CLOUD CRUISER

v 2.4

Installation Guide

August 9, 2013

Cloud Cruiser 2.2 has tested compatible with Cisco Intelligent Automation for Cloud 3.1. The Cisco Compatible logo signifies that Cloud Cruiser's product has undergone interoperability testing by Cloud Cruiser together with Cisco and a third-party test house based on testing criteria set by Cisco. Cloud Cruiser is solely responsible for the support and warranty of its product. Cisco makes no warranties, express or implied, with respect to Cloud Cruiser's product or its interoperation with the listed Cisco product(s) and disclaims any implied warranties of merchantability, fitness for a particular use, or against infringement.

Cloud Cruiser, Inc.
2999 Douglas Drive
Roseville, CA 95661

www.cloudcruiser.com
support@cloudcruiser.com
1-916-367-4804

Contents

Installation overview

From a high level, the installation will consist of installing and configuring Cloud Cruiser's primary components: the collectors, a database, and the application server.

- *Collectors* gather and process consumption data from your cloud infrastructure. This component includes executable XML scripts that are configured for a given environment, and the Java run-time libraries that support the chargeback rules engine and other operations.
- The database stores the collected consumption data, as well as customer data, user data, costing data, and other chargeback-related information.
- The application server hosts the Cloud View chargeback portal, which allows users to access their cost data using standard web browsers. The application server is installed as a system service.

You can deploy each of these components on separate servers or host them together, depending on the nature of the deployment and performance considerations. A typical installation will see the database configured to run on one server, with the collectors and server running on another.

The basic steps for installing the application server are:

1. Install or locate a database.
2. Install Java 7.
3. Set `JAVA_HOME` as a system variable.
4. Run installation.

Preinstallation tasks

You will need to do the following prior to installing the Cloud Cruiser application:

- Install and configure a database (Oracle or SQL Server) and give Cloud Cruiser access.

  For more information, see "Database configuration" on page 6.
- Install Java 7.

  More information is covered in this installation guide, see "Installing Java 7" on page 8.

System requirements

The following are the minimum hardware and software requirements for running Cloud Cruiser.

Hardware

- 2GHz or faster multi-core processor
- 4GB or more of system memory

Operating system

You must use the 64-bit version of one of the following operating systems:

- Microsoft Windows Server 2008 or 2012
- Linux with a v2.6 or later kernel
- Windows 7

Database server

NOTE: A database is NOT included with the Cloud Cruiser installation. You must provide one of the following database servers:

- Microsoft SQL Server 2008 or 2012 (Express edition is supported, but not recommended for production environments due to its limitations, especially database size.)
- Oracle 10g or 11g

Application server

Java Standard Edition 7 (JDK or JRE), 64-bit version is required. You can download it at http://www.java.com/getjava.

For information about installing and configuring Java, see “Setting up the Java environment” on page 8.

Client

One of the following browsers is required:

- Microsoft Internet Explorer (IE) 9 or newer

  NOTE: Although the product works on 32-bit versions of IE, Cloud Cruiser strongly recommends that you use the 64-bit version of IE for better performance.

- Mozilla Firefox
- Google Chrome

NOTE: Cloud Cruiser has been tested with Firefox 20 and Chrome 26. The application should continue to function with new, automated version updates of these browsers. However, some issues could arise that can only be resolved with subsequent patches to Cloud Cruiser or by reverting the browser update.

Database configuration

NOTE: This document assumes that a database server has already been selected and installed in accordance with the vendor's recommendations and best practices.

If installing the database on a dedicated server (recommended), ensure that the server's firewall is properly configured to allow external access from the Cloud Cruiser application server.

If the database will reside on the same server as the Cloud Cruiser application server, ensure that sufficient hardware resources (memory, disk, and processor cores) are provisioned.

The Cloud Cruiser installation process will create the necessary database instance. You must supply administrator credentials to the installer to perform this task.

IMPORTANT: Before installing the Cloud Cruiser application, make note of this user name and password, the database server's IP address or hostname, and its port number and ensure that the database server is running.

Oracle configuration

No specific additional steps are required for the Oracle 10g/11g databases.

Microsoft SQL Server configuration

Authentication

When installing SQL Server, be sure to select Mixed Mode authentication - not just Windows Authentication.

Protocols

Cloud Cruiser requires that the TCP/IP protocol be enabled (it is disabled by default). Do the following on the database server:

1. Open the SQL Server Configuration Manager.

   Click **Start** and type *SQL Server* to choose the manager from the returned list of programs.

2. Under SQL Server Network Configuration, check that the TCP/IP protocol is *Enabled*.

3. Right-click on TCP/IP, choose **Properties**, click the *IP Address* tab, and check the following:

   - Make sure that every IP Address's *Active* status is set to *Yes*.
   - Make sure that every IP Address's TCP Port is set to 1433.
   - For IPAll, make sure that TCP Dynamic Ports is blank (no entry).

4. Click **OK**.

5. Restart SQL Server Service.

   There are several way to do this, but we recommend restarting in the SQL Server Management Studio by right clicking on the SQL Server instance and selecting **Restart**.

6. Ensure that the SQL Server browser is running.

Instance Name

Note the SQL Server Instance Name so that you can provide it to the Cloud Cruiser installer.

Other Requirements

The SQL Server Browser service must be running on the database server.

Setting up the Java environment

Installing Java 7

You must install either the Java Runtime Environment (JRE) or Java Development Kit (JDK) on the server hosting the Cloud Cruiser application.

To download Java 7, go to http://www.java.com/getjava/ and be sure to select the 64-bit version.

Setting JAVA_HOME as a system variable

In Windows

In Windows, after installing Java 7, you must add the JAVA_HOME environment variable to the Windows environment variables.

1. Open the System Properties form.

   Using Windows Explorer, one way to open this form is by clicking **Start** and entering "environment variables" in the search box, then selecting **Edit the system environment variables** from the results.

2. Click **Environment Variables** in the Advanced page of the System Properties form.

3. Click **New…** in the System variables panel of the Environment Variables form.

4. In the *Variable name* field, enter **JAVA_HOME**.

5. In the *Variable value* field, enter **C:\Program Files\Java\jre7** (or the appropriate path).

6. Click **OK**.

In Linux

In Linux, the environment variable `JAVA_HOME` must be set to the location of your Java 7 installation. For example:

```
export JAVA_HOME=/path/to/your/java
```

Installing Cloud Cruiser

Cloud Cruiser's automated installation wizard performs the following tasks:

- Installs the application server.
- Configures the database.
- Creates the chargeback schema.
- Configures the collectors.
- Scheduling collection jobs.
- Starts the application server.

In a Windows environment, the application server is installed as a system service. After installation is complete, the service should be visible in the Windows ***Services*** console under the name ***Cloud Cruiser***. The application server can be managed here.

NOTE: When installing the Cloud Cruiser application, the system sets permissions to all directories for administrators by default. If a user without administrator permissions installs the application, the user has read-only access to installed directories and is unable to modify the content. To change this, right-click the base directory, select **Properties**, and change the access permissions.

1. Launch the installation wizard.

   In a Windows environment, double-click the `ccinstall-<version>.exe` file.

   In a Linux environment, open a command tool at the installation location and run the command: `java -jar ccinstall-<version>-standard.jar`

2. At the Welcome screen, click **Next**.

3. On the License Agreement screen, read through the agreement and indicate your acceptance before clicking **Next**.

4. At the Target Paths screen, specify the installation and working directory paths and click **Next**.

   CAUTION: On Windows, do not specify your home directory, usually `C:\Users\<username>`, as the **Install path**. By default this directory contains a shortcut named `Templates` that conflicts with the name of a directory the installer creates. This conflict causes an error and a failed installation. If you want to install Cloud Cruiser under your home directory, specify a subdirectory such as `C:\Users\<username>\CloudCruiser`.

5. At the User Data screen, enter the required information and click **Next**.

Product Name	Label name for the product. **NOTE:** After installation, you can change this in the *Product Name* field in the Setup - UI page.
Tomcat Port	Port of the application server.
Admin E-mail Address	Administrator's email address. This is the administration user you will use to log on to the application once it is installed.
Admin User Password	Administrator's system password.

6. At the Database Type screen, make a selection and click **Next**.

7. At the JDBC Settings screen, enter the required information and click **Next**.

   The JDBC connection properties can vary slightly depending on the database type you choose:

Database Host	Server or IP address where the database server is running.
Database Name	Name of the database. **WARNING:** If the database you specify exists, will be deleted and rebuilt.
Service Name	(For Oracle only) Name of the Oracle service.
Database Port	Name of the port on which the database server is listening for connections.
Additional URL Properties	(Optional) Additional connection parameters needed to establish a database connection.
Application User	Name user (and schema name) that will be created to contain the Cloud Cruiser database schema. **WARNING:** If the Application User exists, the install will delete the existing user and all existing data.
Password	Application user's password. **NOTE:** For SQL Server, this password must comply with SQL Server's default password policy. For more information, see "SQL Server Application User Password policy" on page 27.
Integrated Security Domain	(Optional for SQL Server only) Domain name for integrated SQL-server authentication.

DBA User	User name of the database administrator. **NOTE:** On SQL Server, this is typically the SA user. If you specify a user other than SA, make sure that user has the *sysadmin* role.
DBA Password	Database application user's password that is necessary to create the application user and create and load the database tables.

8. At the Collector Type screen, make a selection and click **Next**.

   If you do not want to install a collector, choose **Default Installation** and go to step 11. If you select a collector, the fields in the Parameters screen are described in the next step.

9. (For collector install) At the collector's Parameters screen, fill out the required information.

   Cisco Intelligent Automation for Cloud has the following fields and options:

Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
Portal Server	Cisco IAC host name or the IP address.
User	Name of the user.
Password	Password for the user.
Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.
Collect from Cloud Cruiser automation pack (TAP)	This option allows you to also collect event data from Cisco Process Orchestrator. If you select it, you must perform the post-installation procedure "Completing installation for Cisco Process Orchestrator" on page 17.

   HP Cloud Service Automation has the following fields and options:

CSA Version	Cloud Service Automation (CSA) version. You can choose version 2.x or 3.x.
Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
CSA Server	CSA server host name or the IP address.
User	Name of the user.

Password	Password for the user.
Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.

HP CloudSystem Matrix has the following fields and options:

CSM Version	CloudSystem Matrix (CSM) version. You can choose version 6.x or 7.x.
Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
CSM Server	CSM server host name or the IP address.
User	Name of the user.
Password	Password for the user.
Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.

Azure Services for Windows has the following fields and options:

Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
Portal Server	Azure Services host name or the IP address.
User	Name of the user.
Password	Password for the user.
Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.

Microsoft System Center 2012 SP1 has the following fields and options:

Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
Server	System Center host name or the IP address.
Domain	(Optional) Windows domain of the user.
User	Name of the user.
Password	Password for the user.

Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.

VMware vSphere has the following fields and options:

Name	Name to be used to reference the stored collector parameters in batch jobs and in the user interface.
Server	vSphere host name or IP address and port number
User	Name of the user.
Password	Password for the user.
Comments	(Optional) Comments that will be displayed in the user interface when managing parameters. You can have up to 250 characters.

10. Click **Next**.
11. At the Install Summary screen, click **Next**.
12. At the Installation screen, click **Next** after the installation completes.
13. At the System Configuration screen, click **Next** after the processing completes.
14. At the Installation Finished screen, click **Done**.

Upgrading from a previous version

To upgrade from a previous version of Cloud Cruiser, do the following:

1. Go to download.cloudcruiser.com and navigate to the appropriate directory to download the product executable and documentation.

   NOTE: This is a secured web site. You will need to enter your user ID and password. Contact Cloud Cruiser if you need assistance.

2. Download the product appropriate for your operating system: Linux or Windows.

3. Run the `ccinstall-<version>.exe` executable.

   This opens an installation wizard that will step you through the upgrade.

4. Remove old reports as described in “Removing old reports” on page 15.

Property Settings

New versions of Cloud Cruiser can include modified property files. To ensure that altered property settings are retained, the following files are NOT overwritten when updating:

- `system.properties`
- `security.properties`
- `database.properties`

The `system.properties` file in the `<base_dir>/conf` directory will not be overwritten. After updating, you can view the current file, `default-system.properties`, in the `<base_dir>/etc` directory. You can use this file to overwrite your existing file, or copy what you need.

IMPORTANT: If you are upgrading from Cloud Cruiser version 2.1, be aware that Cloud Cruiser's maximum heap size memory parameter has increased to 2 gigabytes. After upgrading, you must edit the `<base_dir>/conf/system.properties` file to change “`serverMaxHeapMB=1024`” to “`serverMaxHeapMB=2048`”.

To view the current `security.properties` and `database.properties` file content, go to the `<base_dir>\apache-tomcat-<version>\webapps\ROOT\WEB-INF\classes` directory and see `security.properties.sample` and `database.properties.sample`.

Apache Tomcat Upgrade from Cloud Cruiser Version 2.1

If you are upgrading from Cloud Cruiser version 2.1, be aware that the Apache Tomcat version will also be upgraded from 6.0.29 to 7.0.35. This upgrade will replace the default Tomcat server configuration template with a new one. In the unlikely event you have customized this template and want to retain your settings, back up the `<base_dir>/conf/server-template.xml` file prior to upgrade. After upgrade, you must reapply your settings to the new default template.

For more information, go to http://tomcat.apache.org/migration-7.html#Upgrading_7.0.x

Removing old reports

After running the install wizard to upgrade Cloud Cruiser, to avoid errors you should remove reports that are no longer delivered with the product in version 2.4. For information about the reports that replace these, see “Reporting enhancements” in the *Release Notes*.

To remove old reports after upgrading

1. Unload each report by executing the command `loadreports -d <base_dir>\reportfiles\<report_name>.jrxml` from the `<base_dir>/bin` directory for the following files:
   - `TopCostForAccount.jrxml`
   - `AccountBudget.jrxml`
   - `CostTrendForAccountByMonth.jrxml`
   - `Accounts.jrxml`
   - `InvoiceFixedVarCharges.jrxml`
2. Delete the following files in the `<base_dir>\reportfiles` directory:
   - `TopCostForAccount.jrxml`
   - `TopCostForAccount.properties`
   - `TopCostForAccount_el_GR.properties`
   - `TopCostForAccount_is.properties`
   - `TopCostForAccount_nl.properties`
   - `AccountBudget.jrxml`

- AccountBudget.properties
- AccountBudget_el_GR.properties
- AccountBudget_is.properties
- AccountBudget_nl.properties
- CostTrendForAccountByMonth.jrxml
- CostTrendForAccountByMonth.properties
- CostTrendForAccountByMonth_el_GR.properties
- CostTrendForAccountByMonth_is.properties
- CostTrendForAccountByMonth_nl.properties
- Accounts.jrxml
- Accounts.properties
- Accounts_el_GR.properties
- Accounts_is.properties
- Accounts_nl.properties
- InvoiceFixedVarCharges.jrxml
- InvoiceFixedVarCharges.properties
- InvoiceFixedVarCharges_el_GR.properties
- InvoiceFixedVarCharges_is.properties
- InvoiceFixedVarCharges_nl.properties

Completing installation for Cisco Process Orchestrator

If you selected Cisco Process Orchestrator in the Cloud Cruiser application installer, you must perform the following procedure after running the installer to enable Cisco Process Orchestrator collection.

1. Launch the Cisco Process Orchestrator console.
2. In the navigation pane, click Administration > Automation Packs.

   The list of existing automation packs appears.
3. From the Actions menu, choose Import.
4. Select the file <*base_dir*>/third_party_extensions/cisco/CloudCruiser_v2.3.tap and click Open.

   You might need to copy this file from your Cloud Cruiser server to a drive visible to your Cisco Process Orchestrator server to make it available for this step.
5. In the Automation Pack Import Wizard, click Next twice without modifying any settings.

   The wizard imports the Cloud Cruiser automation pack.
6. When the wizard completes, click Close.

   The Cloud Cruiser automation pack appears in the list in the console.
7. In the navigation pane, click Definitions > Global Variables.
8. Right-click the variable named Cloud Cruiser Usage Directory and choose Properties.
9. Edit the Value to reflect the path where you want Cisco Process Orchestrator to write files for collection by Cloud Cruiser, then click OK.

   A batch job for collecting Cisco Process Orchestrator data is installed with Cloud Cruiser. The default Value \\CC\cc-working\usage_files\iac_orch is the location where that job is configured by default to collect. If your Cisco Process Orchestrator server is able to write files directly to the filesystem of your Cloud Cruiser server, you only need to replace the placeholder <*CC*> with the hostname or IP address of your Cloud Cruiser server.

   If your Cisco Process Orchestrator server is *not* able to write files directly to the filesystem of your Cloud Cruiser server, enter a path to another location. If possible, use a network drive that is visible to the Cloud Cruiser server.
10. If necessary, set up an automatic process to copy files from this location to a location visible to the Cloud Cruiser server.

You can use any method to copy these files. Schedule the copy to run just before the Cloud Cruiser job that collects Cisco Process Orchestrator data.

Additional configurations

Setting up multiple server instances

You can host multiple instances of Cloud Cruiser on the same server. To create a new application instance, do the following.

1. Stop the Cloud Cruiser service.
2. Create an application instance by making a copy of the ROOT directory.

   For example, to create an application instance named `foo1` in a Linux environment, go to the `webapps` directory and copy the `ROOT` directory to subdirectory `foo1`.

   ```
   # cd /usr/local/<base_dir>/apache-tomcat-<version>/webapps/
   # cp -r ROOT foo1
   ```

   In a Windows environment, to create an application instance named `foo1`, do the following:

   - Navigate to the `webapps` directory.
   - Right-click the ROOT folder and select **Copy**, then right-click again and select **Paste**.
   - Rename this folder `foo1`.

3. Configure the database connection (see page 24), this time substituting `foo1` in place of `ROOT`:

   ```
   <base_dir>/apache-tomcat-<version>/webapps/foo1/WEB-INF/classes/
       database.properties
   ```

4. Re-run the install script, this time specifying the webapp you are configuring.

   In a Linux environment:

   ```
   # cd /usr/local/ccapp
   # ./install -a foo1 –u DBA_USER –p DBA_PASSWORD
   ```

   In a Windows environment:

   ```
   cd C:\ccapp
   install -a foo1 –u DBA_USER –p DBA_PASSWORD
   ```

5. Restart the Cloud Cruiser application server.

Configuring SSL (https)

To use SSL, you need a certificate issued by a certificate authority and a certificate chain. Instructions for downloading a certificate chain for your certificate vary and should be available from the certificate authority which issued your certificate. Once you have your certificate and certificate chain, follow these instructions:

NOTE: `your_keystore_filename` refers to a java keystore to hold your certificates. You can use a pre-existing one or a new one. See the java keytool documentation for more information.

In a Linux environment:

```
# $JAVA_HOME/bin/keytool -import -alias root -keystore <your_keystore_filename> -
    trustcacerts -file <filename_of_the_chain_certificate>
# $JAVA_HOME/bin/keytool -import -alias tomcat -keystore <your_keystore_filename> -
    file <your_certificate_filename>
```

In a Windows environment:

```
%JAVA_HOME%\bin\keytool -import -alias root -keystore <your_keystore_filename> -
    trustcacerts -file <filename_of_the_chain_certificate>
%JAVA_HOME%\bin\$JAVA_HOME/bin/keytool -import -alias tomcat -keystore
    <your_keystore_filename> -file <your_certificate_filename>
```

In either platform, open `<base_dir>/conf/system.properties` and make the following changes:

1. Enable HTTPS.

   ```
   serverHttpsEnabled=true
   ```

2. Set the path to your keystore file and your keystore password.

   ```
   serverKeystoreFile=<path_to_your_keystore_file>
   serverKeystorePassword=<your_keystore_password>
   ```

3. (Optional) Disable non-SSL (regular http) access.

   ```
   serverHttpEnabled=false
   ```

4. Save the change and restart the Tomcat server if it is already running.

NOTE: When running as a Windows service, configuration changes made to `server.properties` or `server-template.xml` will not take effect until the service is removed and re-installed using `ccservice.bat`.

Advanced memory settings

The default server memory settings will use a minimum of 512MB and a maximum of 1GB. This should be sufficient for most installations.

If you are deploying multiple webapps, it might be necessary to increase the amount of allocated memory.

Memory settings can be modified in the <*base_dir*>/conf/system.properties file for the rare case where it is necessary.

```
#
# Application server configuration
#
serverMinHeapMB=512
serverMaxHeapMB=1024
serverMaxPermGenMB=256
```

Defining the server URL

Certain operations, such as running a report, require the server to make http requests to itself. To make these requests, three pieces of server configuration information are required: the protocol (http or https), the hostname, and the port.

The default behavior reads the protocol and port from the Apache Tomcat configuration and uses `localhost` as the host. This works in the vast majority of cases. However, if the server's DNS or firewall settings are configured such that `localhost` does not correctly resolve to the server, or port redirection prevents access to the server from itself on the Tomcat port, these values will need to be overridden via the `serverBaseURL` property in <*base_dir*>/conf/system.properties:

```
serverBaseURL=https://myserver.mydomain.com:8765
```

The protocol `https`, host `myserver.mydomain.com`, and port `8765` must be specified as shown above.

Launching Cloud Cruiser for the first time

To open the Cloud Cruiser Portal for the first time, do the following:

1. Open a browser.

   For the list of compatible browsers and their versions, see “Client” on page 6.

2. In the URL field, type the host server’s IP address or domain name:

   ```
   http://<server_url>:<server_port>
   ```

   For example:

   ```
   http://localhost:8080
   ```

   To log in to a webapp, append the webapp’s name to the URL. For example:

   ```
   http://localhost:8080/webapp
   ```

   This opens the Cloud Cruiser login prompt.

3. Type *admin* for User Name, enter your password, and click **OK**.

   If you installed with the Installation Wizard, enter the password that was specified in the *Admin User Password* field in the User Data screen (see step 5 on page 10).

   If you installed from the command line using the install script, enter the default password *admin*. Cloud Cruiser recommends changing this password immediately after logging in.

Administrative tasks

Installing and launching the application service

In Windows

You can install and launch the service by running the following commands from the <*base_dir*>/bin directory:

- To install, run the command:

  ```
  ccservice install
  ```

- To launch, run the command:

  ```
  ccservice start
  ```

For example:

```
C:\ccapp\bin>ccservice install
C:\ccapp\bin>ccservice start
```

In Linux

The following steps are required to configure the application as a service so that it starts up automatically when the system boots up:

1. Copy the `ccapp` script from <*base_dir*>/bin to `/etc/init.d`
   (or the appropriate location on your system).

2. Edit the file to set the values of `cchome` (the installation directory) and `ccuser` (the Linux user the Tomcat process will run under).

3. Install the service using `chkconfig` or the appropriate method for your system.

Stopping and starting the application service

In Windows

To open the Services window, click **Start** and type “services,” and choose *Services* from the returned list of programs.

- To stop the service, right-click on Cloud Cruiser and choose *Stop*.
- To start the service, right-click on Cloud Cruiser and choose *Start*.

You can also stop and start the service from the command line by running the following commands from the `<base_dir>/bin` directory:

- To stop the service, run the command:

  ```
  ccservice stop
  ```

- To start the service, run the command:

  ```
  ccservice start
  ```

In Linux

In a Linux environment, you can stop and start the service from the command line by running the following commands from the `<base_dir>/bin` directory:

- To stop the service, run the command:

  ```
  ccapp stop
  ```

- To start the service, run the command:

  ```
  ccapp start
  ```

Configuring the database connection

To configure Cloud Cruiser to interface with your database, you must create and use a text editor to configure a properties file named `database.properties` in the `<base_dir>/apache-tomcat-<version>/webapps/ROOT/WEB-INF/classes/` directory. A sample file is included and located in the same directory at:

```
<base_dir>/apache-tomcat-<version>/webapps/ROOT/WEB-INF/classes/
    database.properties.sample
```

Cloud Cruiser's database is configured in a properties file that must be created before proceeding.

```
<base_dir>/apache-tomcat-<version>/webapps/ROOT/WEB-INF/classes/
    database.properties
```

The following examples are similar to those contained in the database properties sample file. For examples of others, refer to the samples file.

Microsoft SQL Server Example

```
jdbc.driver=net.sourceforge.jtds.jdbc.Driver
jdbc.url=jdbc:jtds:sqlserver://<server_name>:<port>/
    <db_name>;instance=<instance_name>
jdbc.username=<user_name>
jdbc.password=<password>
hibernate.dialect=org.hibernate.dialect.SQLServerDialect
validation.query=select 1
validation.query.timeout=5
```

The descriptions of these inputs are:

<server_name>	Host name or IP address of the database server
<port>	Port that the database is listening to (typically 1433).
<db_name>	Name of the database where the chargeback data will reside. This is defined during initial database setup.
<instance_name>	Instance name of the Microsoft SQL Server.
<user_name>	Name of the user that Cloud Cruiser will access the database as.
<password>	User's password.

Oracle Example

NOTE: The hibernate.dialect should refer to Oracle10gDialect, even if you are using 11g.

```
jdbc.driver=oracle.jdbc.OracleDriver
jdbc.url=jdbc:oracle:thin:@//<server_name>:<port>/<instance_name>
jdbc.username=<user_name>
jdbc.password=<password>
hibernate.dialect=org.hibernate.dialect.Oracle10gDialect
validation.query=select 1 from dual
validation.query.timeout=5
```

The descriptions of these inputs are:

<server_name>	Host name or IP address of the database server
<port>	Port that the database is listening to (typically 1521).
<instance_name>	Instance name of the Microsoft SQL Server (typically XE).
<user_name>	Name of the user that Cloud Cruiser will access the database as.
<password>	User's password.

Uninstalling Cloud Cruiser

Uninstalling in Windows

The uninstaller is located at `<base_dir>\Uninstaller\uninstaller.jar`.

To uninstall Cloud Cruiser in Windows, do the following:

1. Run the command window as Administrator.
2. Go to the `bin` directory.

   `<base_dir>/bin`
3. Stop the application service.

   ```
   ccservice stop
   ```
4. Remove the application service.

   ```
   ccservice remove
   ```
5. Go to the `Uninstaller` directory.

   `cd <base_dir>\Uninstaller`
6. Open the uninstaller.

   ```
   java -jar uninstaller.jar
   ```
7. In the pop-up window, click **Uninstall**.

Uninstalling in Linux

To uninstall Cloud Cruiser in Linux, do the following:

1. Stop the application service.

   For more information, see “Stopping and starting the application service” on page 23.
2. Disable the service:

   `# chkconfig --del <base_dir>`

   You can delete the install directory after this step if needed.

SQL Server Application User Password policy

In the JDBC connection properties setup screen, you must enter a password in the Application User's Password field. This password cannot contain all or part of the account name of the user. Part of an account name is defined as three or more consecutive alphanumeric characters delimited on both ends by white space such as space, tab, and return, or any of the following characters: comma (,), period (.), hyphen (-), underscore (_), or number sign (#).

The password must be at least eight characters long.

The password must contain characters from three of the following four categories:

- Latin uppercase letters (A through Z)
- Latin lowercase letters (a through z)
- Base 10 digits (0 through 9)
- Non-alphanumeric characters such as: exclamation point (!), dollar sign ($), number sign (#), or percent (%).