AASHTOWare BrDR 7.5.0 Getting Started Getting Started with Active Directory in BrDR

Topics Covered:

- Manage user permissions in SQL Server
- Manage users inside of BrDR
- Connect to BrDR using a Active Directory User

Manage user permissions in SQL Server

Individual User

First ensure that the latest versions of SSMS and SQL Server are installed. Please refer to our other guide covering that topic if needed. Then start SSMS. On the **Connect to Server** window as shown below, the **Server Name** should match the name of the desired computer or host server. Click **Connect**.

_	SOL Sonvor			
	SQL Server			
Server type:	Database Engine	~		
Server name:	WINDOWS10-BASE			
Authentication:	Windows Authentication ~			
User name:	WINDOWS10-BASE\vboxuser	~		
Password:				
	Remember password			
	Connect Cancel Help Options	>>		

Once the connection to the desired instance of SQL Server has been established, click the plus signs next to **Security** and then next to **Logins** to see a list of logins.



Next find the desired Windows user. This should be the name of the local machine or domain followed by a backslash followed by the windows username. Once found please double click on that login. If the desired login is not found, you will need to add that login. To create a new login, right-click the Security folder, point to New, and select Login.



Next click the User Mapping page.

Login Properties - WINDOW	/S10-BASE\vboxuser		_			
Select a page	🖵 Script 👻 😧 Help					
Server Roles User Mapping	Login name:	WINDOWS10-BASE\vboxuser		Search		
 Securables Status 	 Windows authentication SQL Server authentication 					
	Password:					
	Confirm password:					
	Specify old password					
	Old password:					
	Enforce password policy					
	Enforce password expira	tion				
	User must change passv	vord at next login				
	 Mapped to certificate 		\sim			
	 Mapped to asymmetric key 		\sim			
Connection	Map to Credential		\sim	Add		
Server: WINDOWS10-BASE	Mapped Credentials	Credential	F			
Connection: WINDOWS10-BASE\vboxuser						
<u> </u>						
Progress		<	>	Remove		
Ready	Default database:	master	~			
No. of Contract of	Default language:	English - us_english	~			
			OK	Cancel		

Next click the **Map** checkbox next to the desired **Database**. Also check the VIRTIS_USER_READ_ONLY_ROLE checkbox. Note that it says the name of the intended database in the place of the green box. Repeat this process for each desired database that the user should have access to. Then click **OK**.

Login Properties - WINDOV	VS10-BASE\\	/boxuser			_		\times
Select a page		🔻 🕜 Help					
🖉 General	_) •••••						
Server Roles							
Securables	Users ma	pped to this login:					_
Status	Мар	Database	User	Default	Schema		_
		AASHTOWareBr75	WINDOWS10-BASE\vb	dbo			
		AASHTOWareBr75i					
		AASHTOWareBr75is					
		AASHTOWareBr75s					
		master					
		model					
		msdb					
		temodh					
Connection	<						>
Server: WINDOWS10-BASE	Database	account enabled for: AASH	TOWareBr75				
Connection: WINDOWS10-BASE\vboxuser	db_a	ccessadmin					
View connection properties	db_da	atareader					
	db_da	atawriter					
		dladmin					
		enydatareader					
Progress		enydatawnter wher					
	db_o	ecurityadmin					
Ready		: IS_USER_READ_ONLY_R	OLE				
				Oł	<	Can	cel

Once this action has been performed for each desired user and database to which access is required, exit SSMS and continue to the **Managing users inside of BrDR** chapter of this guide.

User Group

Though this is not a comprehensive guide on the subject, it is also possible to create an active directory user group and to control database access on a per group basis. This solution is like the above-covered process but using Active Directory Groups instead of users. This can affect multiple users at once and allows a much more scalable solution for access management.

From the **Start Menu** type in **Computer Management** and open the application. Expand **System Tools** and **Local Users and Groups** in the **Computer Management** tree.



Right click on the Groups folder select New Group... from the dropdown menu.

New Group		7	, x
Group name:	BrdrManagersGroup		
Description:	BrDR Managers Division		
Members:			
🎐 BrdrManag	er1 er2		
Add	Remove		
Help	Cre	eate	Close

Enter the name and description of the group in the fields shown.

To add members to the group, click the **Add...** button and enter a username in the **Enter the object names to select** (example): text box. Click check names to ensure that the information was entered correctly then click **OK** to continue.

Select Users		×
Select this object type:		
Users or Built-in security principals	Object Tyr	pes
From this location:		
LOLMSTEAD-PC	Location	IS
Enter the object names to select (<u>examples</u>):		
LOLMSTEAD-PC\BrdrManager2	Check Na	ames
Advanced	OK Can	cel

Click the **Create** button on the **New Group** window then click the **Close** button.

Next, open SSMS and expand the **Security** and **Logins** items in the tree. Right click on **Logins** then select **New Login** from the dropdown menu.

🖡 Login - New				_		×
Select a page General	∏ Script ▼ ? Help					
 Server Roles User Mapping Securables Status 	Login name: Windows authentication				Search	ı
	O SQL Server authentication Password:					
	Confirm password: Specify old password					
	Old password:					
	 Enforce password expira User must change password 	tion vord at next login				
	 Mapped to certificate 			\sim		
	 Mapped to asymmetric key 			\sim		
Connection	Map to Credential			~	Add	
Server: LOLMSTEAD-PC	Mapped Credentials	Credential	Provider			
Connection: AzureAD\LindseyOlmstead						
₩ <u>View connection properties</u>						
Progress					Remo	ve
Ready	Default database:	master		~		
The Bar	Default language:	<default></default>		~		
			Γ	OK	Can	cel

Click the Search... button next to Login name to open the Select User or Group window.

Select User or Group	×
Select this object type:	
User, Group, or Built-in security principal	Object Types
From this location:	
LOLMSTEAD-PC	Locations
Enter the object name to select (examples):	
LOLMSTEAD-PC\BrdrManagersGroup	Check Names
Advanced OK	Cancel

Enter the name of the group name in the **Enter the object name to select (examples)** text box then click the **OK** button.

If the group does not appear during the search, click the **Object Types...** button and ensure that the **Groups** box is checked.

Object Types × Select the types of objects you want to find. Object types: ✓ Other objects ✓ Built in security principals ✓ Groups ✓ Users ✓ OK Cancel		
Select the types of objects you want to find. Object types: Other objects Built in security principals Groups Users OK Cancel	Object Types	×
Object types: Other objects Built-in security principals Groups Users OK Cancel	Select the types of objects you want to find.	
Other objects Built-in security principals Groups Users OK	Object types:	
OK Cancel	Other objects	
OK Cancel		
OK Cancel	Users	
OK Cancel		
OK Cancel		
OK Cancel		
		OK Cancel

Next, select User Mapping and map the group to the appropriate database as was described in the previous section.

Before a group member can login to BrDR, a user account must be created for each group member inside of BrDR as described in the next section.

Managing users inside of BrDR

Once logged into BrDR using an existing administrator user, click the **VIEW** tab in the ribbon then click the **Configuration** button to open the configuration window.

AASHTOWare Bridge Design and Rating					
BRIDGE EXPLORER BRIDGE	FOLDER RATE	TOOLS VIEW			
Refresh Retrieve All Refresh	Select All Select None Sc Invert Selection	ZUS Customary ort Select Columns	Library Configuration		
	Bridge Explorer Vie	W			
	BID	Bridge ID	Bridge Name	District	
Recent Bridges	> 1	TrainingBridge1	Training Bridge 1(LRFD)	Unknow	
Hu 🚰 Templater	2	TrainingBridge2	Training Bridge 2(LRFD)	Unknow	
Peleted Bridges	3	TrainingBridge3	Training Bridge 3(LRFD)	Unknow	
- Deleted bridges	4	PCITrainingBridge1	PCI TrainingBridge1(LFR)		
	5	PCITrainingBridge2	PCITrainingBridge2(LRED)		

Next click the New User button as shown below.



Next fill in the information below in the fields shown in the red box. Note that the **Username** shown in the **UserID** field must exactly match the windows username (including the computer/domain name). Assign the new user to the appropriate group. For this tutorial we are using the Administrators group. The **First Name** and **Last Name** fields are required. The **User is Active** checkbox must also be checked for the user to have access.

💙 User is a	ctive				
User ID: First name:	DomainName/Username FristName	Phone 1: Phone 2:	Member of Administrators		Not a member of Design Engineers
Last name:	LastName	Fax:			Managers
Prefix: Suffix:		Address:		<<	Rating Engineers Routing Engineers
Title:		City:		>>	
Organization:		State:Zip:			
		Email 1:			
		Email 2:			

To add the user as a member of the **Administrators** group, highlight the **Administrators** group name on the righthand side. Then click the << button shown in the below image in a red box. If this step is missed and the rest of the guide is carried out completely, it could result in a user that is able to login to BrDR but upon logging in has no access privileges and cannot view any bridges. Existing users group membership can be altered by logging back in as an existing administrator user and altering the new user(s) **Membership**.

Member of		Not a member of	
		Administrators	
		Design Engineers	
	<<	Managers	
		Rating Engineers	
	>>	Routing Engineer	s
			Save Close

Then click Save.

Please note, if the Groups feature is being used, a BrDR user account must be created for each member of the group.

Connect to BrDR using a Active Directory User

Connecting to SQL Server

From the **Connect** window, please click the ellipse shown in the red box.

Br	Connect	Br R ë	Bridge Design & Rating Version 7.5.0.3001 Build date Oct 30 2023	×
		Username	bridge	
		Password		
		Connect to	AASHTOWareBr75 v	
		ОК	Cancel Help License	

From the Manage Connections window, start by clicking the New button shown below.

Manage Connections				-		×
Connection details						
AASHTOWareBr75	Profile name: AASHTOWa	reBr75				
AASHTOWareBr75s	Connection type: Microsoft St SQL Server connection deta Host address: Database:	2L Server V Ils Iocalhost AASHTOWareBr75 Windows Authentication SQL Encrypt	~	Refresh		
New Delete		0	< C	ancel	st conne	ection

Change the **Profile Name** to something appropriate. Select the appropriate **Connection Type** and ensure that the **Windows Authentication** checkbox is checked as shown below.

nection details		
ASHTOWareBr75 ASHTOWareBr75s	Profile name: ActiveDirectoryProfileName Connection type: Microsoft SQL Server	
ctiveDirectoryProfileName	SQL Server connection details	-
	Host address:	
	Database: Vindows Authentication SQL Encrypt	 ✓ Refresh
New Delete		

Next please enter the appropriate host address into the Host address textbox and click the refresh button.

Manage Connections		- 🗆 X
Connection details		
AASHTOWareBr75	Profile name: ActiveDirectoryProfileName	
AASHTOWareBr75s	connection type. Interoson side server	
ActiveDirectoryProfileName	SQL Server connection details	
	Host address: localhost	
	Database:	Refresh
	Vindows Authentication	n
	SQL Encrypt	
New Delete		
		OK Cancel Test connection

ASHTOWareBr75	Profile name:	ActiveDirect	toryProfileName		
ASHTOWareBr75s	Connection type:	Microsoft S	QL Server 🗸		
ctiveDirectoryProfileName	SQL Server con	nection deta	ils		
	Host address:		localhost		
	Database:			\sim	Refresh
			master		
			tempdb		
			model		
			msdb		
			AASHTOWareBr75		
			AASHTOWareBr75s		
			AASHTOWareBr75i		
			AASHTOWareBr75is		

This will refresh and open the Database dropdown menu. Select the desired database.

Click OK.

Manage Connections				-		×
Connection details						
AASHTOWareBr75	Profile name:	ActiveDirectoryProfileName				
AASHTOWareBr75s	Connection type:	Microsoft SQL Server 🗸				
ActiveDirectoryProfileName	SQL Server con	nection details				
	Host address:	localhost				
	Database:	AASHTOWareBr75	~	Refresh		
		Windows Authentication				
		SQL Encrypt				
New Delete						
		ОК	Cancel	Tes	t conne	tion

Now from the Connect screen select the Profile name entered previously in the Connect to select menu. Note the windows user following the name of the computer/domain name. This **Username** must exactly match the **User ID** entered in the **Managing users inside of BrDR** portion of this guide as well as the **Manage SQL Server User Permissions** portion of this guide. If any of those values do not match, BrDR will fail to launch. If that happens, please refer to those portions of this guide. Finally, note that both the username and password are greyed out and the password field should appear to be blank, this is expected behavior since these fields are being managed automatically for the user via the integration with Active Directory. Click **OK** to connect to BrDR.

Br	Connect			×
		BrR B	Bridge Design & Rating Version 7.5.0.3001 Build date Oct 30 2023	
		Username	WINDOWS10-BASE\vboxuser	
		Password		
		Connect to	ActiveDirectoryProfileName 🗸 🛄	
		ОК	Cancel Help License	

Connecting to BrDR using Azure Active Directory

A user can also connect to BrDR using Azure Active Directory.

If the user is currently logging in using Active Directory, selecting the **Windows Authentication** option in the **Manage Connections** window will automatically populate the Username field with the current user's Active Directory login information.

Configuration of Azure Active Directory is beyond the scope of this tutorial.

Connect		×
BrR	Bridge Design & Rating Version 7.5.0.3001 Build date Oct 30 2023	
	This license expires in 26 days.	
Username	AzureAD\LindseyOImstead	
Password		
Connect to	AASHTOWareBr75s_ActiveDirectory v	
ОК	Cancel Help License	