Hewlett Packard Enterprise

Cloud Service Automation

Provider Configuration Tool

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Contents

Overview

HPE Cloud Service Automation (CSA) allows for the management of service providers using the Cloud Service Management Console or via the command line using the CSA Provider Configuration Tool. Providers are management platforms that offer centralized control over the infrastructure and resources used in a cloud computing environment. For example, a provider such as Matrix Operating Environment infrastructure orchestration can deploy virtual machines, while a provider such as SiteScope can monitor applications.

The CSA Provider Configuration Tool is a command line interface for reading (viewing), creating, updating and deleting providers and is described in this document. See the Cloud Services Automation Management Console Help for more information on that provider configuration interface.

Supported actions

The following actions are supported by the Provider Configuration Tool:

Action	Description
Read	To read or view the list of providers: This action creates a file (provider_out.xml) containing XML of provider properties for all providers. The -t (--type) sub-option limits the list to include only providers associated with a specific provider type
Create	To create one or more new providers: This action requires an input file containing XML of the provider's properties. An easy way to create this file is to generate a sample provider input file and modify the XML content in the file to reflect the information for the new provider(s).
Update	To update one or more providers from the existing list: This action requires an input file containing XML of the provider's properties. Use the Read option with -t, to create this input file. Modify the XML content in the file to keep only the ones to be updated. Note: The update action overwrites existing information for all providers included in this input file. **Important**: Before updating an OpenStack provider, see the known issue.
Delete	To delete one or more providers: This action requires an input file containing XML of the provider's properties. Use the Read option with -t, to create this input file. Modify the XML content in the file to keep only the ones to be deleted.
Generate	To generate the sample config.properties and provider.xml files.

By default, all actions except Generate use the configuration (`config.properties`) and provider input XML (`provider.xml`) files available in the working directory. To use a different config.properties file use `-c` sub-option, and to use a different provider.xml file use `-p` sub option.

Provider Properties

The following table describes the properties associated with a provider.

Table 1. Provider Properties

Item	Sub-item	Description
provider	availability	The availability value determines whether the provider will be selected when provisioning a new service. The availability is either **true** or **false**. When **false**, the provider will not be selected when provisioning new services. Disabling a provider will have no effect on existing services that are using that provider. This field is not available when you initially create a provider, but after the provider is created you can edit its properties to change its availability. When a provider is created, the availability is set to **false** by default.
	password	The password for the specified Service Access Point.
	user	The user ID for the specified Service Access Point.
	url	The user specified Service Access Point URL for connecting to the provider.
	description	The user specified description for the provider.

	displayName	The user specified name for the provider.
	type	The type selected for this provider. Note that the type cannot be changed after a provider is created.
properties		List of any user-defined properties associated with this provider.
	property description	The description provided for the property.
	displayName	The display name provided for the property.
	type	The type associated with the value field for this property. Valid type values are Boolean, Integer, and String.
	value	The value provided for this property.
	name	The name provided for the property.
environments		List of any environments that is associated with this provider.
	environment name	The name of the environment that is associated with this provider.

Sample Provider XML

```
<?xml version="1.0" encoding="UTF-8"?>

<providers>

<provider availability="true" password="ENC(UUV/PSwS9If1NURGsObYPQ==)" user="admin" url="http://localhost:5000"
description="OpenStack Provider" displayName="OpenStack" type="OPENSTACK">

<properties>

<property description="This property has been automatically created." displayName="domain" type="STRING" value="default"
name="domain"/>

<property description="This property has been automatically created." displayName="project" type="STRING" value="admin"
name="project"/>

<property description="This property has been automatically created." displayName="useDomainScopedTokenForTransportUser"
type="BOOLEAN" value="false" name="useDomainScopedTokenForTransportUser"/>

</properties>

</provider>

</providers>
```

Provider types

A provider type allows you to classify providers for improved filtering and identification. CSA includes some pre-defined, out-of-the-box provider types (listed below), and these are the types supported by the CSA Provider Configuration Tool. Each instance of a provider can have a single provider type, and each instance of a resource offering can also have a single provider type. In addition, resource offerings can be associated only with providers that share the same provider type.

Table 2. Provider types

Provider	Internal name to use in command line
Amazon AWS	AMAZON_EC2
Chef	CHEF
Database and Middleware Automation	HP_DMA
CloudSystem 8.x	HP_CLOUDOS
Helion Public Cloud	HP_HELION_PUBLIC_CLOUD
Insight Control server provisioning	HP_ICSP

Matrix Operating Environment	HP_MOE
Network Automation	HP_NETWORK_AUTOMATION
OneView	HP_ONEVIEW
Server Automation	HP_SA
SiteScope	HP_SITESCOPE
UCMDB	HP_UCMDB
OpenStack	OPENSTACK
Puppet	PUPPET
VMware vCenter	VMWARE_VCENTER

Configuration properties file

The CSA Provider Configuration Tool is installed during CSA product installation and is located at **<CSA installation folder>\Tools\ProviderTool**. The `config.properties` configuration file must be in the same folder as the Provider Tool (`provider-tool.jar`). By default, the configuration property filename is config.properties. To use any other filename, use the -c option with the name of the file.

To generate sample configuration files, run the following command:

```
java –jar provider-tool.jar –g
```

The following sample files are generated:

- Provider XML input file: `provider.xml`
- Configuration property file for MS SQL: `config.properties.mssql`
- Configuration property file for Oracle: `config.properties.oracle`
- Configuration property file for PostgreSQL: `config.properties.postgresql`

Configuration Properties File Parameters

The sample configuration files that are not needed by the database-in-use can be deleted. For example, if you are using a Microsoft SQL Server database, retain the MS SQL configuration file and rename it to config.properties, the default filename used by the tool, or any other name of your choice. Delete the Oracle and PostgreSQL configuration files.

The following table lists the parameters listed in the configuration file.

Table 3. Parameters in config.properties file

Provider	Internal name to use in command line
jdbc.driverClassName	The database driver class. Do not change this value.
jdbc.dialect	The database dialect. Do not change this value.
jdbc.databaseUrl	When specifying an IPv6 address, it must be enclosed in square brackets. Examples: Oracle (SSL not enabled): `jdbc.databaseUrl=jdbc:oracle:thin:@//127.0.0.1:1521/XE` Oracle (SSL not enabled, using an IPv6 address): `jdbc.databaseUrl=jdbc:oracle:thin:@[f000:253c::9c10:b4b4]:1521:XE` Oracle (SSL enabled, CSA checks the database DN): `jdbc.databaseUrl=jdbc:oracle:thin:@(DESCRIPTION =(ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCPS)(HOST = <host>)(PORT =1521))) (CONNECT_DATA = (SERVICE_NAME = ORCL)) (SECURITY=(SSL_SERVER_CERT_DN = "CCN=abc,OU=dbserver,O=xyz,L=Sunnyvale,ST=CA,C=US")))`

	where, <host> is the name of the system where Oracle database server is installed, and the values for SSL_SERVER_CERT_DN are for the DN of the Oracle database server. MS SQL (SSL not enabled): jdbc.databaseUrl=jdbc:jtds:sqlserver://127.0.0.1:1433/example;ssl=request MS SQL (SSL not enabled, using an IPv6 address): jdbc.databaseUrl=jdbc:jtds:sqlserver://[::1]:1433/example;ssl=request MS SQL (SSL enabled): jdbc.databaseUrl=jdbc:jtds:sqlserver://127.0.0.1:1433/example;ssl=authenticate MS SQL (FIPS 140-2 compliant): jdbc.databaseUrl=jdbc:jtds:sqlserver://127.0.0.1:1433/example;ssl=authenticate PostgreSQL: jdbc.databaseUrl=jdbc:postgresql://127.0.0.1:5432/csadb
jdbc.username	User name for database.
jdbc.password	Encrypted password for database (If entered as plain text, will be encrypted.)
idm.protocol	The default value is https.
idm.hostname	The fully qualified domain name of the current system.
idm.port	The port number where CSA is running. The default value is 8444.
idm.servicePath	The default value is idm-service.
idm.integrationAcctUserName	The user account used to integrate CSA and IDM.
idm.integrationAcctPassword	The encrypted password used for the IDM integration in CSA.

Sample config.properties file

PostgreSQL config.properties example:

```
jdbc.driverClassName=org.postgresql.Driver
jdbc.dialect=org.hibernate.dialect.PostgreSQLDialect
jdbc.databaseUrl=jdbc:postgresql://127.0.0.1:5432/csadb
jdbc.username=csa
jdbc.password=ENC(UUV/PSwS9If1NURGsObYPQ==)
idm.protocol=https
idm.hostname=localhost
idm.port=8444
idm.servicePath=idm-service
idm.integrationAcctUserName=idmTransportUser
idm.integrationAcctPassword=ENC(AR3r0wcMNgOVZ/cFv//Y60r1pYQ9BshH/mSb6VSaVj8=)
```

Oracle config.properties example:

```
jdbc.driverClassName=oracle.jdbc.driver.OracleDriver
jdbc.dialect=org.hibernate.dialect.OracleDialect
jdbc.databaseUrl=jdbc:oracle:thin:@//127.0.0.1:1521/XE
jdbc.username=csa
```

```
jdbc.password=ENC(UUV/PSwS9If1NURGsObYPQ==)
idm.protocol=https
idm.hostname=localhost
idm.port=8444
idm.servicePath=idm-service
idm.integrationAcctUserName=idmTransportUser
idm.integrationAcctPassword=ENC(AR3r0wcMNgOVZ/cFv//Y60r1pYQ9BshH/mSb6VSaVj8=)
```

MSSQL Server config.properties example:

```
jdbc.driverClassName=net.sourceforge.jtds.jdbc.Driver
jdbc.dialect=org.hibernate.dialect.SQLServerDialect
jdbc.databaseUrl=jdbc:jtds:sqlserver://127.0.0.1:1433/csa
jdbc.username=csa
jdbc.password=ENC(UUV/PSwS9If1NURGsObYPQ==)
idm.protocol=https
idm.hostname=localhost
idm.port=8444
idm.servicePath=idm-service
idm.integrationAcctUserName=idmTransportUser
idm.integrationAcctPassword=ENC(AR3r0wcMNgOVZ/cFv//Y60r1pYQ9BshH/mSb6VSaVj8=)
```

Communicating with the MS SQL or Oracle Database Using SSL

If SSL is enabled between CSA and MS SQL or the Oracle database, the URL property in the database properties file must be configured correctly, and additional command line options might be required when using an Oracle database.

Configuration options	Command line option(s)	jdbc.databaseUrl value
Oracle		

CSA does not check the database DN, client authentication is enabled	`-Djavax.net.ssl.keyStore= "<certificate_key_file>"`
	`-Djavax.net.ssl.keyStorePassword= <certificate_key_file_password>`
	`-Djavax.net.ssl.keyStoreType= <certificate_key_file_type>`
	where,
	`<certificate_key_file>` is the same keystore file defined by the certificate-key-file attribute in the SSL element of the `%CSA_HOME%\jboss-as-7.1.1.Final\standalone\configuration\standalone.xml` file.
	`<certificate_key_file_password>` is the password to the keystore file
	`<certificate_key_file_type>` is the keystore type (for example, JKS or PKCS12)
		`jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL = TCPS)(HOST = <host>)(PORT = 1521)))(CONNECT_DATA =(SERVICE_NAME = ORCL)))`
		where,
		`<host>` is the name of the system where Oracle database server is installed.

CSA does not check the database DN, client authentication is NOT enabled	None	`jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL = TCPS)(HOST = <host>)(PORT = 1521)))(CONNECT_DATA =(SERVICE_NAME = ORCL)))` where,

		<host> is the name of the system on which the Oracle database server is installed.
MS SQL		
SSL is enabled	None	jdbc:jtds:sqlserver://127.0.0.1:1433/example;ssl=authenticate

Usage

The usage and command options are explained in detail below.

Usage:

- java -jar provider-tool.jar -a <create|read|update|delete> [-c <configuration properties file name>] [-p <provider configuration XML file>] [-v] [-t <provider type>]
- java –jar provider-tool.jar –h
- java –jar provider-tool.jar –g

where,

-a,--action <action type>
: Type of action to perform: create, read, update, or delete

-c,--config <config property file>
: Configuration property file name

-g,--generate
: Generate a sample configuration properties file

-h,--help
: Display the usage information

-p,--provider <provider info XML file>
: Provider info XML file

-t,--type <provider type>
: Provider type to be used for read operations: <AMAZON_EC2, CHEF, HP_DMA, HP_CLOUDOS, HP_HELION_PUBLIC_CLOUD, HP_ICSP, HP_MOE, HP_NETWORK_AUTOMATION, HP_ONEVIEW, HP_SA, HP_SITESCOPE, HP_UCMDB, OPENSTACK, PUPPET, VMWARE_VCENTER>

-v,--validate
: Validate the Service Access Point information

Table 4. Command line options

Option and description	Sub-options	Sub-option description
-h, --help		
Displays syntax and usage information	None	
-g, --generate		
Generates sample config.properties and provider.xml files.	None	
-a, --action <action type>		
	-c, --config <configuration file>	*Optional*; configuration property file.

Used to create, read, update or delete the provider. `<action type>` can be read|create|update|delete		Use this option if you need to use any other filename than the default (config.properties).
	-p, --provider <provider input XML file>	*Optional*; provider input file. Use this option if you need to use any other filename than the default (provider.xml). Use with create, update, and delete actions.
	-t, --type <provider type>	This option is only supported for Read action. Valid provider types: AMAZON_EC2, CHEF, HP_DMA, HP_CLOUDOS, HP_HELION_PUBLIC_CLOUD, HP_ICSP, HP_MOE, HP_NETWORK_AUTOMATION, HP_ONEVIEW, HP_SA, HP_SITESCOPE, HP_UCMDB, OPENSTACK, PUPPET, VMWARE_VCENTER.
	-v, --validate	*Optional*; validate provider organization access point information. Use with create and update actions.

Examples

Run the following command:

To display the Provider Configuration Tool usage/help

```
java -jar provider-tool.jar -h
```

To generate a sample config.properties/provider.xml file

```
java -jar provider-tool.jar -g
```

To get the provider information for Helion OpenStack® provider type (HP_CLOUDOS)

```
java -jar provider-tool.jar --action read -t HP_CLOUDOS
```

To create a provider using the provider information in the `Provider.xml` file

```
java -jar provider-tool.jar -a create -p Provider.xml
```

To validate the service access point url and update providers using the default files (config.properties and provider.xml)

```
java -jar provider-tool.jar -a update -v
```

To delete providers using custom files (my_config.property and my_providers.xml)

```
java –jar provider-tool.jar –action delete -c my_config.property -p my_providers.xml
```

Known Issues

Problem: When using the provider tool, it is possible to delete required properties from a previously created OpenStack provider. This deletion can cause a blue screen to appear in the Marketplace Portal when selecting a service offering that is based on an OpenStack design. This blue screen will only occur when the service offering has been associated to a catalog containing one or more environments, one of which contains this provider.

Cause: The provider tool first deletes all properties on a provider and then creates new ones based on the properties that are specified in the provider info XML file. OpenStack providers store certain required configuration information in hidden properties, and if those properties are not included when the provider tool is run, the provider will no longer be usable by CSA, and the blue screen in the Marketplace Portal will occur.

For an OpenStack provider, these hidden properties are `domain`, `keystoneConfigurationID`, `project`, and `useDomainScopedTokenForTransportUser`. All but the `project` property are required and can produce the blue screen in the Marketplace Portal if the property is not defined on an OpenStack provider.

Workaround: When running the provider tool to update an existing OpenStack provider, first perform a read operation to retrieve all properties on the provider, then run an update that does not delete the required properties.

Important: When running the provider tool for OpenStack providers, the `domain`, `keystoneConfigurationID`, `project`, and `useDomainScopedTokenForTransportUser` will become visible in the Properties tab for the provider. The properties should not be visible; however, the provider will continue to function and the blue screen error in the Marketplace Portal will not occur.

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