

A Workaround for Renaming Username of Existing Users in JDBC Userstores of

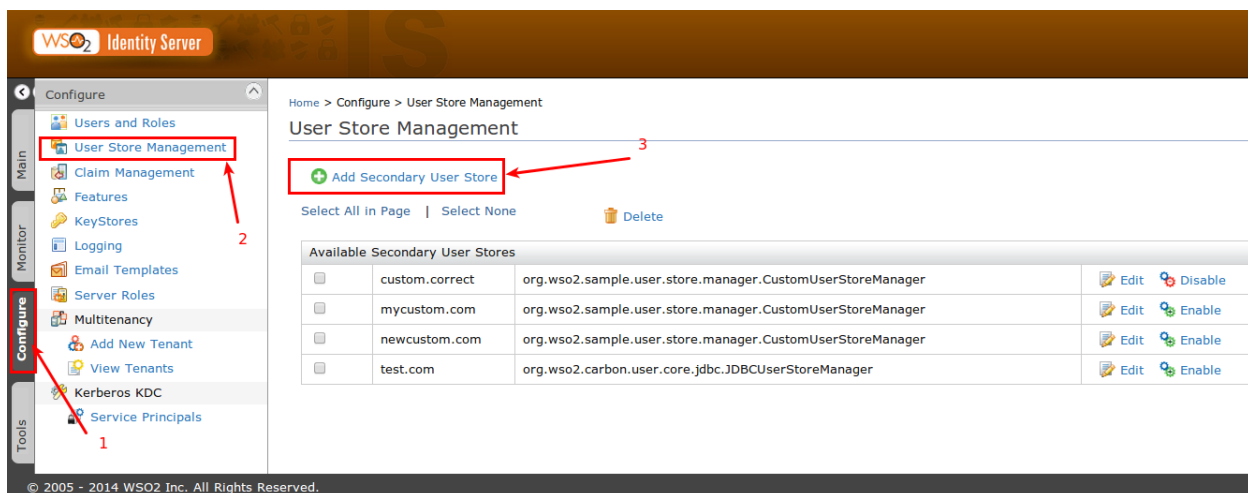
WSO2 Identity Server

[WSO2 Identity Server](#) 5.0.0 currently does not support renaming users in the existing UserStores through the UserStore Management APIs it exposes. However if it is required to rename existing users in a userstore, it can be achieved through a workaround which is demonstrated here. This example shows how to write a custom JDBC UserStoreManager that provides capability of renaming the usernames of the users in the UserStore.

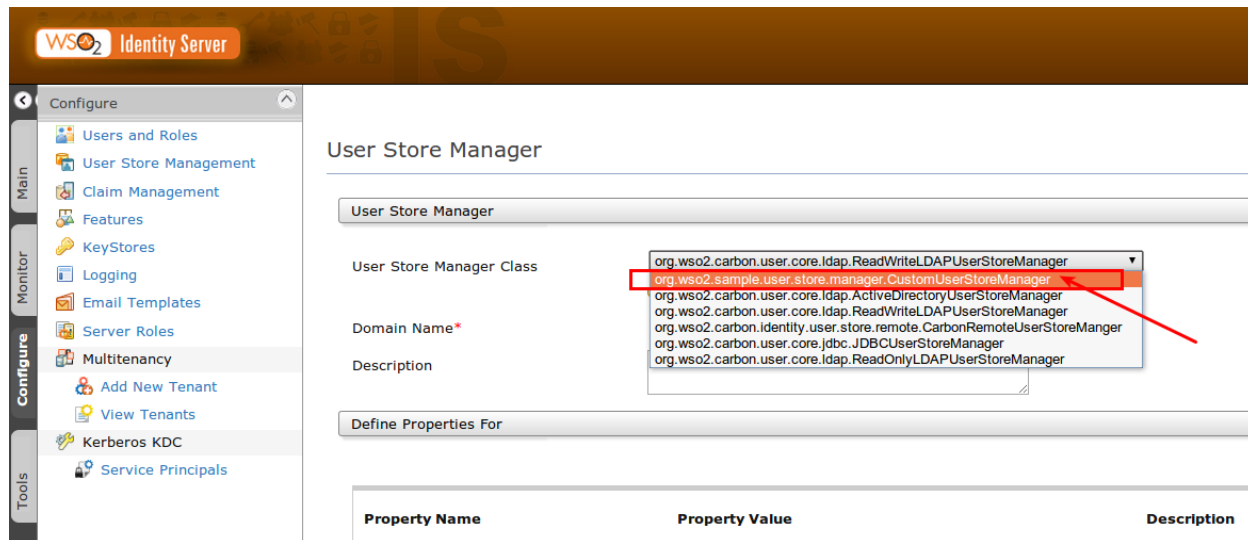
The source code of this sample is available in git repository [1] and the source path is [2]. Once you build the source, you get the 'org.wso2.sample.user.store.manager-1.0.jar' file which should be put in <IS_HOME>/repository/components/dropins directory. If you do not want to build from source and try out the sample, the built jar can be found in [3].

In this example, I am using this custom userstore as a secondary userstore inside the Identity Server. It is also possible to use this as the primary userstore as well. I am using a MySQL database and therefore the JDBC MySQL connector [4] jar file should be placed in the <IS_HOME>/repository/components/lib directory for the Identity Server to access the database. *(Restart the server after copying)*

Login to the Management Console of the Identity Server as the admin. Add a Secondary UserStore.



If the custom JDBC userstore is correctly deployed, you should see the **org.wso2.sample.user.store.manager.CustomUserStoreManager** in the User Store Manager Class dropdown in the UserStore configuration.



Set the configurations as following. I am using **wso2.com** as the domain name of the secondary userstore. I have already created a database with the name 'userstore' in MySQL server. I provide the connection url according to that for connecting the database with the userstore.

Once you expand the Optional properties of the userstore, you can see '**Username Rename Claim URI**'. We are renaming the username of the users using a claim. Here you can define any claim uri where you have to add a Claim later with the same Claim URI. Once the configuration is set, add the userstore.

WSO2 Identity Server

Manage

Signed-in as: admin@carbon.super | Sign-out

Configure

Main

Monitor

Tools

Users and Roles

User Store Management

Claim Management

Features

KeyStores

Logging

Email Templates

Server Roles

Multitenancy

Add New Tenant

View Tenants

Kerberos KDC

Service Principals

User Store Manager

User Store Manager Class: `org.wso2.sample.user.store.manager.CustomUserStoreManager`
Depending on the class, properties needs to be defined.

Domain Name*: `wso2.com`

Description: `Userstore for renaming usernames`

Define Properties For Wso2.Com

| Property Name | Property Value | Description |
|----------------------|--|--------------------------------|
| Driver Name* | <code>com.mysql.jdbc.Driver</code> | Full qualified driver name |
| Connection URL* | <code>jdbc:mysql://localhost:3306/userstore</code> | URL of the user store database |
| Connection Name* | <code>root</code> | Username for the database |
| Connection Password* | ***** | Password for the database |

Optional

| Property Name | Property Value | Description |
|---------------------------|--|----------------------------------|
| Username Rename Claim URI | <code>http://wso2.org/claims/username</code> | Claim URI for renaming usernames |
| Disabled | <input type="checkbox"/> | Whether user store is disabled |

Go to <http://wso2.org/claims> Claim Dialect.

WSO2 Identity Server

Home > Configure > Claim Management

Claim Management

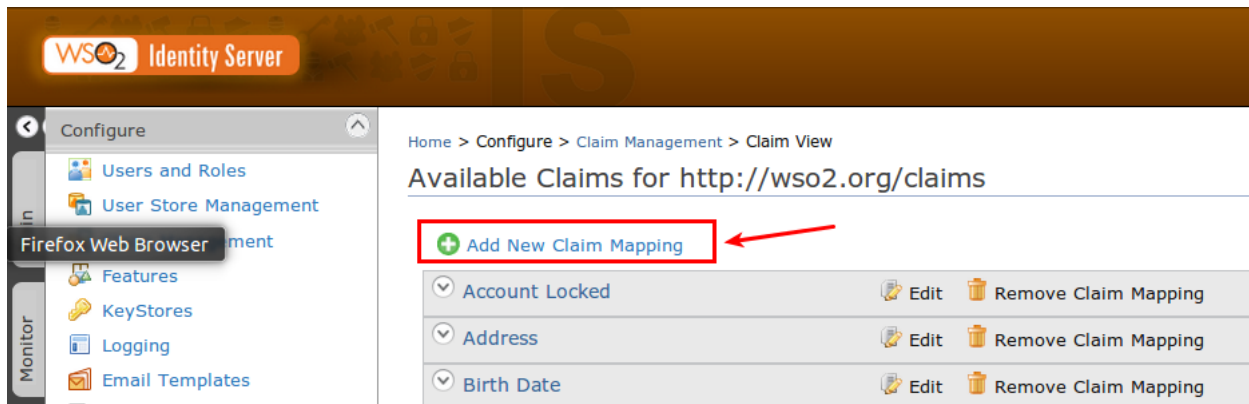
+ Add New Claim Dialect

Available Claim Dialects

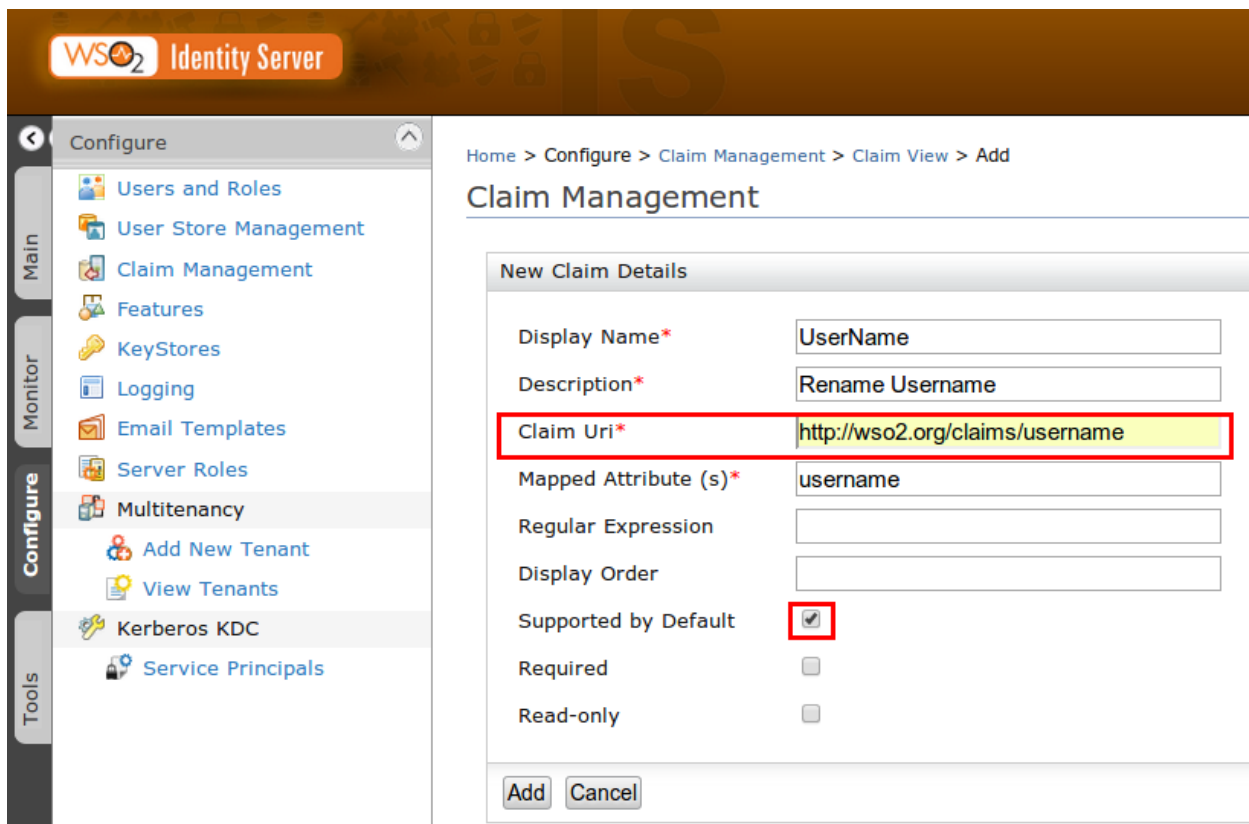
| | |
|---|--------|
| <code>http://schemas.xmlsoap.org/ws/2005/05/identity</code> | Delete |
| <code>http://axschema.org</code> | Delete |
| <code>http://wso2.org/oidc/claim</code> | Delete |
| <code>urn:scim:schemas:core:1.0</code> | Delete |
| <code>http://schema.openid.net/2007/05/claims</code> | Delete |
| <code>http://wso2.org/claims</code> | Delete |

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Add a new Claim Mapping.



Give the same Claim URI which was defined in the UserStore added previously. For the mapped attribute, any name can be specified because this claim is specially handled in the custom userstore manager. Mark the 'Supported by Default' as checked so that this attribute appears in the Users' profile. Add the claim.



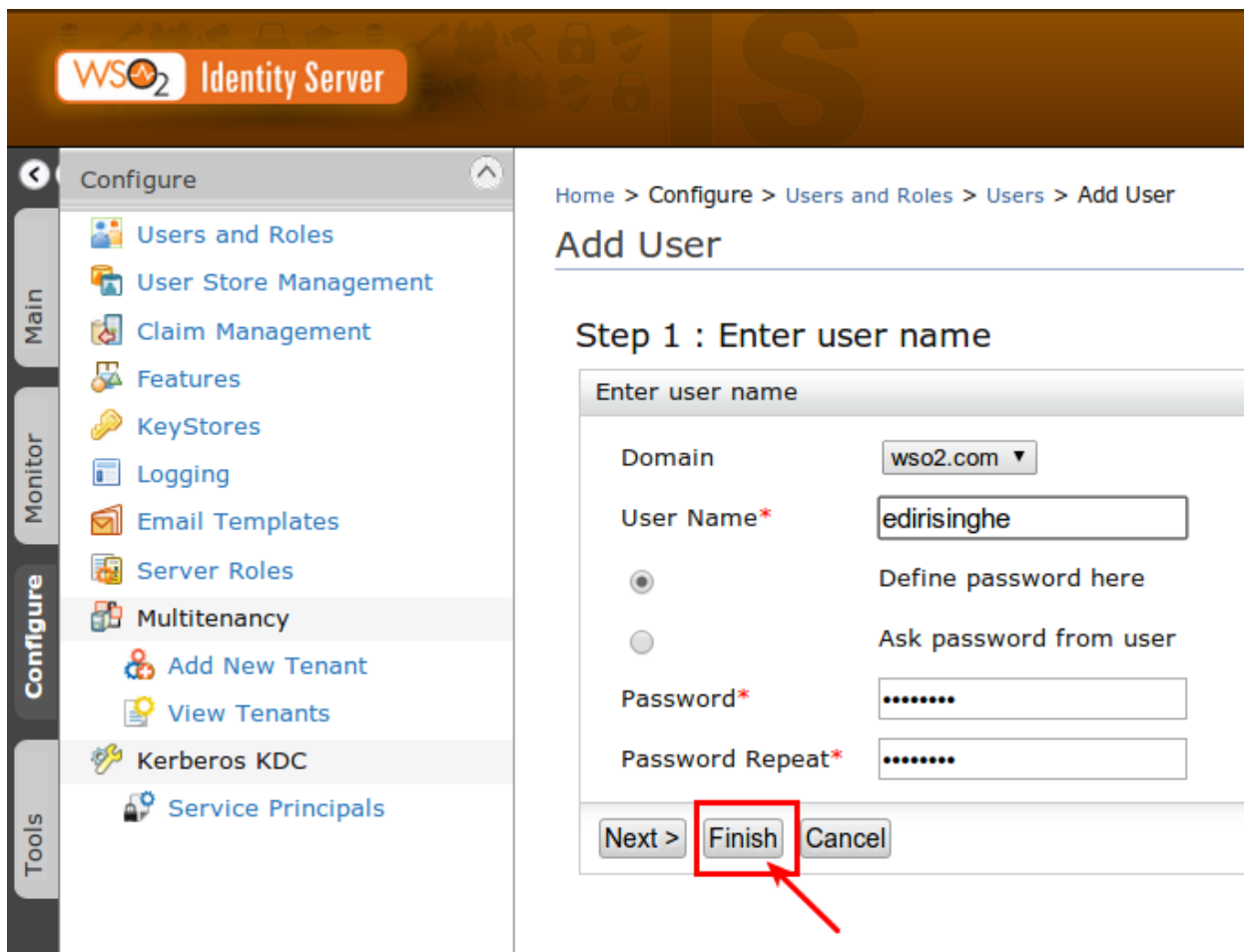
Now go to 'Users and Roles'.

The screenshot shows the WS2 Identity Server configuration interface. The left sidebar has a 'Configure' tab selected, which is highlighted with a red box and labeled '1'. The 'Configure' menu is expanded, showing 'Users and Roles' (labeled '2') and 'User Store Management'. The main content area shows the 'Users and Roles' configuration page, with the 'Users' link highlighted by a red box and labeled '3'. The breadcrumb trail is 'Home > Configure > Users and Roles'.

Add a new user.

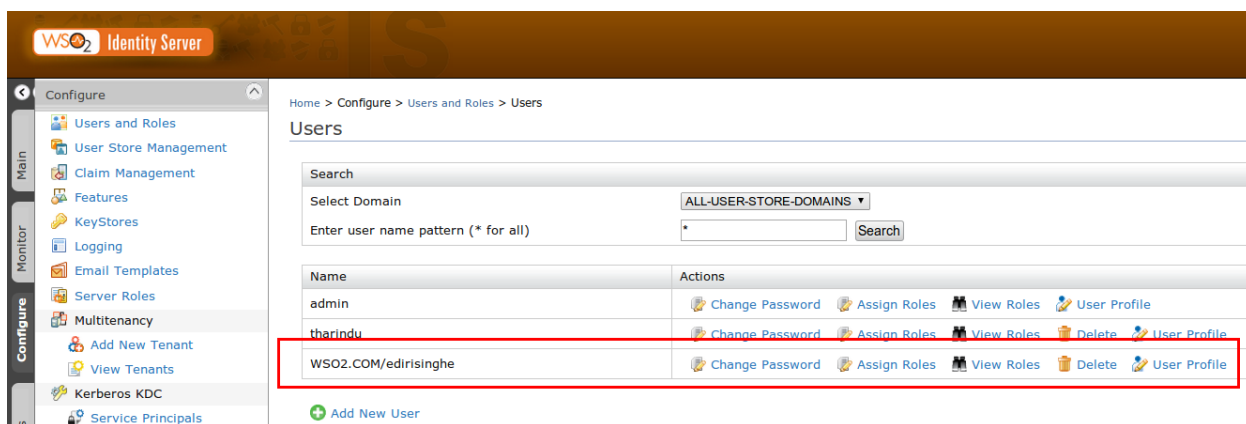
The screenshot shows the 'Users' management page in the WS2 Identity Server. The breadcrumb trail is 'Home > Configure > Users and Roles > Users'. The page has a search bar with a dropdown menu set to 'ALL-USER-STORE-DOMAINS'. Below the search bar is a table with two columns: 'Name' and 'Actions'. The table lists two users: 'admin' and 'tharindu'. The 'admin' user has actions for 'Change Password', 'Assign Roles', 'View Roles', and 'User Profile'. The 'tharindu' user has actions for 'Change Password', 'Assign Roles', 'View Roles', 'Delete', and 'User Profile'. A red box highlights the '+ Add New User' button at the bottom left of the table, with a red arrow pointing to it.

As the domain, select the secondary userstore created previously.



The screenshot shows the WSO2 Identity Server 'Add User' configuration page. The left sidebar contains a 'Configure' menu with options like 'Users and Roles', 'User Store Management', 'Claim Management', 'Features', 'KeyStores', 'Logging', 'Email Templates', 'Server Roles', 'Multitenancy', 'Add New Tenant', 'View Tenants', 'Kerberos KDC', and 'Service Principals'. The main content area shows the breadcrumb 'Home > Configure > Users and Roles > Users > Add User' and the title 'Add User'. Below this, 'Step 1 : Enter user name' is displayed. The form includes a 'Domain' dropdown set to 'wso2.com', a 'User Name*' text box with 'edirisinghe', two radio buttons for password handling (selected: 'Define password here'), a 'Password*' text box with masked characters, and a 'Password Repeat*' text box with masked characters. At the bottom, there are 'Next >', 'Finish', and 'Cancel' buttons. The 'Finish' button is highlighted with a red rectangle and a red arrow pointing to it.

You can see the user is successfully created.



The screenshot shows the WSO2 Identity Server 'Users' list page. The left sidebar is the same as in the previous image. The main content area shows the breadcrumb 'Home > Configure > Users and Roles > Users' and the title 'Users'. Below this, there is a search section with a 'Select Domain' dropdown set to 'ALL-USER-STORE-DOMAINS' and an 'Enter user name pattern (* for all)' text box. A table lists the users, with the row for 'WSO2.COM/edirisinghe' highlighted by a red rectangle. The table has columns for 'Name' and 'Actions'.

| Name | Actions |
|----------------------|---|
| admin | Change Password Assign Roles View Roles User Profile |
| tharindu | Change Password Assign Roles View Roles Delete User Profile |
| WSO2.COM/edirisinghe | Change Password Assign Roles View Roles Delete User Profile |

If you query the database and list the user in UM_USER table, you can see the user is successfully added.

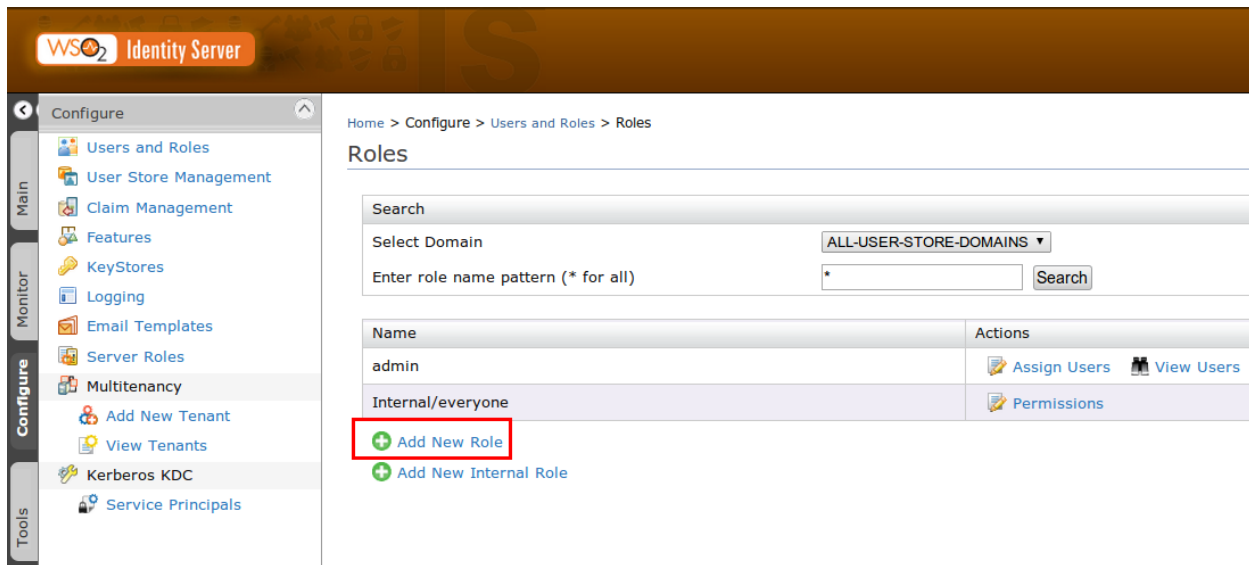
```
mysql> SELECT * FROM UM_USER;
```

| UM_ID | UM_USER_NAME | UM_USER_PASSWORD | UM_SALT_VALUE | UM_REQUIRE_CHANGE | UM_CHANGED_TIME | UM_TENANT_ID |
|-------|--------------|--|--------------------------|-------------------|---------------------|--------------|
| 11 | edirisinghe | D1Z0wFbDD4usQ1mUj9etpFAueRq0WQegZ63FyB1Y3sE= | 4TLX185Zb+Lz1qYLgq2RHA== | 0 | 2015-05-01 19:47:01 | -1234 |

Next step is to add a Role in the same userstore.

The screenshot shows the WSO2 Identity Server User Management interface. The left sidebar contains a 'Configure' menu, which is highlighted with a red box and labeled '1'. The 'Users and Roles' option in the sidebar is also highlighted with a red box and labeled '2'. The main content area shows the 'User Management' page, which includes a 'System User Store' section. The 'Roles' option in this section is highlighted with a red box and labeled '3'. The 'Change Password' and 'Manage Challenge Questions' sections are also visible.

Add a new role.



The screenshot shows the WSO2 Identity Server configuration interface. The left sidebar contains a 'Configure' section with a tree view of navigation items: Users and Roles, User Store Management, Claim Management, Features, KeyStores, Logging, Email Templates, Server Roles, Multitenancy, Add New Tenant, View Tenants, Kerberos KDC, and Service Principals. The main content area displays the 'Roles' page, with a breadcrumb trail: Home > Configure > Users and Roles > Roles. Below the breadcrumb, there is a search bar and a table of roles. The table has two columns: 'Name' and 'Actions'. The roles listed are 'admin' and 'Internal/everyone'. The 'admin' role has 'Assign Users' and 'View Users' actions. The 'Internal/everyone' role has a 'Permissions' action. Below the table, there are two buttons: '+ Add New Role' and '+ Add New Internal Role'. The '+ Add New Role' button is highlighted with a red rectangle.

Home > Configure > Users and Roles > Roles

Roles

Search

Select Domain: ALL-USER-STORE-DOMAINS

Enter role name pattern (* for all): *

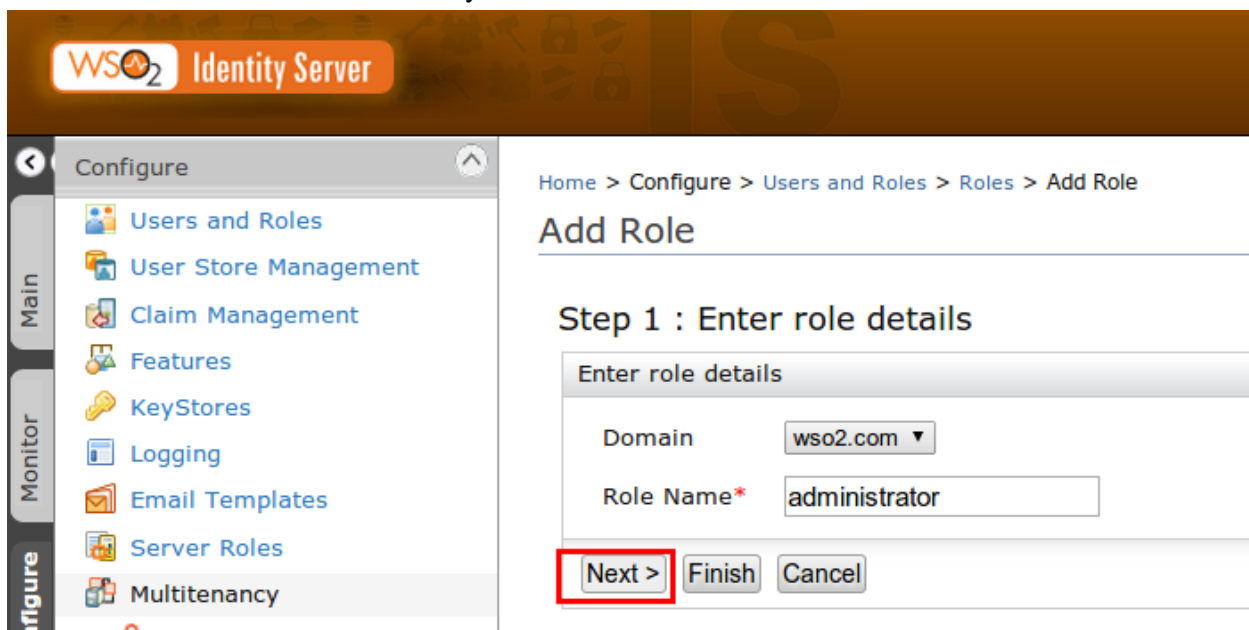
Search

| Name | Actions |
|-------------------|---|
| admin | Assign Users View Users |
| Internal/everyone | Permissions |

+ Add New Role

+ Add New Internal Role

Select the domain as the secondary userstore we created.



The screenshot shows the WSO2 Identity Server configuration interface for adding a new role. The left sidebar is the same as in the previous screenshot. The main content area displays the 'Add Role' page, with a breadcrumb trail: Home > Configure > Users and Roles > Roles > Add Role. Below the breadcrumb, there is a section titled 'Step 1 : Enter role details'. This section contains a form with two fields: 'Domain' and 'Role Name*'. The 'Domain' field has a dropdown menu with 'wso2.com' selected. The 'Role Name*' field has the text 'administrator' entered. Below the form, there are three buttons: 'Next >', 'Finish', and 'Cancel'. The 'Next >' button is highlighted with a red rectangle.

Home > Configure > Users and Roles > Roles > Add Role

Add Role

Step 1 : Enter role details

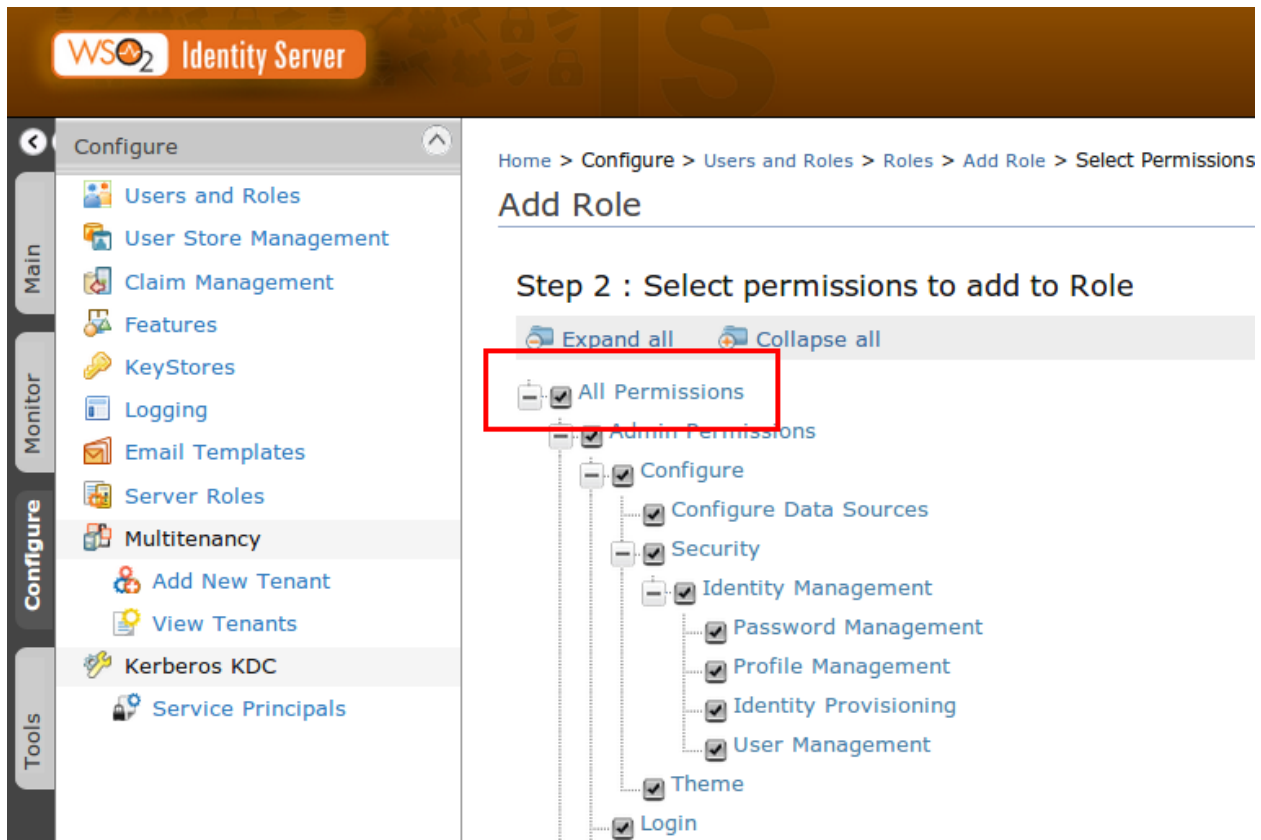
Enter role details

Domain: wso2.com

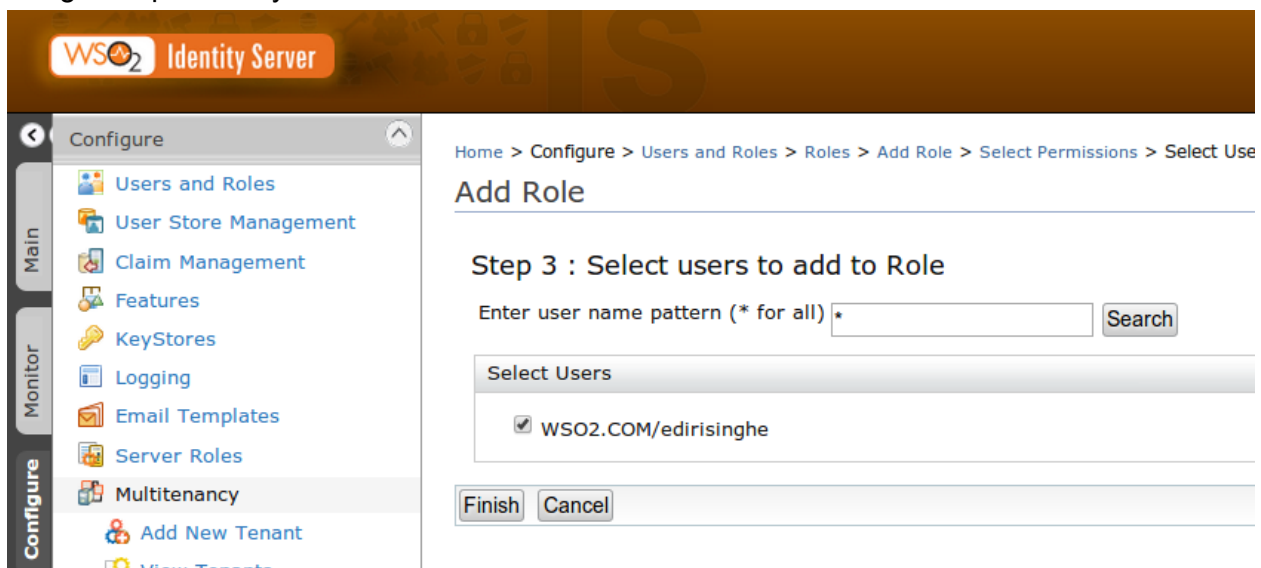
Role Name*: administrator

Next > Finish Cancel

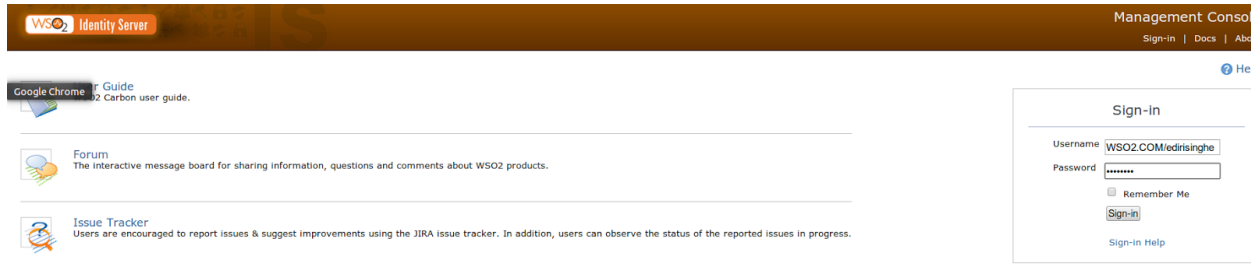
Here I am granting all permissions just for the demonstration.



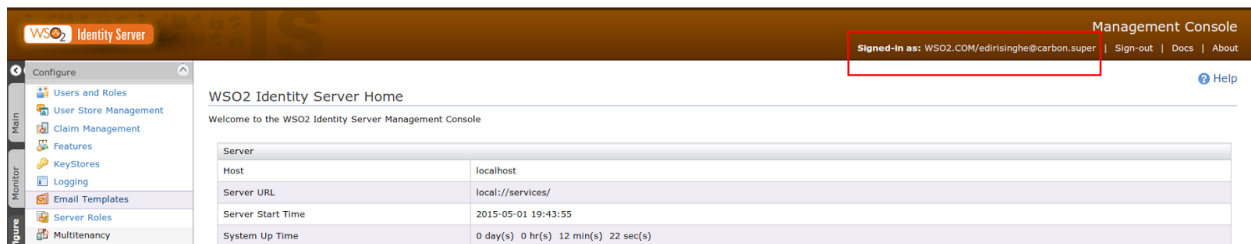
Assign the previously created user to the role.



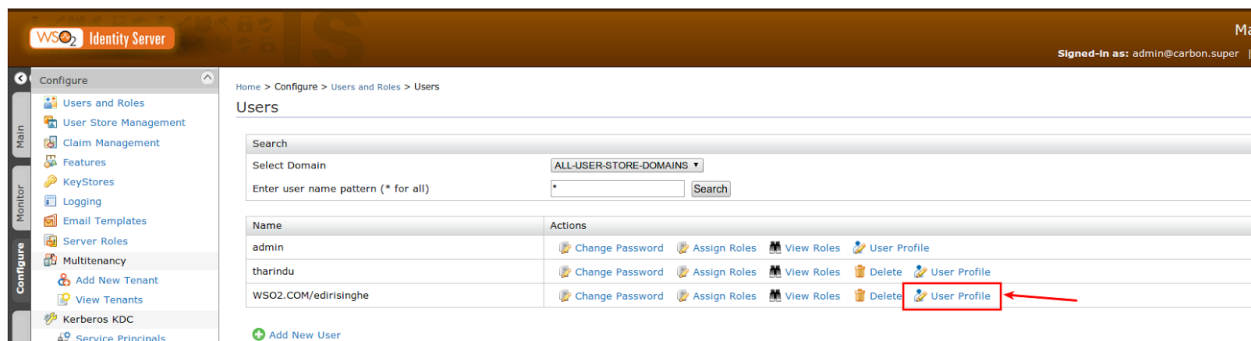
Login to the Management Console of the Identity Server with this user. (Since the user's role was given all permissions, user can login to the management console as the Login permission is also granted along with them)



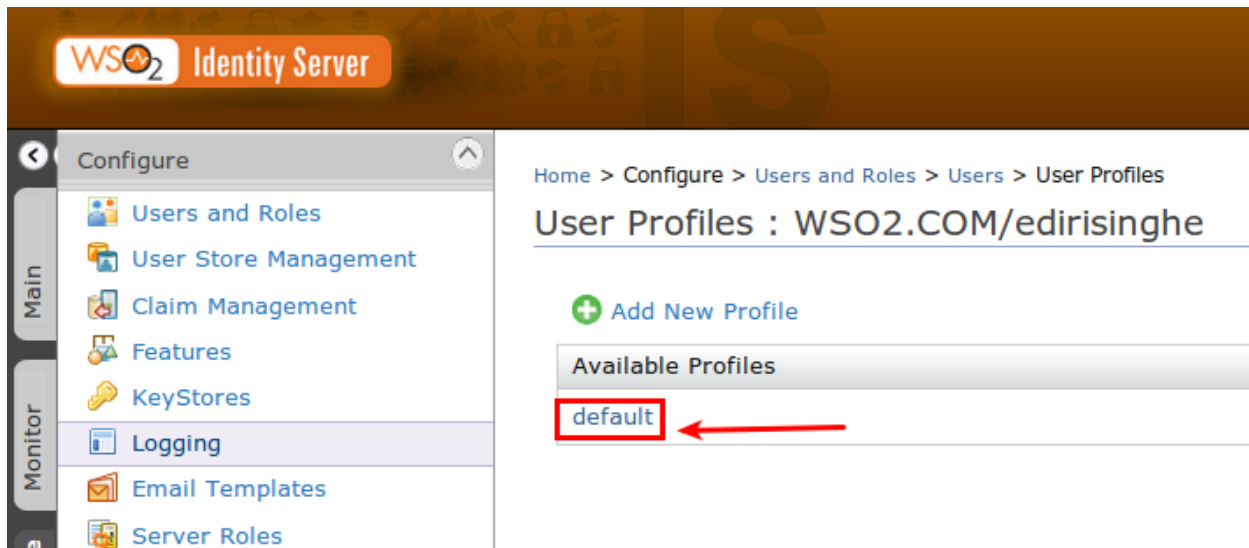
The user can successfully login.



Next step is to rename the user. Login to the management console as admin and list the users. Go to the User Profile of the particular user in this userstore.



As the available user profiles, 'default' profile is listed. Click on that.



Initially the attributes will be empty. Fill in the required fields so that we can save the profile. You can see the UserName attribute here. That is coming from the claim we defined previously. If you fill any name here, the custom userstore manager will rename this user with the name given here. If you leave it blank, only the other claims will be updated and username will not be changed. Here I give a new name and update the profile.

WSO2 Identity Server

Configure

Home > Configure > Users and Roles > Users > Update Profile

Update Profile : WSO2.COM/edirisinghe

User Profile

| | |
|----------------|--|
| Profile Name * | default |
| First Name * | Tharindu |
| Last Name * | Edirisinghe |
| Organization | WSO2 |
| Address | |
| Country | |
| Email * | edirisinghe@wso2.com |
| Telephone | |
| Mobile | |
| IM | |
| URL | |
| Role | WSO2.COM/administrator,Internal/everyone |
| UserName | tharindu |

Update Cancel

Now when I list the users, I can see that the username of the user is renamed.

WSO2 Identity Server

Configure

Home > Configure > Users and Roles > Users

Users

Search

Select Domain: ALL-USER-STORE-DOMAINS

Enter user name pattern (* for all): Search

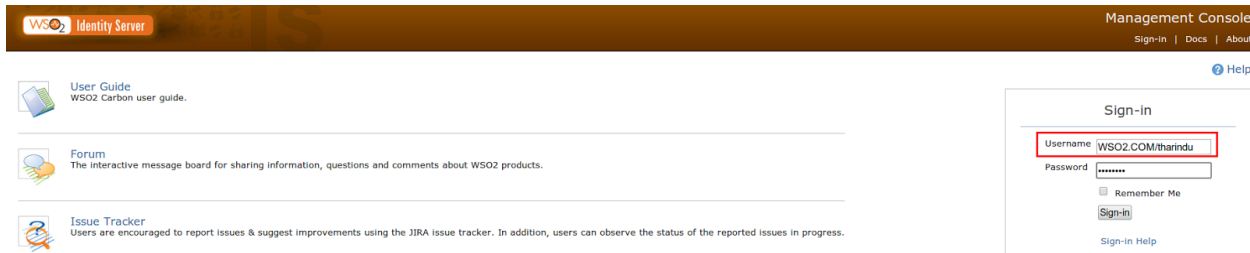
| Name | Actions |
|-------------------|---|
| admin | Change Password Assign Roles View Roles User Profile |
| WSO2.COM/tharindu | Change Password Assign Roles View Roles Delete User Profile |

Add New User

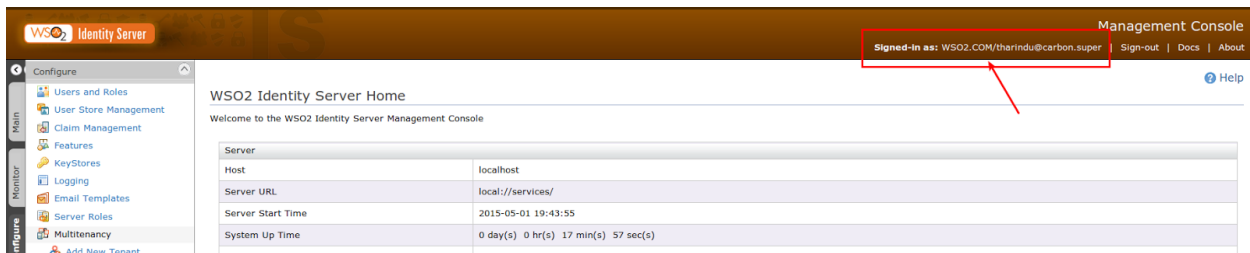
If I query the UM_USER table, this change is reflected in the database as well.

```
mysql> SELECT * FROM UM_USER;
+-----+-----+-----+-----+-----+-----+-----+
| UM_ID | UM_USER_NAME | UM_USER_PASSWORD | UM_SALT_VALUE | UM_REQUIRE_CHANGE | UM_CHANGED_TIME | UM_TENANT_ID |
+-----+-----+-----+-----+-----+-----+-----+
| 11    | tharindu     | D1Z0wFbDD4usQ1mUj9etpFAueRq0W0EgZ63FyB1Y3sE= | 4TLX18SZb+Lz1qYLgq2RHA== | 0 | 2015-05-01 19:59:09 | -1234 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

Now I try to login to the management console with the new username.



I can successfully login.



| Server | |
|-------------------|--------------------------------------|
| Host | localhost |
| Server URL | local://services/ |
| Server Start Time | 2015-05-01 19:43:55 |
| System Up Time | 0 day(s) 0 hr(s) 17 min(s) 57 sec(s) |

In the custom userstore manager, I have extended the **org.wso2.carbon.user.core.jdbc.JDBCUserStoreManager** class and overridden the **doSetUserClaimValues** method. This method receives the user's claims in the profile as a parameter and in the claims map, it is checking whether it contains the particular Claim URI defined in the properties of the userstore. (The default claim uri is <http://wso2.org/claims/username>). If a value is received for this claim, it directly updates the UM_USER_NAME column of the UM_USER table for the particular user. (If the new name received for renaming the user is already existing in the database, it will throw an exception and in the management console, it will display an error message)

References :

[1] <https://github.com/thariyarox/samples.git>

[2] <https://github.com/thariyarox/samples/tree/master/SampleCustomeUserStoreManager-5.0.0>

[3] <https://github.com/thariyarox/samples/blob/master/SampleCustomeUserStoreManager-5.0.0/target/org.wso2.sample.user.store.manager-1.0.jar>

[4] <http://dev.mysql.com/downloads/connector/j/>

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