pure::variants Model Server Administration Manual

Parametric Technology GmbH

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1. Introduction

The pure::variants Model Server Administration allows the administration of the users and roles for a pure::variants model server. It provides an editor to create, delete, modify, import, and synchronize users and roles, and to assign users to roles and vice versa. These operations require administrative access rights. The user and role data of a pure::variants model server is managed in the special administration project "ADMIN".

A printable version of this document is available.

2. Administration Project

The special administration project "ADMIN" exists on each pure::variants model server. It is used to define access rights for all projects, and to manage users and roles. In order to do this, you have to import the "ADMIN" project from the model server into your workspace first. This may require administrative rights.

To import the "ADMIN" project, right-click in the "Variant Projects" view and select "Import..." from the context menu.

2	Variar	nt Projects 🛛	⊉ 🕏 ▽
		New	>
		Open	
	х	Delete	
		Refactor	>
	2	Import	
	⊿	Export	
		Refresh	

Figure 1. Import from Context Menu

Select "Variant Server Project" from the list and click "Next".

🖨 Import			—	
Select				
Select an import so	urce:			
type filter text				
> 🗁 CvS				
> 🗁 Riug-in De	velonment			
Run/Debug	a			
> > SVN	9			
> 🏳 Team				
🗸 🗁 Variant Ma	nagement			
ू Variant	Models or Project	ts		
्रि Variant	Server Project			
> 🗁 WindowTe	ster			
> 🗁 XML				
> 🗁 Other				
				~
(?)	< Back	Next >	Finish	Cancel
0				

Figure 2. Import Variant Server Project

On the next page you can choose from the list of known pure::variants model servers, or add a new server if the server you want to connect to is not in the list.

Av	/ariant Sonver Dr	ningt Import							
	anant Server Pro	oject import							
Sele	ect Server Pi	roject					(D)		
Cho	Choose a server and select the projects to import.								
Avail	lable Servers								
pure	e::variants Mode	el Server (http://lo	calhost:69	79)		~	Add Server		
Avail	lable Projects								
	Project			Descriptio	n				
6	ADMIN			Server Adr	ninistration	Project			
-									
<							>		
Filt	ter the above tal	ble					Ø		
	Show All Project	s							
?)	< Back	Next	>	Finish		Cancel		
0		S DOCK	TYCK		1 man		cancer		

Figure 3. pure::variants Model Server and Project Selection

To add a new server click "Add server". A dialog pops up which allows you to enter a short description of the server, and its URL in the form "http://servername:port" or "https://servername:port".

Figure 4. Add a new pure::variants Model Server

힌 Ne	w Server Location X
Add a	a new CoreServer ss OK to add the new location or cancel to abort.
Name:	pure::variants model Server
URL:	http://localhost:6978
	OK Cancel

Click "OK" to add the new server to the list of pure::variants model servers.

You can manage the pure::variants model servers also in the pure::variants preferences by opening menu "Window" -> "Preferences" -> "Variant Management" -> "Known Servers". Please consult the "pure::variants Server Support Plug-In Manual" for details.

After you have chosen or added a server, you are asked by the server to login. If you successfully authenticated at the server, the projects are shown that exist on this server and that you are permitted to see.

If you don't see the "ADMIN" project in the list of available projects, or it is marked with a red lock, then you don't have the appropriate permissions to import it. If the "ADMIN" project is listed with a green icon, then please select it and click "Finish" to import it into the workspace.

Figure 5. Imported ADMIN Project



The "ADMIN" project contains two entries.

- Project Root This is a virtual folder for all the projects on the model server. It is used to define access rights for all projects, including the right to create new projects.
- User Management This is the user management model containing all the users and roles of the model server. It is used to manage the users and roles. All users should have "Read" access to this model.

3. Users and Roles

Users and roles are managed in the "User Management" of a pure::variants model server.

3.1. Open User Management

To manage users and roles, double-click the "User Management" item in the "ADMIN" project.

Figure 6. Open User Management



The "User Management" editor opens and shows all available users in the left table. Initially after installation of a pure::variants model server, there is only one user, i.e. the build-in user "system".

Figure 7. User Management Editor

🖞 User Management Editor 🕱 🛛 🖓 🗖						
Users 🌡 system	Data Source	Roles	Data Source			
Create Delete Modify Import Change						
💧 Users 🍰 Roles						

Note

The build-in user "system" has a predefined password that MUST BE CHANGED immediately after starting the first time a model server that supports local authentication. Since all pure::variants server installations share this initial password, keeping this password unchanged renders the server insecure. Please consult the "pure::variants Server Quick Installation Guide" for the password. Please see Section 3.4, "Change User Password" on how to change the password.

If you select a user in the table, the right table shows all roles assigned to this user. Initially there are two roles named "Administrators" and "Others".

Figure 8. Selected User

👌 User Management Editor 🛽	3		- 8
Users	Data Source	Roles	Data Source
🖁 system		i Others	
		ddministrators 🥔	
Create Delete Modify	Import	Char	nge
🧂 Users 🍰 Roles			

Users and roles can be sorted alphabetically ascending and descending by clicking the "Users" or "Roles" table column titles.

Users and roles can be imported from and synchronized with data sources, in which case they have a data source assigned. To sort the users or roles by their data source, click the "Data Source" table column title.

3.2. Create Users and Roles

To create a new user click the "Create" button on the lower left of the editor. A dialog opens (see Figure 9, "Create a new User") where you can enter the unique name (i.e. username), real name, and description of the user.

The bottom of the dialog shows two lists where you can assign the user to existing roles. The left side of the list shows all available roles. The right side shows all roles which are already assigned. You can assign a user to a role by selecting the role on the left side and click the "==>" button, or simply double-click the role on the left side. To remove a user from a role you need to select the role on the right side and click the "<==" button, or double-click the role on the right side.

To create more than one user click the "Add" button after entering the user data of the first user. This creates the first user with the given data and clears the dialog values. You are now able to create another user.

reate a new u	iser.			10
User				
User Name:	john			
Real Name:	John Doe			
	This is an unknown	test us	er	^
Description:				
				¥
Deles				
Koles		ſ		
Available F	Roles		Assigned Roles	
admini 🥬	strators	==>	nothers 🥟	Move up
		<==		Move down

Figure 9. Create a new User

Clicking the "OK" button creates the user and closes the dialog. The newly created user is shown in the left table of the "User Management" editor.

Figure 10. New User

Jsers 8 system	Data Source	Roles	Data Source
john (John Doe)		- others	
Create Delete Mod	ify Import	Chang	e

Creating a role works just the same. You only need to select the "Roles" tab on the lower left part of the editor and then click "Create".

Roles can have one of the following functions:

• Reader

User having the Reader role do have read access to the models in the server only.

For read only access to the model server no license is needed in the web client.

In the desktop client still a license is necessary but user does have read only access to the models from the model server. Local projects are not affected.

• Transformation Administrator

Users having this role are allowed to administer transformation configurations in the web client. This role has no affect to the desktop client.

• Permission

Roles which define access rigths to the model server models.

B New Role					×
Role					• •
Create a new re	ole.				
Role					
Role Name	Reader Role				
Deel Nerrer	Reductivoic				
Real Name:					
Function:	Reader				~
					A
Description:					
					_
					•
lleare					
Users		1			
Available U	Jsers		Assigned Users		
🍵 system		==>			Move up
		<==			Move down
]			
				014	
()			Add	UK	Cancel

Figure 11. Create a new Role

3.3. Modify Users and Roles

To modify a user, select the user in the left table of the editor and click the "Modify" button, or simply double-click the user. The modification dialog opens which is the same dialog as for creating users and roles. Click the "OK" button to apply the modifications for the selected user or role.

3.4. Change User Password

If a pure::variants model server supports local authentication, then the passwords needed for local authentication are managed by the server itself (instead of maybe an LDAP server) and can be changed. Otherwise, changing passwords from within pure::variants is not supported.

To change a user's password, right-click the user in the "User Management" editor and choose "Change Password" from the context menu. A dialog opens where you have to enter the new password twice, and then apply it by clicking "OK".

စ် Change Password		×
Change the password for user: john		D
Enter the new password twice for verification		101
Password New Password: Retype new password:		
3	OK Ca	ncel

Figure 12. Change User Password

3.5. Change Roles assigned to a User

To change the roles assigned to a user, select the user in the left table of the "User Management" editor and click the "Change" button below the role list, or simply double-click the user. A dialog opens showing the available and already assigned roles. To assign a role, double-click it in the "Available roles" list or select it and use the "==>" button. Apply the changes by clicking "OK". The changes take effect after the next login of the user.



Roles Roles Select Roles the User "john"	should be me	mber of	ڊ ×
Available Roles	==>	Assigned Roles	Move up Move down
?		ОК	Cancel

3.6. Enable and Disable Users and Roles

Users and roles can be disabled. If a user is disabled, then this user cannot login to the server anymore. If a role is disabled, then the permissions granted to this role do not apply. The name of disabled users and roles is automatically prefixed with "<disabled>" in the "User Management" editor.

Users	Data Source	Roles	Data Source
🎳 system		🧀 <disabled> Testers</disabled>	
🧂 john (John Doe)			
\delta <disabled> tester3</disabled>			
🧂 < disabled> tester2			
🧂 < disabled> tester1			

Figure 14. Visualization of disabled Users and Roles

To disable an existing user or role, select it in the "User Management" editor, right-click to open the context menu, and choose the "Disable" action.

Figure 15. Disable a User

👌 User Management Edito	r 🛿		- E
Users 💧 system	Data Source	Roles	Data Source
🔓 john (John Doe) 🎳 <disabled> tester 🗱</disabled>	Disable		
6 <disabled> tester</disabled>	Delete Modify		
Create Delete I	Change Data Source Change Password	C	Change
🧯 Users 🤌 Roles 🛛 —	,		

To enable a disabled user or role, select it in the "User Management" editor, right-click to open the context menu, and choose the "Enable" action.

Figure 16. Enable Use

👌 User Management Editor	x			
Users		Data Source	Roles	Data Source
<pre></pre>	÷	Enable		
å <disabled> tester2</disabled>	×	Delete		
disabled> tester3	Ē	Modify		
system Create Delete Modify	_	Change Data Source Change Password	Change	
🌡 Users 🍰 Roles				

You can enable or disable multiple users and roles at once. Just left-click the users or roles while pressing the "Ctrl" or "Shift" key, or press the keys "Ctrl" + "A" to select all, and then right-click to open the context menu and choose the "Enable" or "Disable" action.

3.7. Delete Users and Roles

To delete an existing user or role, select the user or role in the "User Management" editor and either click the "Delete" button or press the "Del" key on the keyboard. After clicking "Yes" in the confirmation dialog the selected user or role is deleted and removed from its assigned roles.

Figure 17. Delete User or Role

🗯 User Management Editor	×				-
Users	Data Source	Roles		Data Source	
💧 system	D. I. I.	- Others			
🧯 john (John Doe) 🛛 👼	Delete user				×
	Do you really want t	o delete the selected user?			
Create Delete Mo			Yes	No	
Users 🧀 Roles					

You can delete multiple users and roles at once. Just left-click the users or roles while pressing the "Ctrl" or "Shift" key, or press the keys "Ctrl" + "A" to select all, and then right-click to open the context menu and choose the "Delete" action, or press the "Del" key.

Note

If a user or role is deleted, then this does not automatically delete the access rights granted to that user or role for any resource on the pure::variants model server. If you recreate a user or role with the same name, then this user or role will have the same rights again.

3.8. Restore Users and Roles

If users or roles have been changed or deleted, then you can restore them using the pure::variants change history. To do this, open the "User Management" editor. Then open the "History" view by clicking "Window" -> "Show View" -> "Other...", scroll down to and expand "Variant Management", and double-click "History".

🤌 User Management Editor	×			C	- 0
Users 🎳 system	Data Source	Roles	Data Sour	ce	
Create Delete Modify	Import	Change			
Users & Roles				<u> </u>	- 8
Com	ment	Date	User	=> →r Branch	^
Aug 19, 2019 2:50:26 PM		Aug 19, 2019 2:50:26 PM	system	HEAD	_
📲 Element Removed: p	os:user: John Doe				
🗈 Aug 19, 2019 2:50:17 PM		Aug 19, 2019 2:50:17 PM	system	HEAD	
					\sim
<					>

Figure 18. Change History

The "History" view shows the changes on the "User Management" in chronological order, beginning with the newest change. If for instance the user "John Doe" shall be restored, select the change that removed the user, right-click to open the context menu, and select "Compare With Current ...".

🤞 User Management Editor 🖇	X						- 8
Users å system	Data Source	rrce Roles Data Sou			Jrce		
Create Delete Modify	Import		Cha	nge			
🖁 Users 🍰 Roles							
💐 History 🛛						\$₽	
Com	ment		Date		User	Branch	^
 Aug 19, 2019 2:50:26 PM Element Removed: p Aug 19, 2019 2:50:17 PM 	s:user: Johr	Set Comment Expand Collapse Goto Compare With Table Layout Save to XML	n Current >	>M	system system	HEAD	
<							>

Figure 19. Compare With Current State

All the changes occurred between the selected change and the current state of the "User Management" are presented in a compare editor.

Figure 20. Compare Editor

🤌 User Management Editor 🛛 🛱 Compare Editor (UserManagement) 🖾 👘 🗖					
🗎 pure::variants Model Structure Compare	Filter:				
🔫 Element Removed: ps:user: John Doe					
🖩 pure::variants Model Compare					
🖶 UserManagement	🗎 UserManagement - Aug 19, 2019 2:50:26 PM				
 Image: UserManagement Image: ps:userist: List Of Users Image: ps:rolelist: List Of Roles 	▼ Image: UserManagement ▼ Image: System Image: Image: Image: System Image: System Image: Image: Image: Image: Image: System Image: System Image:				

You can select changes in the upper part of the editor which then shows the details in the lower part. To restore a change, right-click a change and select "Copy Current Change from Right to Left".

Figure 21. Revert a Change

🤌 User Management Editor 🛛 🚰 🕻	Comp	are Editor (UserManagement) 🛛	
🗎 pure::variants Model Structure Con	npare	Filter:	
🔫 Element Removed: ps:user: Jo	ohn D	oe	
		Mark as Merged	
	₽	Copy Current Change from Left to Right	
pure::variants Model Compare	÷	Copy Current Change from Right to Left	19 19 19 41 4 4
🖶 UserManagement		Hide Merged Changes	019 3:23:33 PM
✓ I mathematical states >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		Show in Text Compare	
Image: Second	×	Expand All	Jsers
> } ps:rolelist: List Of Roles	ж	Collapse All	pe 🗆
		Expand Item	toles
		Collapse Item	
		Export to File	
	-		

The change is reverted immediately.

Figure 22. Restored User

👌 User Management Editor 🛽	3			C	
Users å system å john (John Doe)	Data Source	Roles	Data Sou	rce	
Create Delete Modify	Import	Change			
🚑 History 🛿				\$ \$ * '	- 0
Com	ment	Date	User	Branch	^
🕒 Aug 19, 2019 3:15:07 PM		Aug 19, 2019 3:15:07 PM	system	HEAD	
🗈 Aug 19, 2019 2:50:26 PM		Aug 19, 2019 2:50:26 PM	system	HEAD	
■ Aug 19, 2019 2:50:17 PM		Aug 19, 2019 2:50:17 PM	system	HEAD	~
<					>

Note

This is a low level comparison of "User Management" versions. Changes may be more complex as shown in the example above. Please revert changes carefully.

3.9. Import Users and Roles

pure::variants supports the import of users and roles from external data sources. To import users or roles, click "Import" below the left table of the "User Management" editor.

If you do this on the "Users" tab of the "User Management" editor, then you can import users and optionally the roles that the imported users are member of.

If you do this on the "Roles" tab, then you can import roles and optionally the users that are member of the imported role.

In both cases an import dialog opens allowing you to select the data source from which to import the users or roles, make changes on the import settings, test the import, and eventually perform the import. As for now, LDAP directory servers are the only supported data source. See Section 4.2, "LDAP Directories".

🖨 User Import	_	
LDAP User Import		[à
Enter the LDAP server you want to import from.		101
Data Source		
Example Active Directory		*
LDAP Servers		
Idap://ad.example.local:389		¥
Test Connection		
Test < Back Next > Finish		Cancel

Figure 23. User Import from an LDAP directory

After finishing the import dialog, the import from the data source is performed and the imported users and roles are presented to you. If the data source settings have been changed, then this is also marked as a change.

🖨 User Data Changes	—		×
User Data Changes			
Select user data changes to apply.			10
type filter text			
🗌 🕙 Data source changed: 'Example Active Directory'			
🗌 🔮 User added: 'pvtest1 (pvtest1)'			
🗌 🍓 User added: 'pvtest2 (pvtest2)'			
User added: 'pvtest3 (pvtest3)'			
User added: 'pvtest4 (pvtest4)'			
User added: 'pytest5 (pytest5)'			
User added: pvtesto (pvtesto)			
User added: 'pytest? (pytest?)'			
✓ ■ Ser changed: 'pytest'			
🗌 🎃 Real Name added: 'pvtest'			
	Select A	II Dese	lect All
?	<u>F</u> inish	Car	ncel

Figure 24. Import Result

As a result of the import, new users or roles may be added, and existing users and roles may be disabled or updated according to the existence and state of the users and roles in the data source.

As long as no listed change is selected, nothing will changed. To select all the changes, click "Select All". You can deselect all selected changes by clicking "Deselect All". In the following screenshot all changes have been selected, except the changes that add the users "pvtest7" and "pvtest8".

Jser Data Changes			×
User Data Changes Select user data changes to apply.			þ
type filter text			
Image: Second			
	Select A	l Dese	lect All
?	Einish	Can	icel

Figure 25. Selective Import

Click "Finish" to apply the selected changes, and "Cancel" to abort the import. The imported users and roles are now shown in the "User Management" editor.

User Management Editor	~	1	
Users	Data Source	Roles	Data Source
🍐 system			
🧂 john (John Doe)			
pvtest (pvtest)	Example Active Directory		
pvtest1 (pvtest1)	Example Active Directory		
💧 pvtest2 (pvtest2)	Example Active Directory		
🧂 pvtest3 (pvtest3)	Example Active Directory		
pvtest4 (pvtest4)	Example Active Directory		
pvtest5 (pvtest5)	Example Active Directory		
🧂 pvtest6 (pvtest6)	Example Active Directory		
Create Delete Modify	/ Import	Change	,
🎳 Users 🍰 Roles			

Figure 26. Imported Users

3.10. Synchronize Users and Roles

Users and roles with a data source assigned can be synchronized with that data source. This means that user and role data of the model server is compared to the data of the data source. If changes are found, then these changes can be applied to the model server's user and role data.

To synchronize a user or role, right-click the user or role in the "User Management" editor and choose "Synchronize" from the context menu.

You can also synchronize at once multiple users and roles with the same data source assigned. Just left-click the users or roles while pressing the "Ctrl" or "Shift" key, or press the keys "Ctrl" + "A" to select all, and then right-click to open the context menu and select "Synchronize".

👶 User Management Editor 🛛	
Roles Data Source Administrators Data Source Others Example Active Dim TestUsers (TestUsers) Example Active Dim X Disable X Delete Modify Synchronize Change Data Source	Users Data Source [©] pvtest1 (pvtest1) [©] pvtest5 (pvtest6) [©] pvtest3 (pvtest3) [©] pvtest2 (pvtest2) [©] pvtest4 (pvtest4) [©] pvtest5 (pvtest5) [©] pvtest5 (pvtest5) [©] pvtest5 (pvtest5) [©] pvtest (pvtest5)
Create Delete Modify Import	Change

Figure 27. Synchronize Role "TestUsers"

You may be asked to login to the data source, e.g. an LDAP directory server. Then the selected users or roles are compared with the data source. If changes are found, a dialog is opened to let you select the changes to apply.

Figure 28. Changes Found

🖨 User Data Changes —		×
User Data Changes		(à)
Select user data changes to apply.		
type filter text		
✓ □ Sole changed: 'TestUsers (TestUsers)'		
User 'pvtest8 (pvtest8)' assigned to Role 'TestUsers (TestUsers)'		
User 'pvtest7 (pvtest7)' assigned to Role 'TestUsers (TestUsers)'		
User added: 'pvtest/ (pvtest/)'		
Select All	Dese	lect All
? <u>Einish</u>	Can	icel

Please see Section 3.9, "Import Users and Roles" for details on how to use this dialog.

After applying all changes, the users and roles in the "User Management" have been updated. In this example, the two users "pvtest7" and "pvtest8" have been added and assigned to role "TestUsers" according to the data source.

Figure 29. Synchronized Users and Roles

🖇 User Management Editor	x		- 6
Roles	Data Source	Users	Data Source
national Administrators		🧯 pvtest (pvtest)	Example Active Directory
🧀 Others		💧 pvtest1 (pvtest1)	Example Active Directory
🤌 TestUsers (TestUsers)	Example Active Directory	💧 pvtest2 (pvtest2)	Example Active Directory
		💧 pvtest3 (pvtest3)	Example Active Directory
		💧 pvtest4 (pvtest4)	Example Active Directory
		pvtest5 (pvtest5)	Example Active Directory
		🧂 pvtest6 (pvtest6)	Example Active Directory
		💧 pvtest7 (pvtest7)	Example Active Directory
		💧 pvtest8 (pvtest8)	Example Active Directory
Create Delete Modify Import Change			
🖁 Users 🧀 Roles			

If a synchronized user or role does not exist in the data source, then it may be disabled in the model server. Users and roles are updated if they also exist in the data source. If a role is synchronized, then new role members (i.e. users) may be imported from the data source. If a user is a member of a role in the model server but not anymore in the data source, then the role assignment of the user may also be removed in the model server. Former role members may be disabled if they are not member of any group anymore after synchronization with the data source. This all depends on the data source.

3.11. Change Data Source of Users and Roles

Users and roles are assigned a data source implicitly by importing them from that data source. But you can also explicitly assign a data source to users and roles, or change the assigned data source, or even remove the data source from a user or role at all.

To change the data source of a user or role, right-click the user or role in the "User Management" editor and choose "Change Data Source" from the context menu.

You can also change the data source of multiple users and roles at once. Just left-click the users or roles while pressing the "Ctrl" or "Shift" key, or press the keys "Ctrl" + "A" to select all, and then right-click to open the context menu and select "Change Data Source".

Figure 30. Change Data Source

👌 User Management Editor	×		- 8
Users & system	Data Source	Roles	Data Source
💧 john (John Doe)			
pvtest (pvtest) pvtest1 (pvtest) pvtest2 (pvtest2) pvtest3 (pvtest3) pvtest4 (pvtest4) pvtest5 (pvtest5) pvtest6 (pvtest6)	Example Active Dir Example Active Dir		
Create Delete Modify	Import	Change	

This will open a dialog where you can choose the new data source.

Figure 31. Select new Data Source

ि Change	Data Source		×
Change D Select any d	ata Source lata source for the selected users or roles		þ
Data Source: If you want to first entry (the	Example OpenLDAP Directory Example Active Directory Example OpenLDAP Directory		~
?		OK	Cancel

You can also remove the data source of the selected users or roles by choosing the first (the empty one) entry from the data sources list.

Figure 32. Remove Data Source

o Change Data Source	×
Change Data Source Select any data source for the selected users or roles	Ó
Data Source:	~
If you want to Example Active Directory first entry (the Example OpenLDAP Directory	
?	OK Cancel

The new data source is applied by clicking "OK".

Figure 33. Data Source Cha

		[
Users	Data Source	Roles	Data Source	
💧 system				
🧂 john (John Doe)	Example OpenLDAP Dir			
🔓 pvtest (pvtest)	Example OpenLDAP Dir			
pvtest1 (pvtest1)	Example OpenLDAP Dir			
pvtest2 (pvtest2)	Example Active Directory			
pvtest3 (pvtest3)	Example Active Directory			
pvtest4 (pvtest4)	Example Active Directory			
pvtest5 (pvtest5)	Example Active Directory			
着 pvtest6 (pvtest6)	Example Active Directory			
Create Delete Modify	y Import	Change	e	
🖁 Users 🎒 Roles				

4. Data Sources

The data sources for user and role imports and synchronization are stored in the "User Management" of a pure::variants model server. As for now LDAP directory servers are the only supported data source.

4.1. Manage Data Sources

Data sources can be added, changed, and removed. Right-click the "User Management" in the "Variant Projects View" and select "Properties" in the context menu.

🛃 Variant Proje	cts 8	3	추 🔮	▶ ▽	
✓ Garage ADMIN → Proje → User	(pure ct Ro Mani	s:variants Model Server] ot geement			
<u> </u>		New		>	
		Open			
	×	Delete			
	2	Import			
	4	Export			
		Refresh			
		Validate			
		Team		>	
		Compare With		>	
		Replace With		>	
		Properties			
	<u>.</u>	Remove from Context	Ctrl+Alt+Shift+Dov	/n	
	_				-

Figure 34. Open User Management Properties

Select the entry "Data Sources" to open the data sources management page.

Properties for User Management × ⇔ - ⇒ - -Data Sources Resource Access Rights Data Source Create... Data Sources Example Active Directory Edit... Run/Debug Settings Example OpenLDAP Directory Remove Apply ? OK Cancel

Figure 35. Data Source Management

You can add new data sources by clicking "Create...". This will open a data source type dependent dialog to setup the settings for the data source.

🖨 User Import		×
LDAP User Import		
Enter the LDAP server you want to import from.		١Ų
Import Context		
User Import Role Import		
Data Source		
My example LDAP directory data source		~
LDAP Servers		
Idap://Idap.example.local:389		¥
Test Connection		
Test < Back Next > Finish	Can	cel

Figure 36. New Data Source (LDAP)

To change an existing data source, left-click the data source and then click "Edit...", or simply double-click the data source. This will also open a data source type dependent dialog to change the name or settings of the data source.

A data source can be deleted by selecting the data source and clicking "Remove" or pressing "Del" key on the keyboard. This also works if multiple data sources are selected. Data sources can only be deleted if they are not assigned to any user or role.

4.2. LDAP Directories

Users and roles can be imported from and synchronized with LDAP directory servers. This requires read access to the LDAP directory server. Since LDAP directories usually are highly configurable, some information is needed in order to retrieve user and role data from the LDAP directory.

The following sections describe the dialog that is used to import users or roles from an LDAP directory server, or to setup and change a corresponding data source.

4.2.1. Server Settings

On the first page of the dialog the LDAP data source is configured.

Figure 37. LDAP Data Source

User Import					×
DAP User Import				ſ	0
Enter a data source i	ame, or load the s	ettings from an exi	isting data source.		÷
Import Context					
User Import OR	le Import				
Data Source					
					Y
LDAP Servers					
					¥
		Test Connection			
	_				
(?) Test	< Back	Next >	Finish	Cancel	

When adding or editing an LDAP data source, you have the possibility to select an import context for testing purposes. If you select "User Import", then you can test user imports. If you select "Role Import", role imports can be tested.

You can start an import test by clicking "Test" in the lower left of the dialog. This will not do any changes, but you will be presented with the list of changes to the users and roles that an import from the data source with the current settings could result in.

If no data source is selected, you either have to enter a new data source name to store the data source settings under this name. Or you choose an existing data source which then is loaded into the dialog.

To import user and role data from an LDAP directory server, the URL of the LDAP directory server needs to be entered, according to RFC 2255 supporting protocols "ldap" and "ldaps" (e.g. "ldaps://ad.company.com:636").

🔵 User Import		×
LDAP User Import		
Enter the LDAP server you want to import from.		цЫ
Import Context		
User Import Role Import		
Data Source		
Example Active Directory		~
LDAP Servers		
Idap://ad.example.local:389		¥
Test Connection		
Test < Back Next > Finish	Can	cel

Figure 38. Data Source Name and LDAP Server URL

The entered LDAP server URL can be tested by clicking "Test Connection". This will open a login dialog where you have to enter the username and password needed to connect to the LDAP server. The username usually needs to be entered with its full distinguished name (e.g. "cn=username,cn=Users,dc=company,dc=com"). This user must have at least read and search rights in the branches of the LDAP directory containing the users and roles. Please ask your LDAP server administrator to provide you with a suitable (bind) user.

Figure 39. Login to LDAP Server

© Login		×
LDAP Sim Enter bind u	ple Authentication user distinguished name and password	Ó
Host:	ldaps://ad.example.local:636	~
User Name:	${\sf cn} = {\sf pvimportuser}, {\sf cn} = {\sf Users}, {\sf dc} = {\sf example}, {\sf dc} = {\sf local}$	~
Password:	•••••	
?	ОК	Cancel

If the connection to the LDAP server fails, then the error message from the LDAP server is shown in the upper part of the dialog. There can be several reasons for a connection attempt to fail: the username or password could be wrong, the LDAP server URL could be wrong, or the LDAP server cannot be reached because the firewall is blocking it.

If no error is shown, the connection test succeeded.

Click "Next" to open the basic LDAP settings page.

4.2.2. User and Role Settings

The basic LDAP settings strongly depend on the LDAP directory server that you want to import users and roles from. Please ask your LDAP directory server administrator for the correct values.

🖨 User Import			_	-		×
LDAP User Import						Tà.
Basic LDAP Settings						101
User Settings						
Search Base:	ou=Users,dc=	ps-office,dc=loca				
Object Class:	posixAccount					
Key Attribute:	uid					
Username Attribute:	cn					
Real Name Attribute:	cn					
Description Attribute:	description					
Import Role Membership	, . ,					
Membership Attribute:	memberOf					
Disable Users Without Ro	ole Membership)				
Role Settings						
Search Base:	ou=Groups,do	=ps-office,dc=lo	al			
Object Class:	posixGroup					
Key Attribute:	cn					
Name Attribute:	cn					
Real Name Attribute:	cn					
Description Attribute:	description					
Import Role Members						
Members Attribute:	memberUid					
Members Attribute C	ontains Distingu	ished Names				
	. De ale	Necks	The lab		C	
lest	< <u>B</u> ack	<u>N</u> ext >	<u>F</u> inish		Cano	el

Figure 40. Basic LDAP Settings

Search Base	Distinguished name of the subtree in the LDAP directory where to start searching for users (e.g. "cn=Users,dc=company,dc=com"). The entire subtree is searched when importing users, thus it is not recommended to enter just the LDAP root here.
Object Class	LDAP objectclass for user entries (e.g. "user"). The objectclass is used when synchronizing users and should unambiguously identify user entries in the LDAP directory.
Key Attribute	LDAP attribute holding a user's LDAP key identifier. This is usually the same as the username attribute.
Username Attribute	LDAP attribute holding a user's login identifier, i.e. the username (e.g. "uid"). The value of this attribute will be used as the name of the import- ed user and thus the username you need to enter when connecting to the pure::variants model server as this user.
Real Name Attribute (optional)	LDAP attribute holding a user's real name (e.g. "displayName"). The real name usually is the user's firstname followed by its lastname (e.g. "John Doe").
Description Attribute (optional)	LDAP attribute holding the description of a user (e.g. "description").
Import Role Membership (optional)	Enable this option to also import a user's role memberships. If enabled, then the user is assigned to all roles that both exist in the pure::variants server's "User Management" and are listed in the role membership attribute of the user in the LDAP directory. If you rather want to import roles than users, then you usually should disable this option.
Membership Attribute (optional)	LDAP attribute holding a user's role memberships (e.g. "memberOf").
Disable Users Without Role Mem- bership (optional)	Enable this option to disable users that are not member of any role after the import. This option especially is useful when synchronizing imported roles, to automatically disable users that have been revoked from the role in the LDAP directory.
Settings for role access:	
Search Base	Distinguished name of the subtree in the LDAP directory where to start searching for roles (e.g. "cn=groups,dc=company,dc=com"). The entire subtree is searched when importing roles, thus it is not recommended to enter just the LDAP root here.
Object Class	LDAP objectclass for role entries (e.g. "group"). The objectclass is used when synchronizing roles and should unambiguously identify role entries in the LDAP directory.
Key Attribute	LDAP attribute holding a role's LDAP key identifier. This is usually the same as the name attribute.
Name Attribute	LDAP attribute holding a role's name (e.g. "cn").
Real Name Attribute (optional)	LDAP attribute holding a role's real name (e.g. "displayName").
Description Attribute (optional)	LDAP attribute holding the description of a role (e.g. "description").
Import Role Members (optional)	Enable this option to also import the users that are member of the role in the LDAP directory. If enabled, each member of the role is searched in the LDAP directory and imported as well, using the configured user's object-class and username LDAP attributes.

Members Attribute (optional)	LDAP attribute holding a role's members list (e.g. "member").
Members Attribute Contains Dis- tinguished Names (optional)	Enable this option if the members attribute of roles in the LDAP directory lists members by their distinguished name instead of their plain username. OpenLDAP usually lists the plain usernames, whereas Active Directory
	usually lists members by their distinguished name.

Click "Next" to open the LDAP search settings page.

4.2.3. Search Settings

On the LDAP search settings page you can usually leave all the defaults except for the search filter.

Search Filter: (&(cn=	*)(objectClass=u	ser))		
Search Limits				
Search Result Count Limit: 200				
Search Time Limit: 60				
Search At Once: 100				
Server Side Settings				
Paged Search				
Page Size: 50				
Server Side Sort				
Sort Attribute: cn				

Figure 41. LDAP Search Settings

Note

Please discuss the search settings with your LDAP directory administrator to ensure that the resulting search operation will not have any negative impact on the overall performance of the LDAP directory server.

If importing users or roles, a suitable LDAP search filter needs to be entered according to RFC 2254 section 4. If importing users then this filter must match users in the LDAP directory, otherwise it must match roles.

The basic syntax of an LDAP search filter is "(*attribute>coperator>cvalue>*)", where *attribute>* is the name of an LDAP attribute, *coperator>* is "=" (equal to), ">=" (greater than or equal to), "<=" (less than or equal to), or "~=" (approximately equal to), and *cvalue>* is the expected value. The value also can contain the wildcard character "*" at the beginning or the end which is a placeholder for any text.

Single search filters can be combined to more complex search filters using the operators "&" (and), "|" (or), and "!" (not).

Lindin prese

(cn=pvtest)	Matches all LDAP entries that have the value "pvtest" in the attribute "cn".
(cn=pvtest*)	Matches all LDAP entries that have a value in the attribute "cn" that starts with "pvtest".
(!(cn=pvtest*))	Matches all LDAP entries that have a value in the attribute "cn" that does not start with "pvtest".
(&(cn=pvtest)(objectclass=user))	Matches all LDAP entries that have the value "pvtest" in the attribute "cn", and the value "user" in the attribute "objectclass".
((cn=pvtest1)(cn=pvtest2))	Matches all LDAP entries that have the values "pvtest1" or "pvtest2" in the attribute "cn".
(&(objectclass=user)(cn=pvtest*)(! (cn=pvtest3)))	Matches all LDAP entries that have the value "user" in the attribute "objectclass", and that have a value starting with "pvtest" in attribute "cn", but do not have the value "pvtest3" in the attribute "cn".

If synchronizing users or roles, then this filter is constructed automatically using the configured user or role objectclass and username LDAP attributes.

The search operation in the LDAP directory can be limited as follows:

Search Result Count Limit	Maximum number of search results (users, if searching users, and roles, if searching roles) to retrieve from the LDAP directory. This limitation strongly depends on the LDAP directory's configuration and the user used to access the LDAP directory. If you want to import more users or roles than the LDAP directory is willing to return in one search, then "Server Side Sort" may help.
Search Time Limit	Timeout for LDAP search operations in seconds. Increase this value if your LDAP directory needs more than a minute to deliver the matching users or roles.
Search At Once	Number of users to search at once when importing role members or syn- chronizing users. Decrease this value if your LDAP directory will not de- liver that much users in one search operation. Otherwise not all users may be imported or synchronized. Value "1" means that the users are searched in the LDAP directory one after the other. This may take a lot longer than searching multiple users at once. This also may have a negative impact on the performance of the LDAP directory due to many immediately consec- utive search operations if a lot of users need to be imported.

Following LDAP server extensions are supported by pure::variants. Please ask your LDAP server administrator if any of these extensions are supported by your LDAP directory server before using them. The search operation will fail if an extension is enabled but the LDAP server does not support it.

Paged Search	Enable this option to let the LDAP server return the search results paged instead of all at once, to reduce negative performance impacts of large search results on client and LDAP server side. This requires the "Simple Paged Results" control to be supported by the LDAP server. Enter the number of LDAP entries to be returned by the LDAP server per page of search results. This number must not exceed the limitation of the LDAP server for the number of search results delivered in one search operation.
Server Side Sort	Enable this option to let the LDAP server sort the search results by a given LDAP attribute. This requires the "Server Side Sorting" control to be supported by the LDAP server. Use this extension if you need to import more users or roles than the LDAP server is willing to return in one search operation.

Example: If you want to import all users from the LDAP server matching filter "(&(cn=*)(objectclass=user))" and 2000 users would match (e.g. user0000 to user2000) but the LDAP server only returns 500, then you could instruct the LDAP server to sort all matches by LDAP attribute "cn". The LDAP server then will return the first 500 users of the sorted search result set of 2000 users. To get the next 500 users you have to change the search filter to get only users with a "cn" lexically greater than the last user returned by the previous search, e.g. "(&(cn>=user500)(objectclass=user))". Repeat this until you have imported all the users.

5. Access Rights

pure::variants implements a role-based authorization scheme for accessing project and model data on a pure::variants model server. This means that access rights are granted to roles instead of users. For a user to be granted access to any data on a pure::variants model server, this user has to be assigned to a correspondingly authorized role. To grant access to single users without the need to define extra roles for this purpose, each user also acts as a role with that user as the only member of that role.

If a user or role is disabled, then any access rights granted do not apply.

Following access rights can be granted:

Read	Permission to read the data.			
Change	Permission to change the data, but not to delete it.			
Delete	Permission to delete the data.			
Change Permission	Permission to change the access rights for the data.			
These access rights can be granted for the following data on a pure::variants model server:				
"Project Root"	"Read" access to "Project Root" (part of the "ADMIN" project) is required in order to get the list of projects that exist on a pure::variants model server. "Change" right is required for the ability to create new and delete existing projects on the server.			
"User Management"	"Read" access to "User Management" (part of the "ADMIN" project) is re- quired in order to open the pure::variants user management, and "Change" right for the ability to add, delete, or change users and roles.			
Projects	"Read" access to a project is required in order to see and open that project. "Change" right is required for the ability to create top-level project entries (e.g. top-level folders, models, configuration spaces). To delete a project, "Delete" right must be granted for the project, and "Change" right for "Project Root".			
Folders	"Read" access to a folder is required in order to see and open that folder. "Change" right is required for the ability to create or delete top-level folder entries. To delete a folder, "Delete" right must be granted for the folder, and "Change" right for the parent project entry (e.g. a folder or the project itself).			
Configuration Spaces	"Read" access to a configuration space is required in order to see and open that configuration space and the configuration space properties. "Change" right is required for the ability to create or delete variant description mod- els, and to setup or change transformations and other configuration space settings. To delete a configuration space, "Delete" right must be granted for the configuration space, and "Change" right for the parent project entry (e.g. a folder or the project itself).			

Feature and Family Models	"Read" access to a feature or family model is required in order to see and open that model. "Change" right is required for the ability to add constraints and restrictions, and to change model properties and the pvSCL code li- brary. To delete a feature or family model, "Delete" right must be granted for the model, and "Change" right for the parent project entry (e.g. a folder or the project itself).
Variant Description Models	"Read" access to a variant description model is required in order to see and open that model. "Change" right is required for the ability to make explicit changes to the selection of model elements, to set or change the value of non-fixed element attributes, and to change model properties and the inher- itance hierarchy. To delete a variant description model, "Delete" right must be granted for the model, and "Change" right for the parent project entry (e.g. a folder or configuration space).
Model Elements	"Read" access to a model element is required in order to see that element and its properties. "Change" right is required for the ability to add and delete direct children of that element, and to make changes to the element, its relations and attributes. To delete a model element, "Delete" right must be granted for the element, and "Change" right for the parent element.

Note

To be able to evaluate variant description models, it is required that the user has at least "Read" access rights for all model elements of all used feature and family models. Evaluations of models where the user can only see portions of the models are rejected.

If a user creates a new project, folder, configuration space, model, or model element, then this user will get full access rights on it. Other roles get the same access rights as on the parent project or model entry.

Access rights are granted or revoked using the "Access Rights" editor. To open this editor for an item (i.e. project, model, model element, etc), right-click it to open the context menu, select "Properties" and then switch to the "Access Rights" page.

Properties for TestFeatures.xt	im – 🗆 X
type filter text	Access Rights $\Leftrightarrow \star \Rightarrow \star \star$
Resource Access Rights G General Properties Model G WSCL Code Library Run/Debug Settings	Roles Add Administrators Remove ExampleRole Others
	Operations Read Change Delete Change Permission
	Apply permissions additionally to all subordinate elements.
?	OK Cancel

Figure 42. Access Rights Editor

If access rights are changed without enabling the option "Apply permissions additionally to all subordinate elements", then the previous access rights are copied to the direct children (i.e. child model elements, child project entries, etc) if they didn't have access rights set before and just inherited them from their parent. Otherwise, if this option is enabled, the new access rights are applied to the current item and all its direct and indirect children. Each pure::variants model server initially has the following two predefined roles:

Administrators	This role comes with "Read" right on the "ADMIN" project, and full rights on "Project Root" and the "User Management".
Others	This role comes with "Read" right on "Project Root" and the "User Management". Thus, users with that role neither can access the "ADMIN" project nor make any changes to the "User Management".

A special user in all pure::variants model servers is the user named "system".

Note

If a user has the reserved name "system", then this user is treated as a super user for which no access limitations exist in a pure::variants model server. Even if this user has no roles assigned, he can read, change and delete everything. It is very important to choose a strong password for this user which is provided only to the people that need to know it.

6. Service Logon

If the pure::variants server does not support username/password authentication and for any administrative task only username/password authentication may be possible, then the pure::variants client can be forced to use the pure::variants server's service logon. All pure::variants model servers support service logon.

Examples for situations where service logon may be required are:

- Administrative tasks shall be automated (e.g. using ANT or JavaScript) but the pure::variants server only supports interactive logon types such as OpenID authentication.
- Administrative tasks shall be performed but the pure::variants server only supports logon types that require a trusted third-party authentication service which is not accessible from the administrative network location.

In order to use service logon, there must exist a user in the pure::variants server for which a password has been set.

Service logon is forced on pure::variants client side by setting the environment variable PV_FORCE_SERVICE_LOGON to value "true". Please consult the documentation of your operating system on how to set environment variables.

You can also set this variable as a Java Virtual Machine variable directly in the Eclipse configuration file of the pure::variants client or the third-party Eclipse you installed pure::variants into. Just go to the installation directory of the pure::variants client or the third-party Eclipse application to find there a file named "eclipse.ini" (usually located in an "eclipse" sub-directory). Open this file in a text editor (this may require administrative access). If there is no line "-vmargs" in that file, add it (without the parentheses) at the end of the file on a new line. Finally add the new line "-DPV_FORCE_SERVICE_LOGON=true" at the end of the file (without the parentheses). The result could look like this:

```
...
-vmargs
-DPV_FORCE_SERVICE_LOGON=true
```

7. Migrate remote projects between different databases

To transfer projects between different pure::variants model databases, the migrateserver executable is provided in the server installation directory. It is able to transfer all data of an existing project to another database. To run the program both databases need to be accessible from the running machine. Therefore, working ODBC configurations are required for both databases.

The migration tool always transfers a complete project including all revisions and history entries to the destination database. To run the migration both pure::variants servers need to be stopped.

To show all available projects please run the following command:

migrateserver.exe -s user/password@SourceDB -d user/password@DestinationDB

This prints the list of all projects which can be transfered.

To start the migration of a single project use the following command:

migrateserver.exe -s user/password@SourceDB -d user/password@DestinationDB -m 'Project'

In case all projects should be transferred to the other database the *-a*option can be used. This will automatically migrate all available projects. Projects that exist already in the destination database cannot be migrated and will be skipped.

By default the ADMIN project will not be migrated and is also not shown in the project list. To activate ADMIN project handling, the command line parameter /migrateadmin has to be added.

So, to migrate only the ADMIN project use the following command:

migrateserver.exe -s user/password@SourceDB -d user/password@DestinationDB -m 'ADMIN' /
migrateadmin

This will copy the ADMIN project containing the users, role assignments and default project permissions to the destination database. For local user authentication also the user credentials are copied.

If there is already an ADMIN project in the destination database, it will be overwritten!

To migrate all projects (which not yet exist in destination database) including the ADMIN project use following command:

 $\verb|migrateserver.exe -s user/password@SourceDB -d user/password@DestinationDB -a /migrateadmin|| \\$

If the password for the database connection contains the characters '' or '@', they have to be escaped by prefix '' in the database connection string. So for example the password p@ss\word needs to be written as p\@ss\\word.

The list of all available options can be shown with the '/help' option.

```
./migrateserver.exe /help
  -s, /source Source Database (uid/pwd@dsn)
  -d, /destination Destination Database (uid/pwd@dsn)
  -m, /migrate Project to migrate
  -a, /all Migrate all possible projects
  /migrateadmin Migrate also the ADMIN project (default off)
  -L, /loglevel log level (0-9)
  -h, /help Show this text
```