOT}/config/wmm/wmmWASAdmin.xml |

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To determine the WMMUR Local mode user registry type configured for your environment, you can log in to the WebSphere administrative console and navigate to Security -> Global Security -> Custom user registry -> Custom Properties. If you used the enable-security-wmmur-ldap task to enable security, you will have a custom property named "wasUserRegistryType" or "WASUSER_REGISTRY_TYPE". A value of "wmmFileRegistry" indicates that your Local mode user registry is in the wmmWASAdmin.xml, located in the <WP_root>/wmm for stand-alone systems and in <DMGR_profile_root>/config/wmm for clustered systems. A value of "wmmLDAP" indicates that your Local mode user registry is Direct Access LDAP, meaning that WMMUR will use the defined custom properties to contact the LDAP directly.

Updating the file registry manually

Update wmmWASAdmin.xml:

- admin logonId: user ID that will be used to log in to the console
- adminGroup: Group to be added to Console Groups
- Member: should match uniqueUserId of the logonId

```
....  
<admin logonId="tuser" logonPassword="afacWLqg1trIbNupQsppiw=="  
uniqueUserId="cn=tuser,o=ibm"/>  
<adminGroup groupName="testgroup" uniqueGroupId="cn=testgroup,o=ibm">  
  <member uniqueId="cn=tuser,o=ibm"/>  
</adminGroup>  
....
```

Note: Nested groups not supported in the file registry

If you are using the Localmode file registry, then one option for updating the file registry settings is to manually modify the wmmWASAdmin.xml to include three entries:

- admin logonId, which includes password and uniqueId for the user that needs access to the WebSphere administrative console
- adminGroup, which includes the groupName and uniqueGroupId for the group to be added to Console Groups.
- member, which includes the uniqueId of the user that needs access to the console.

Note that the file registry option does not allow you to use nested groups, so you cannot put an adminGroup within an adminGroup.

Updating the file registry using the registry tool

- **updateWmmWASAdminRegistry.bat|sh** can be used to update the **wmmWASAdmin.xml**
- **Location:** <WP_root>/config/work/wmm/bin
- **Reference:** [Technote 1246919](#)
- **Examples:**
 - **Create logonId:** `updateWmmWASAdminRegistry -action 1 -logonId tuser -password <password> -uniqueUserId "uid=tuser,o=ibm"`
 - **Create adminGroup:** `updateWmmWASAdminRegistry -action 3 -groupName testgroup -uniqueGroupId "cn=testgroup,o=ibm"`
 - **Add member to adminGroup:** `updateWmmWASAdminRegistry -action 4 -groupName testgroup -logonId tuser`

An alternate way of updating the wmmWASAdmin.xml is through the updateWmmWASAdminRegistry tool. You can reference Technotes 1246919 for details on how to use the tool. Or you can type updateWmmWASAdminRegistry at a command prompt to see all of the options. Provided here are examples of the three commands necessary to implement the group membership functionality.

Updating the file registry (continued)

- **Reminder: When updating WMM files in a cluster, use the check-in and check-out method to ensure consistency!**
- **Reference “Manually editing Member Manager files on a federated node” in the WebSphere Portal [5.1](#) or [6.0](#) Information Center.**

When you update any WebSphere Member Manager file, including the wmmWASAdmin.xml in a cluster, you must use the check-in and check-out method as documented in the Information Center topics linked here. Otherwise, you risk inconsistencies between nodes and possibly having your updates fail to take effect. This is an important and often overlooked point.

Updating Direct Access LDAP properties

- **Log in to the WebSphere administrative console**
- **Navigate to Security -> Global Security -> Custom user registry -> Custom Properties**
- **Add one or both of these properties:**
 - groupMemberAttributeMap
 - groupMembershipAttributeMap
- **Save and sync changes**
- **Reference the WebSphere Portal [5.1](#) or [6.0](#) Information Center for information regarding these attributes**

NOTE: Dynamic groups are not supported by WMMUR Direct Access LDAP

If you are using the Local mode Direct Access LDAP registry, perform the updates using the WebSphere Administrative console. After you log in, navigate to Security -> Global Security -> Custom user registry -> Custom Properties, where you should see several properties which allow you to search the LDAP server. However, to add the ability to determine group membership, you must add the groupMemberAttributeMap property, the groupMembershipAttributeMap property, or both. Refer to the WebSphere Portal Information Center for more details on these attributes and to determine which one (if not both) your LDAP can support. Typically, at least groupMemberAttributeMap will be supported. It should be pointed out that nested groups are supported in this type of Local mode registry; however, it cannot support dynamic groups.

Example of custom properties for Direct Access LDAP

| Name | Value |
|---|--|
| baseDN | o=ibm |
| bindDN | uid=wpsbind,ou=people,o=ibm |
| bindPassword | fk1IMnQh5jM= |
| groupFilter | (&(cn=%v)(objectclass=groupOfUniqueNames)) |
| groupMemberAttributeMap | groupOfUniqueNames:uniqueMember |
| ldapType | 2 |
| ldapURL | ldap://myldap.example.com:24270 |
| userFilter | (&(uid=%v)(objectclass=inetOrgPerson)) |
| userRegistryRealm | myldap.example.com:24270 |
| wasAdminFileLoc | \${USER_INSTALL_ROOT}/config/wmm/wmmWASAdmin.xml |
| wasUserRegistryType | wmmLDAP |
| wmmURConfig | \${USER_INSTALL_ROOT}/config/wmm/wmmur.xml |
| wmmURLogging | true |
| wmmUserSecurityNameAttr | uid |

Here you see an image of a test system which implements Local mode Direct Access LDAP. There are 14 parameters defined; however, that can vary depending on the environment including the type of LDAP server. This image shows that only groupMemberAttributeMap is implemented. The LDAP in this scenario is Sun Java Directory Server.

Example of updated Direct Access LDAP properties (continued)

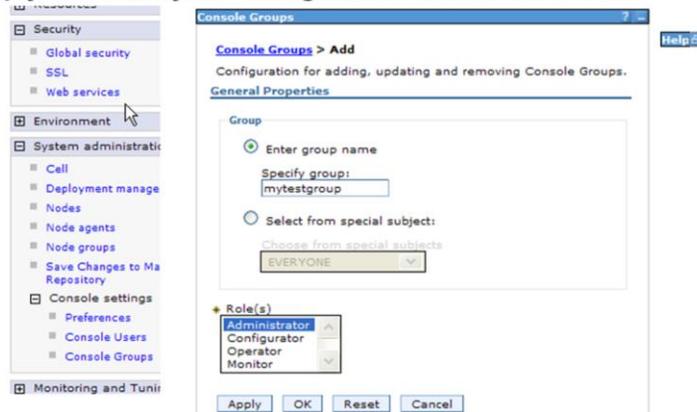
- **Property: groupMemberAttributeMap**
- **Value: groupOfUniqueNames:uniqueMember**
- **Derived using LDIF of group from LDAP:**

```
dn: cn=mytestgroup,ou=people,o=ibm
objectClass: top
objectClass: groupofuniqueNames
cn: mytestgroup
uniqueMember: uid=tuser,ou=groups,o=ibm
```

To determine the proper values to use for groupMemberAttributeMap, you can look at an LDIF of the group you want to add to Console Groups. The LDIF shown here indicates that the “groupOfUniqueNames” objectclass and the “uniqueMember” attribute can be used to form the correct value.

Adding the group to Console Groups

- After restarting server1/dmgr, log in to the WebSphere administrative console, and navigate to: System Administration -> Console Settings -> Console Groups
- Click "Add", select a Role, and specify the name of the group
- Apply and save your changes, and restart the server



After making the changes to either Local mode user registry, you must restart the deployment manager or server1. Then log in to the WebSphere administrative console and navigate to System Administration -> Console Settings -> Console Groups, select the proper role for your group, and specify your group name to add the entry. Save the changes and restart the server once again.

Test the results

- **Users in your user registry that are members of the group added to Console Groups should now be able to log in to the WebSphere administrative console.**

You can test the results by logging in to the WebSphere administrative console as a member of the Console Group that you just defined.

Conclusion

- **WMMUR Local mode can now support group membership queries**
- **Console Groups can now be used when realm support security is enabled**

In conclusion, WMMUR Local mode can now be used to support group membership. Meaning that, Console Groups can be used through the WebSphere administrative console even if you have enabled security in WebSphere Portal with realm support.

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