ServiceNow CMDB
Plugin Configuration Guide

Contents

Introduction

The Bocada plugin for ServiceNow CMDB is used for Backup coverage reporting. The plugin mines a list of Configuration Items (CIs) from ServiceNow.

ServiceNow CMDB Configuration Checklist

Detailed steps are included below, this is an overview of the requirements and steps to configure SNOW CMDB collections on your Bocada Data Collection Server:

- ☐ Install Java Runtime Environment 32-bit version (64-bit version is not supported)
- ☐ Install 32-bit ServiceNow ODBC driver. For older versions of Windows, such as Windows 2008 R2 you will also need the ServiceNow ODBC Patch (no DNS is needed). Windows 2016 does not require the patch, but it is not clear which other versions of windows do need it.
- ☐ Verify ServiceNow CMDB instance name
- ☐ Username & password for the ServiceNow CMDB instance with ODBC role
- ☐ Add the ServiceNow CMDB server to Bocada under Operations > Backup Servers and set Server Properties
- ☐ Work with your ServiceNow engineer to optimize the SQL Query

ServiceNow Credentials

For the ODBC driver to connect to your ServiceNow instance it is important to follow these steps:

- ☐ Define the user account within ServiceNow. Active Directory accounts or accounts created via a Single Sign-on provider will not work.
- ☐ Set the password for the user
- ☐ Add the ODBC role to the user account. This will be a read-only user and you may use the ServiceNow security features to limit the access of this user to only the tables that you want to access such as cmdb_ci_computer and/or cmdb_ci_computer tables. Further instructions for this step can be found on ServiceNow's documentation site.

Supported Collection Types

The plugin, in its version v1 format, currently supports the following collection types from ServiceNow CMDB:

Collection Type	Supported	Description
Policy	✓	Collects and stores information on ServiceNow CI inventory.

Data Sources

The plugin relies on the following ServiceNow CMDB data sources:

- ServiceNow API open database connectivity (ODBC) driver API which provides read-only access to the database associated with your ServiceNow instance.
- See section below Configuring the SQL Query String

ServiceNow CMDB Requirements

This section lists requirements that must be met prior to collecting data with the Bocada plugin for ServiceNow CMDB.

ServiceNow CMDB Ports

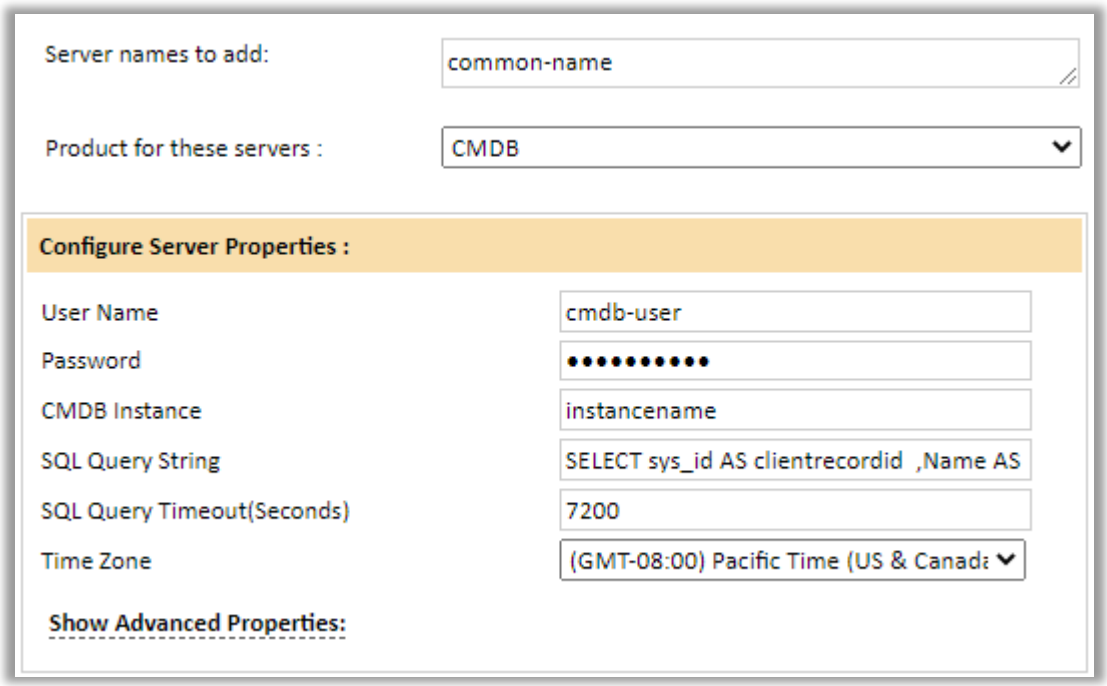
Service	Default Port	Note
HTTPS	443	Bocada DCS will contact ServiceNow via ODBC driver. Verify DCS can connect to https://<SN_instance_name>.service-now.com/api/

Install the ServiceNow ODBC *32-bit* driver (the 64-bit driver is not supported) as per the instructions in the link below. The minimum required version of the driver is **1.0.14**. You will need your ServiceNow username and password in order to download the ODBC driver. You can use the default settings shown in the ODBC documentation, and you will not need a data source. Note that the ServiceNow ODBC driver requires Java Runtime Environment (JRE) 32-bit version (64-vit version is not supported), and the install instructions for that provide instructions how to install JRE.
https://docs.servicenow.com/bundle/london-application-development/page/integrate/odbc-driver/task/t_DownloadAndInstallTheODBCDriver.html

Setup

Server Properties

Backup Server Properties determine how the plugin will interact with the ServiceNow CMDB server and are accessed from the Backup Servers view:



Field Definitions

Server name

Enter the *ServiceNow CMDB Instance* as the Server name. The name need not be an exact match to the instance, but it is recommended to keep similar so it is clear to which instance the data belongs.

User name / Password

Enter the credentials for a user that can access the ServiceNow CMDB instance.

ServiceNow Instance

Name of the ServiceNow instance. For example, if your instance URL is: https://dev12345.service-now.com/ then instance name will be "*dev12345*". Only this short name is needed; the plugin will not accept the fully qualified name.

SQL Query String

Enter the SQL string that will be run against the ServiceNow CMDB to gather data. See the Configuring the SQL Query String section of this guide for further information.

Time Zone

Select the time zone where the ServiceNow CMDB resides. This setting ensures times are displayed consistently in environments that span multiple time zones.

Configuring the SQL Query String

Available CMDB values

When configuring the SQL Query string in Server Properties, any values retrieved from the ServiceNow CMDB that are listed in the Column Name field in Table 6.1 below will be committed to the Bocada database. Values not listed here will be ignored.

Items marked "KEY" are used to match backup clients in Bocada with ServiceNow Configuration Items (CIs). If a zone is specified, then only Bocada backup clients in the named zone will be matched.

TYPE	COLUMN NAME	DISPLAY NAME	DESCRIPTION
REQUIRED KEY	clientfqname	CMDB: Client Name	Required name to cross match with client name in Bocada database, often the CI in ServiceNow
KEY	bocada_fqzonename	CMDB: Zone	Optional fully qualified zone name to match with Bocada zone, often customer zone name
KEY	clientname	CMDB: Alt Name	Additional backup client name, e.g. backup name or short name used to cross reference CMDB name with Bocada backup client name
REQUIRED	clientrecordid	CMDB: Client Identifier	CMDB CI unique identifier, e.g. sys_id
INFO	contact	CMDB: Contact	Info
INFO	contactemail	CMDB: Contact Email	Info
INFO	backupproductname	CMDB: Backup Product	Info
INFO	backupproductversion	CMDB: Backup Product Version	Info
INFO	osname	CMDB: Operating System	Usually os in ServiceNow
INFO	osversion	CMDB: Client OS Version	Usually os_version in ServiceNow
INFO	passexp	CMDB: Password Expiration	Info
INFO	ipaddress	CMDB: IP Address	Usually ip_address in ServiceNow
INFO	ipaddressbackup	CMDB: IP Address2	Info
INFO	lastaccessdate	CMDB: Last Accessed Time	Usually sys_updated_on in ServiceNow
INFO	commissioneddate	CMDB: Commissioned Date	Info
INFO	decommissioneddate	CMDB: Decommissioned Date	Info
INFO	backuprequired	CMDB: Backup Required	Info
INFO	tag	CMDB: Tag	Info
INFO	cmdb_ci_name	CMDB: Configuration Item (CI)	Info
INFO	cmdb_company	Client info: CMDB Company	Usually dv_company in ServiceNow
INFO	cmdb_account	Client info: CMDB Account	Info
CUSTOM	custom1	CMDB: Custom Field 1	Custom informational field displayed in reports
CUSTOM	custom2	CMDB: Custom Field 2	Custom informational field displayed in reports

Table 6.1: Fields available for Bocada CMDB query

CMDB Client Zoning

To zone CMDB clients, first add each zone via the Bocada zones view in the normal way. See the Bocada Administration Guide for more details.

If the CMDB SQL query includes a column for bocada_fqzonename then Bocada will apply that zone to the client in that row. Multiple zones may be applied with a case statement. For example: case osname Windows put in zone "Operating System\Windows", case osname Linux put in zone "Operating System\Linux", etc. Existing and custom fields may be combined to determine what zone to apply a client to.

Once the CMDB data has been zoned, only ServiceNow CI and Bocada backup clients in the same zone will be matched. The CMDB clients can be filtered by zones. Standard users assigned to zones will only be able to see the ServiceNow CI in their assigned zones when viewing Bocada CMDB reports.

Sample Query

As an example, a development instance of ServiceNow provided by ServiceNow CMDB will have some CIs already present, such as in the table cmdb_ci_computer, so the following query can be used for initially or for testing. With this query, this CMDB client will be zoned to "Application\Sample" zone and the Bocada CMDB reporting will match on clientfqname so long as the client is in that zone:

```
-- Example minimal possible SQL Query
SELECT sys_id AS clientrecordid
       , name AS clientfqname
FROM cmdb_ci_computer
```

```
-- Example showing zone and use of SN prepend of dv_ to get display value
SELECT sys_id AS clientrecordid
       , name AS clientfqname
       , 'Customer\' + dv_company AS bocada_fqzonename
       , ip_address AS ipaddress
       , os AS osname
       , os_version AS osversion
FROM cmdb_ci_computer
```

```
SELECT sys_id AS clientrecordid
, CASE WHEN dv_backupname IS NOT NULL
       THEN dv_backupname
  ELSE name       END AS clientfqname
, u_backup_name AS clientname
, fqdn AS tag
, 'CMDB\unassigned' AS bocada_fqzonename
, ip_address AS ipaddress
, u_backup_type AS backupproductname
, u_backups_requested AS backuprequired
, dv_u_customer_account_number AS custom1
, install_status AS custom2
FROM cmdb_ci_server
WHERE install_status = 1
```

Example: Sample CMDB queries

Sample Query for reconciling client names

Once the initial CMDB data has been matched to Bocada clients, there will be some unmatched clients. One technique for reconciling the differences is to reassign client names in the CMDB query. This is an effective and quick solution if there are a limited number of unmatched clients. See example 6.4 below.

```
SELECT sys_id AS clientrecordid
       , CASE WHEN name = 'clientA_SQL' THEN 'clientA'
              WHEN name = 'clientA_FS'  THEN 'clientA'
              ELSE name
      END AS clientfqname
       , ip_address AS ipaddress
       , os AS osname
       , os_version AS osversion
       , dv_company AS cmdb_company
       , sys_updated_on AS lastaccessdate
FROM cmdb_ci_computer
```

Example: Reconciling Overloaded Client Names in CMDB query

Reporting Notes

The Bocada plugin for ServiceNow CMDB is used for Backup coverage reporting. The plugin connects to the designated CMDB table in ServiceNow and queries the list of Configuration Items (CIs). Those are compared to the backup clients in Bocada. Three reports leverage this data:

1. **Unprotected Assets:** shows CIs in ServiceNow for which there is no backup record in Bocada.
2. **Non-Inventoried:** clients being backed up that are not listed in the CMDB. Use to identify potentially decommissioned clients that don't need protection, or clients that should be in production but are not properly recorded in ServiceNow.
3. **Protected Assets:** Bocada and CMDB overlap report to show a backup overview for each CI and backup information about that backup client. Note that the CMDB module will first match on exact clientfqname to exact *clientfqname* selected from the SQL query. Items that do not match will then be checked to see if their short names (no domain name) match. Items that still do not match will then be checked to see if the *clientname* selected from the SQL query matches short or long name.

Troubleshooting

Bocada cannot collect CMDB data from ServiceNow

Verify the ServiceNow ODBC driver is working using instructions from ServiceNow:
https://docs.servicenow.com/bundle/paris-application-development/page/integrate/odbc-driver/task/t_TestingTheODBCDriver.html
Note: If your version of JRE has changed since the ODBC driver was first installed then you may need to un/reinstall the ServiceNow ODBC driver configuring to point to the correct 32 bit version of Java.

CMDB collection fails with ODBC ServiceNow driver error

The following error in ServiceNow data collection can indicate that you are missing a patch from ServiceNow for the ODBC driver:

OdbcException: ERROR [HY000] [SN][ODBC ServiceNow driver][ServiceNow Client]Failed to initialize the Service component.
ERROR [01S00] [SN][ODBC ServiceNow driver]Invalid attribute in connection string: CustomProperties.
ERROR [HY000] [SN][ODB…

See the ServiceNow Windows 2008 is known to need the ServiceNow driver patch. See information about the ODBC patch here:
https://docs.servicenow.com/bundle/london-application-development/page/integrate/odbc-driver/task/install-incremental-odbc-fixes.html

User credential issue for ServiceNow

The ServiceNow ODBC driver can be sensitive to special characters. If you have an issue with your username and password, test with credentials that use only letters and numbers. For more information, see this ServiceNow Knowledgebase article.

Technical Support

For technical support or a copy of our standard support agreement, please contact us.

E-mail: support@bocada.com
Support Portal: https://bocada-support.force.com
Phone: +1-425-898-2400