ServiceNow security ACLs

This section describes how to configure a ServiceNow server to allow the Aspire ServiceNow connector to retrieve security ACLs.

In order to follow the steps in this guide, a user with enough permissions to create custom tables and scheduled jobs in the ServiceNow server is required.

Custom tables creation

Two tables are required for the configuration of the server: An "ACL Tables" table and a "ACL Table Users" table:

- Log in to your ServiceNow server instance.
- In the "Filter Navigator" write the word "Tables".



- Under "System Definition", select the option "Tables".
- In the "Tables" page, click on "New".

SERVICENOW Service Management								
Tables	8		Tables 📘	ew G to Label	▼ Bearch		44 A 📃	
	O Table deleted							
 Arcnive lables 	^	Y	All > Updat	te name is not empty				
Archive Push Notification		۲	Q	≡ Label ▲	≡ Name	\equiv Extends table	\equiv Extensible	
Archive Email			0	.NET Application	cmdb_ci_appl_dot_net	Application	false	
System Clone	٠.		(i)	A10 Load Balancer	cmdb_ci_lb_a10	Load Balancer	false	
▼ Clone Definition			0	ABC	u_abc		false	
Exclude Tables			0	Access Control	sys_security_acl	Application File	false	
System Definition			0	Access Boles	sys security and mile	Application File	false	
Tables				Chock of Living	-72ACGING_000	cygors MANULCHS	nature.	

• In the "Tables – New Record" page, specify "ACL Tables" as the label of the table. The system will automatically assign the name of the table to "u_acl_tables". It is very important that the name of this table be exactly that name so please double check it.

Tables	<						
Archive tables	A table is a collection of records in the database. Each record corresponds t Applications use tables and records to manage data and processes. <u>More In</u>						
Archive Push Notification	* Laby ACL Tables						
Archive Email	* Name u_acl_tables						
System Clone	Extends table Q						
▼ Clone Definition							

• At the bottom of "Tables – New Record", insert a new column with the name "Table". Set "Type" to "String" and the "Display" value to "true", then click the "Submit" button.

Diction	acy Entries				
	Column label	≡туре	■ Reference	\equiv Max length	≡ Displa
x 2	Table	String			true
+	Insert a new row				

• Back to the "Tables" page, browse to the newly created "ACL Tables" table and set its "Extensible" attribute to "true".

	0	Ψ	ALL	cmdb_cl_lb_ace	Load Balancer	taise	2018-07-14 14:25:54
		0	ACL Endpoint	cmdb_ci_endpoint_acl	Endpoint	false	2018-07-14 14:22:16
		0	ACL Tables	u_acl_tables	\subset	true	2018-09-20 07:34:39
		0	Action	ecc_action		false	2018-07-14 14:19:03

- In the "Tables" page, click on "New" again.
- In the "Tables New Record" page, specify "ACL Table Users" as the label of the table. The system will automatically assign the name of the table to "u_acl_table_users". It is very important that the name of this table be exactly that name so please double check this one as well.
- In the "Extends Table" option browse and select the table we created previously ("ACL Tables").

	^	Applications use table	s and records to manage da	ta and processes. <u>More Info</u>	
		Label	ACL Table Users		Aŗ
		* Name	u_acl_table_users		
on		Extends table	Acl Tables	Q ()	Create
					Add n

• At the bottom of "Tables – New Record", insert a new column with the name "User". Set "Type" to "String" and the "Display" value to "true", then click the "Submit" button.

≡ Table	Columns Search	for text	▼ Search				
P Dicti	onary Entries						
۲		lumn label	≡туре	\equiv Reference	\equiv Max length	■ Default value	\equiv Display
x /	User	> <	String)			true
+	Insert	a new row					

• You should now have two tables in the "Tables" page: "ACL Tables" and "ACL Table Users". Verify the details circled in red and continue.

8		Tables New Go to Labe	l ▼ Search		44 4	1 to 20 of
0	۲	≡ Label ▲	≡ Name	≡ Extends table	≡ Extensible	≡.
^		ACL Table Users	u_acl_table_users	ACL.Tables	false	2018
		(i) ACL Tables	u_acl_tables		true	2018
		i Action	ecc_action		false	2018

Scheduled job creation

We need a script to fill the ACLs tables and keep them updated. This script will be run with a ServiceNow Scheduled Job:

• Go back to the "Filter Navigator" write "Scheduled Jobs".



- Under "System Definition", select the option "Scheduled Jobs".
- In the "Scheduled Jobs" page, click on "New".



• On the "Automation Creator" page, select the "Automatically run a script of your choosing".



• On the "Scheduled Script Execution – New Record" page, specify a name for the job and set a schedule according to your needs or the need of your client. The script may be a long running script so plan accordingly.

Scheduled Script Execution Sr X +						-	٥	×
(←) ở ŵ	https://acrisearchited	h.service-now.com/nav_to.do?uri=%2Fsysau	to_script.do%3PWIZARD:action%3I	Molio 🚥 💟 🟠		١I/		=
SERVICENOW Service N	lanagement			🏐 System Administrator 🔹	۹	ø	0	۲
T Scheduled Jobs	< = Scheduled	l Script Execution		ø	₽	•••	Submi	ſ
≡ ★ ©	Name	ACLs Job						
System Definition	Active	v						
Scheduled Jobs	Run	Daily		v				
System Scheduler	Time	Hours 22	30	00				
▼ Scheduled Jobs	Application	Global			٢			
Today's Scheduled Jobs	Conditional							
Scheduled Jobs	Run this script	\$ 0						
Slow Job Log								
	Submit							
0						٢	S	
	e e o o	⊕ ⊴ ■ A 4 10 8		x ^ 🔺 🗉 ,	e 01	9:13.4	AM I	1

• On the "Run this script" section, copy and paste the following script:

```
// Retrieve all Knowledge Bases
var kbs_record = new GlideRecord('kb_knowledge_base');
kbs_record.addQuery('active',true);
kbs_record.query();
// Admin user is stored to restore it after impersonations
var adminUser = gs.getSession().getUserName().toString();
var user_record = null;
var kb_record = null;
var acl_tables_record = new GlideRecord('u_acl_tables');
var acl_table_users_record = new GlideRecord('u_acl_table_users');
var kb_id = null;
// Each KB is inserted in the ACL Tables table
while(kbs_record.next()) {
   kb_id = kbs_record.sys_id.toString();
   acl_tables_record.initialize();
acl_tables_record.addQuery('u_table', kb_id);
      acl_tables_record.query();
      // If the knowledge base record is not on the table, we add it
      if (!acl_tables_record.next()){
           acl_tables_record.u_table = kb_id;
           acl_tables_record.insert();
     }
```

```
// For each KB, we verify if users are allowed to access it. If they do, a record is inserted in the ACL
Table Users table
    user_record = new GlideRecord('sys_user');
    user_record.addQuery('active',true);
    user_record.query();
    while(user_record.next()) {
        var impersonateSuccess = gs.getSession().impersonate(user_record.user_name);
        if (impersonateSuccess){
           kb_record = new GlideRecord('kb_knowledge_base');
           acl_table_users_record.initialize();
           acl_table_users_record.addQuery('u_table', kb_id);
           acl_table_users_record.addQuery('u_user', user_record.user_name);
                 // If the user has permissions, we add the record
           if (kb_record.get(kb_id) && kb_record.canRead()) {
                acl_table_users_record.query();
                       // If the record is not already in the table, we add it
                       if (!acl_table_users_record.next())
                       {
                           acl_table_users_record.u_table = kb_id;
                            acl_table_users_record.u_user = user_record.user_name;
                         acl_table_users_record.insert();
                       }
            }
                 // If the user has no permissions, we try to remove the record
                 else
                 {
                 acl_table_users_record.deleteMultiple();
                 }
       }
        gs.getSession().impersonate(adminUser);
    }
}
```

• Now click on the "Submit" button.



 Congratulations! Your ServiceNow server is now configured to be used with our ServiceNow connector. The connector will be able to query the table 'u_acl_table_users', using the Knowledge Base ID that every crawled document has, the result is a list of users with read permissions for that Knowledge Base.