knowledge15®
April 19–24, 2015 • Mandalay Bay • Las Vegas, NV

Lab Guide

ServiceWatch 201:
Define New Patterns &
Debug Common Issues

Sebastian Kliber & Leonid Suslov

Default Login / Password:

admin / Knowledge15

This

Page

Intentionally

Left

Blank

Lab Goal

This lab explains how to create a new Business Service in ServiceWatch.

Lab 1.1 Create a Business Service

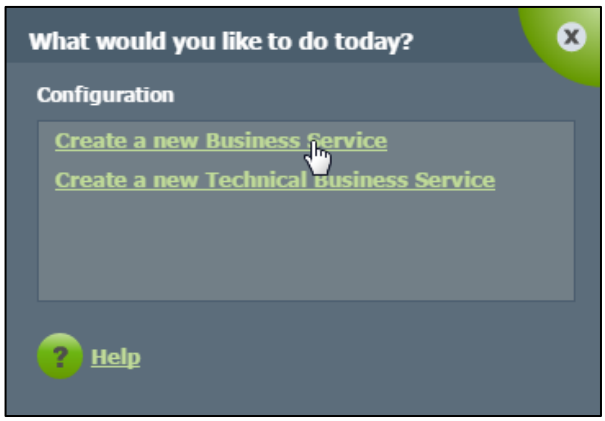
Log on to Your Training Instance

1. Navigate to the unique instance URL provided to you.
2. Log on with provided credentials.

®2015 ServiceNow, Inc. All rights reserved.

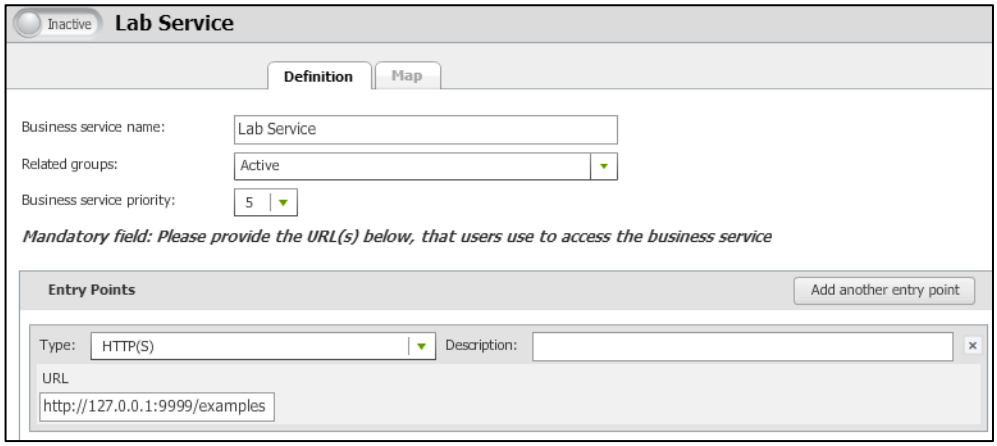
Create a New Business Service

1. Hover over the green icon  in the top-right corner of the screen to open the menu shown below.



2. Enter the following information in the Application form:

   Business service name: **Lab Service**
   Type: **HTTP(S)**
   URL: **http://127.0.0.1:9999/examples**

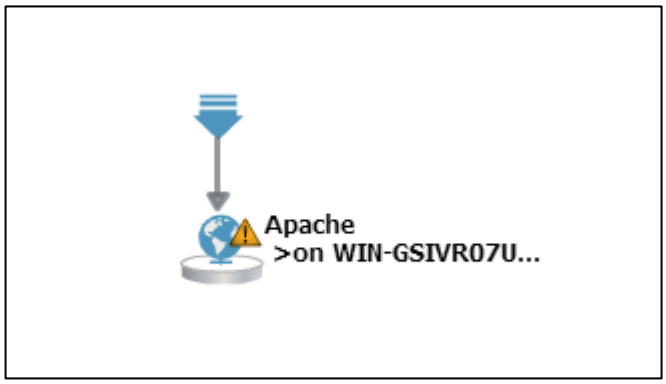


3. Click **Save** and view **Map** in the lower-right corner.

®2015 ServiceNow, Inc. All rights reserved.

Lab Success Verification

1. Wait for the discovery to complete. Your screen should look like the example below.

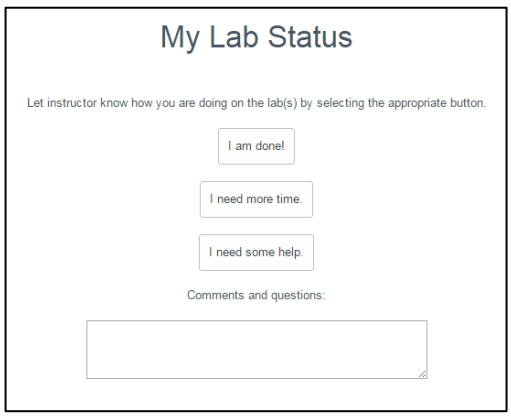


Progress Report

1. In your ServiceNow instance, navigate to **Lab Management > Report Lab Progress**.



2. Click **I am done!**



®2015 ServiceNow, Inc. All rights reserved.

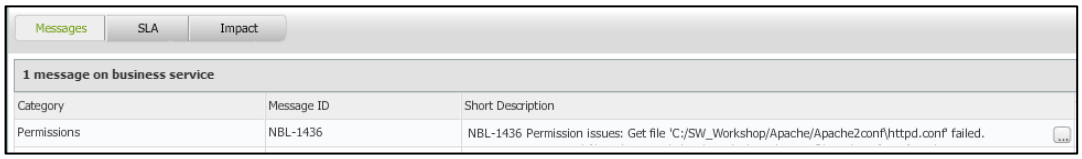
Lab Goal

This lab explains how to use the debugger to solve discovery errors.

Lab 1.2 Debug Error Messages

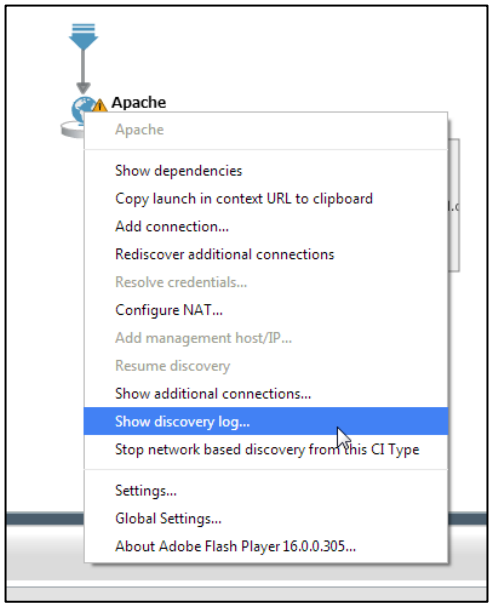
Investigate the Error Messages

1. Look at the error message shown at the bottom of the screen.



   There seems to be a problem finding the configuration file.

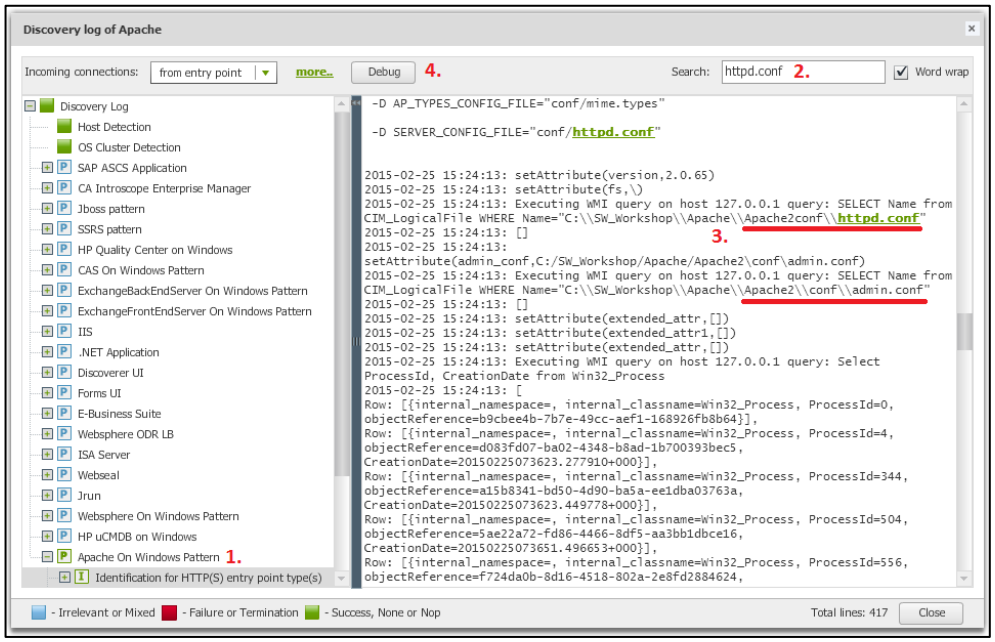
2. Right-click the **Apache** server and choose **Show discovery log**.



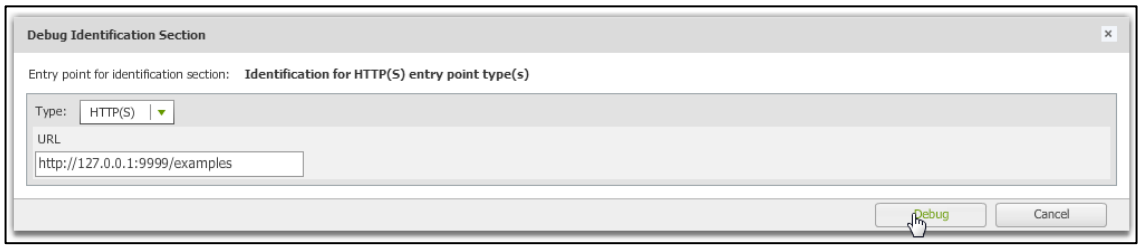
©2015 ServiceNow, Inc. All rights reserved.

3. Investigate the discovery log of **Apache**.
   - Expand **Apache on Windows Pattern** in the left and select **Identification for HTTP(S) entry point type(s)**.
   - Locate the search box in the top-right corner and type **httpd.conf** and press **enter**.
   - Notice the difference in the path between the **http.conf** and **admin.conf** files.

4. Click the **Debug** icon.

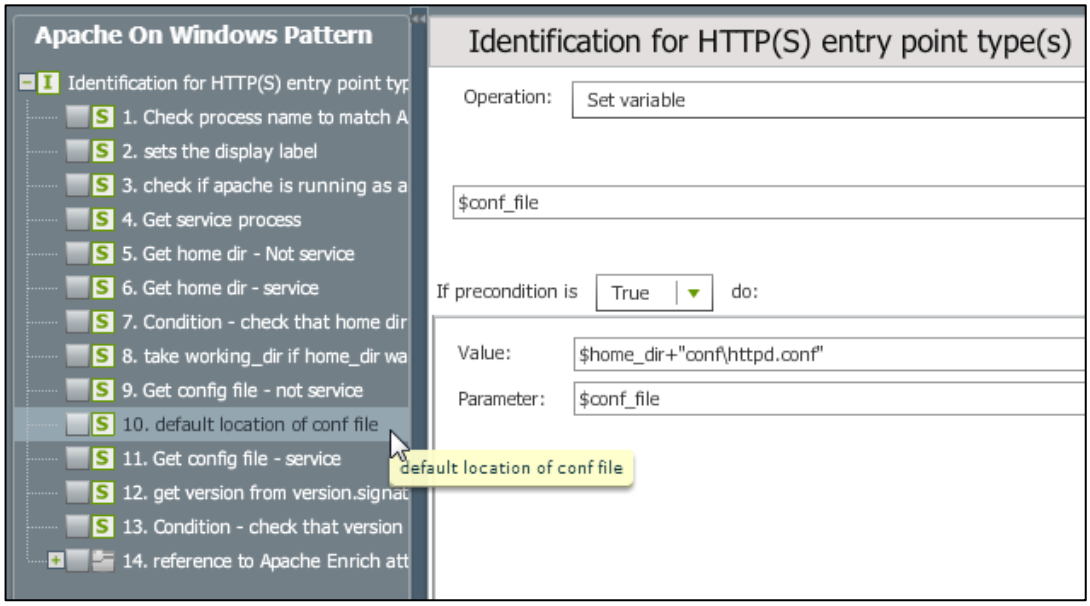


5. Confirm that the URL is populated in the debug form, and then click **Debug.**

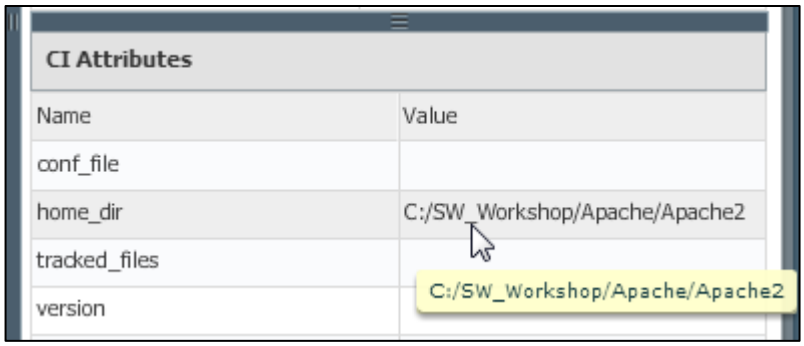


®2015 ServiceNow, Inc. All rights reserved.

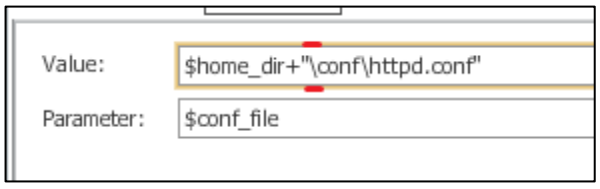
6. Navigate to step **10. default location of conf file** on the left .



7. Look at the path for the **home_dir** attribute under CI Attributes on the right side. Notice the missing trailing slash.



8. Add the missing slash **** to the **Value** box as indicated below.

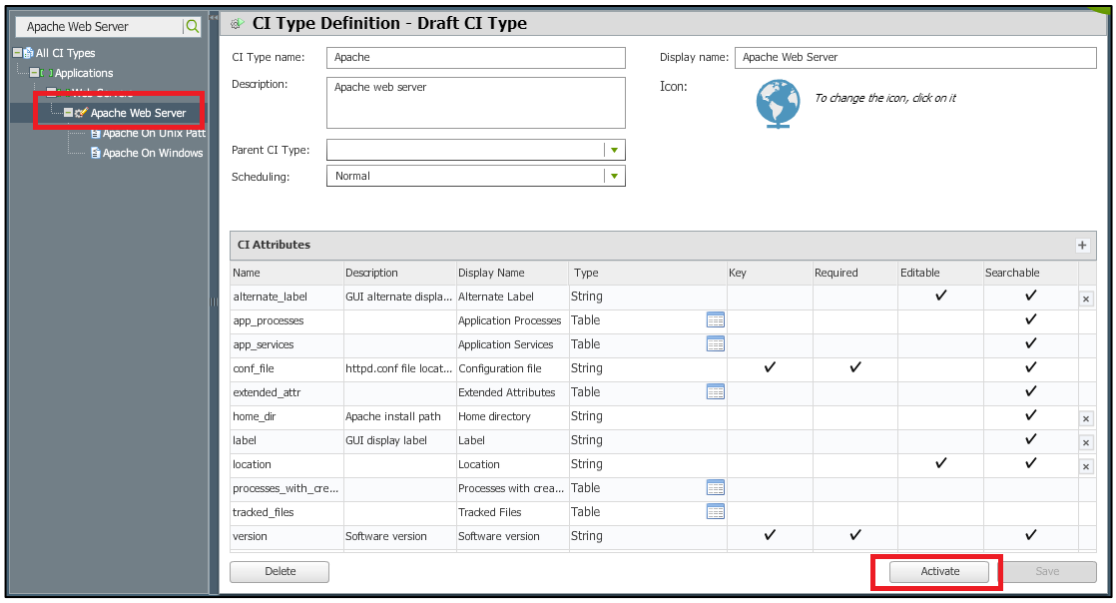


©2015 ServiceNow, Inc. All rights reserved.

9. Click **Save** in the top-right corner and select **Back to pattern.**



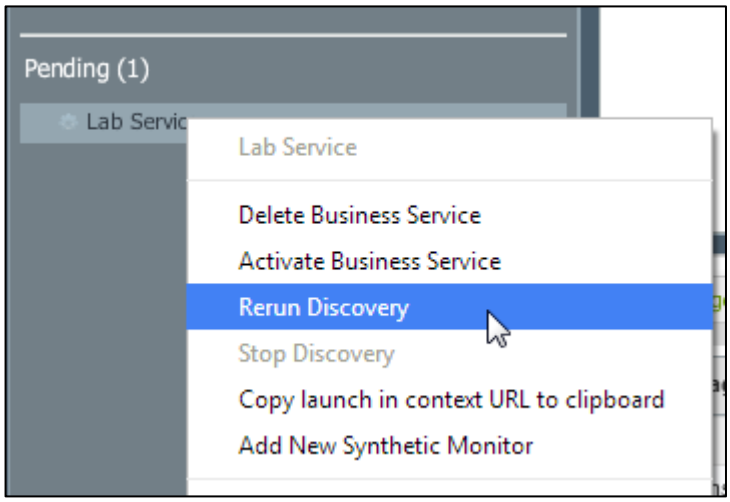
10. To activate the changes made to this patter, first select **Apache Web Server** on the left side and click **Activate** at the bottom right.



11. Click the **Dashboard** icon at the top to return to the service view.

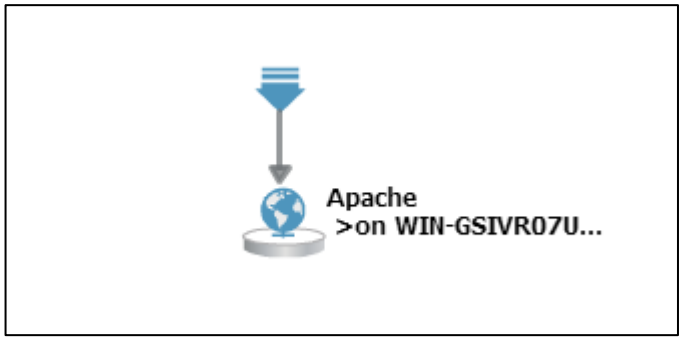
®2015 ServiceNow, Inc. All rights reserved.

12. Right-click **Lab Service** business service in the left corner and select **Rerun Discovery** to rediscover the business service using the new pattern changes.



Lab Success Verification

1. Wait for the discovery to complete. The exclamation mark is now gone, and the screen should look like the example.



Progress Report

1. In your ServiceNow instance, navigate to **Lab Management > Report Lab Progress**.

2. Click **I am done!**

©2015 ServiceNow, Inc. All rights reserved.

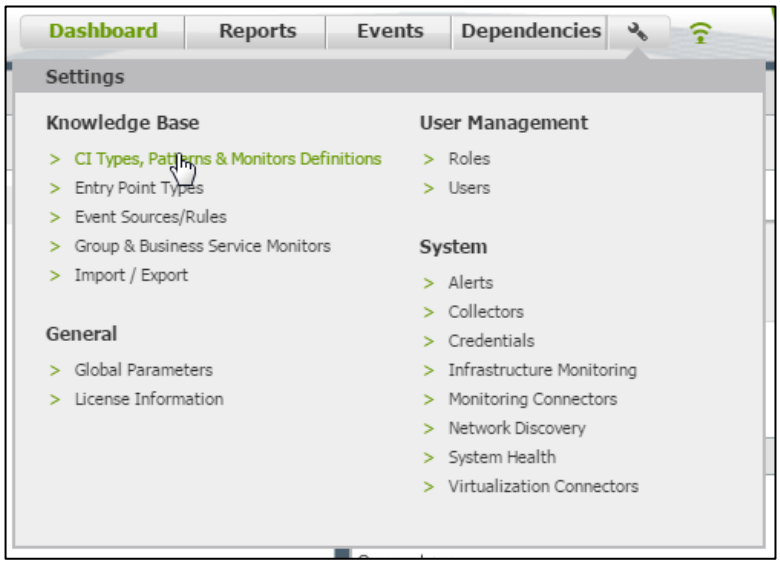
Lab Goal

This lab explains how to extend the Apache pattern with a new connection to Tomcat.

Lab 2.1 Extend a Pattern With a New Connection

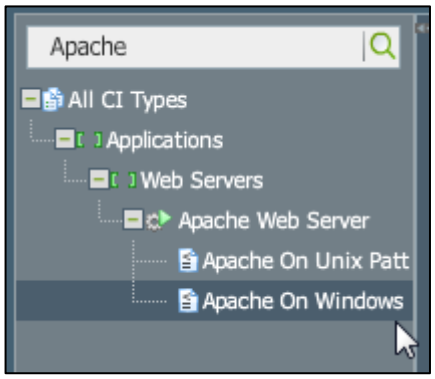
Create a new connection between Apache and Tomcat Cis

1. Click the wrench at the top-right corner to expand the **Settings** menu. Select **CI Types, Patterns & Monitors Definitions**.



®2015 ServiceNow, Inc. All rights reserved.

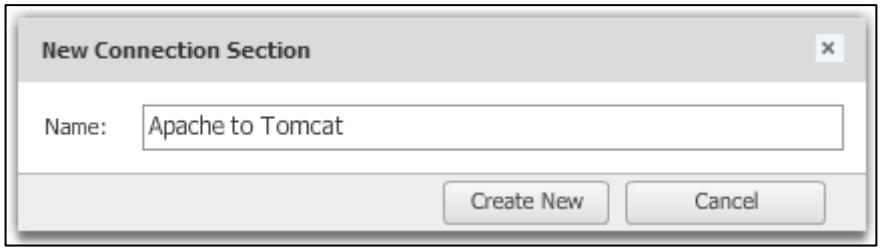
2. Search for the **Apache** pattern in the search box located in the top-left corner. Select the **Apache On Windows** pattern.



3. In the **Connectivity Sections**, click the plus (**+**) sign on the far right to add a new connection.



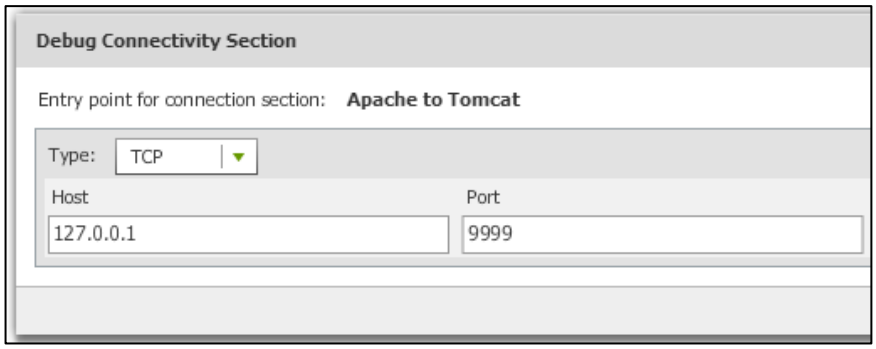
4. Name the new connection **Apache to Tomcat** and click **Create New**.



®2015 ServiceNow, Inc. All rights reserved.

5. Make sure **Debug** is turned on at the top of the form. If not click the **Debug** button and enter the following.

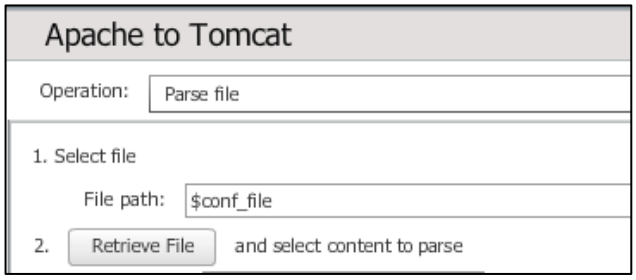
   Type: **TCP**
   Host: **127.0.0.1**
   Port: **9999**



6. Rename the first step on the left by double clicking on the gray box next to the step. Name the first step **parse httpd.conf**.



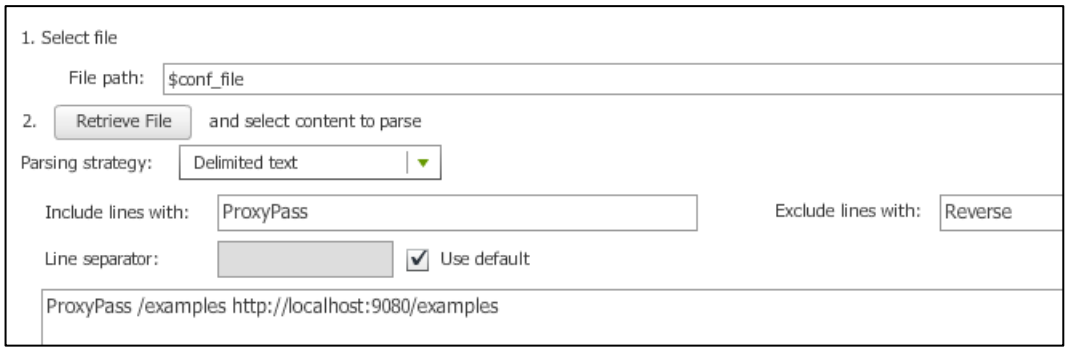
7. In the **Operation** section, select **Parse file**. Under **1. Select file->File path** enter **$conf_file** and click **Retrieve File.**



©2015 ServiceNow, Inc. All rights reserved.

8. Limit the lines retrieved from the configuration file by only including lines with the word **ProxyPass** and the exclude lines with the word **Reverse**. Enter the following to filter out these lines.

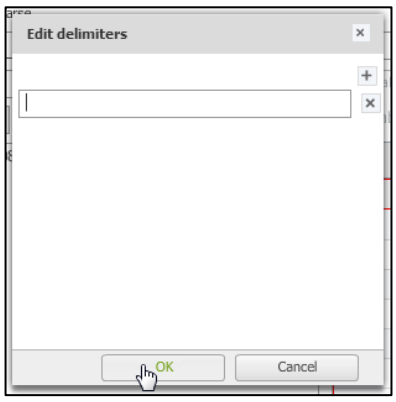
   Include lines with: **ProxyPass**
   Exclude lines with: **Reverse**



9. Click the **Delimiters** button at the bottom to edit delimiters.



10. In the delimiters box, enter a single white space and click **OK**.



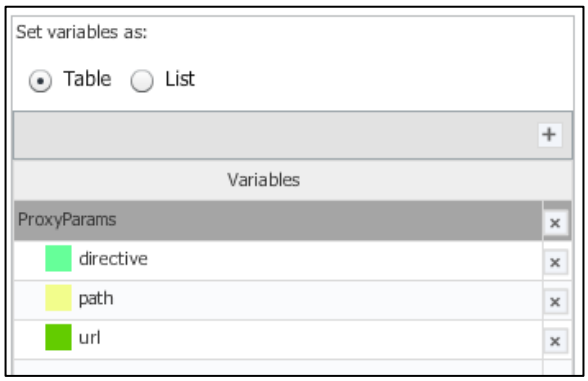
©2015 ServiceNow, Inc. All rights reserved.

11. Add two new variables in the **Variables** section.

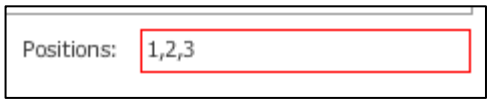


12. Change the name of the table and newly created attributes from **__Name__** to the following.

    Table name: **ProxyParams**
    1st parameter: **directive**
    2nd parameter: **path**
    3rd parameter: **url**

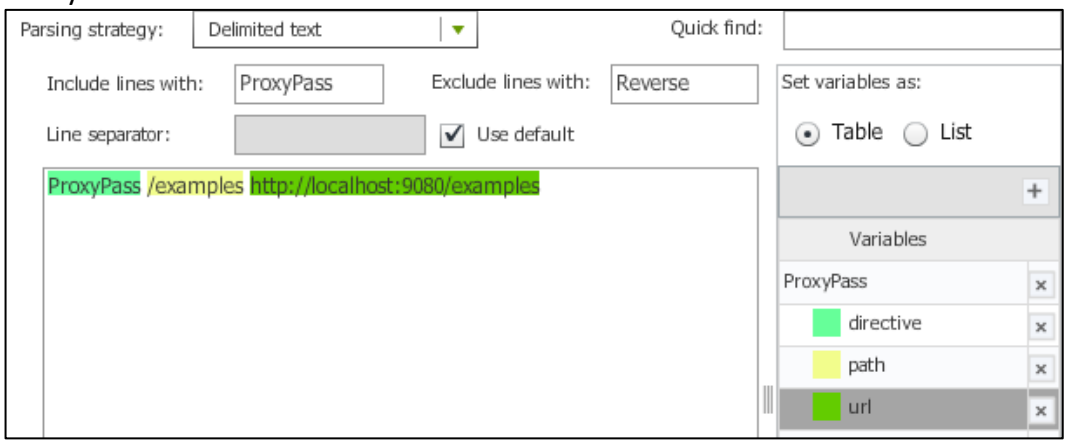


13. Specify the Positions to look for in the string by entering **1,2,3** in the **Positions** box.



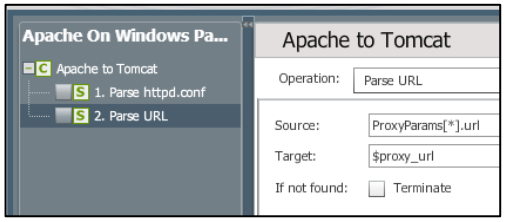
©2015 ServiceNow, Inc. All rights reserved.

14. Notice that the string from the configuration file colors with the corresponding colors of the newly created variables.

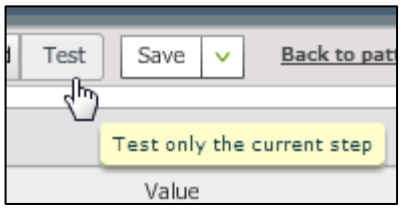


15. Add a new step by right-clicking on the **1. Parse http.conf** step and selecting **Add Step After**.
16. Rename the step to **parse URL.**
17. Choose **parse URL** as the operation and populate the form as follows.

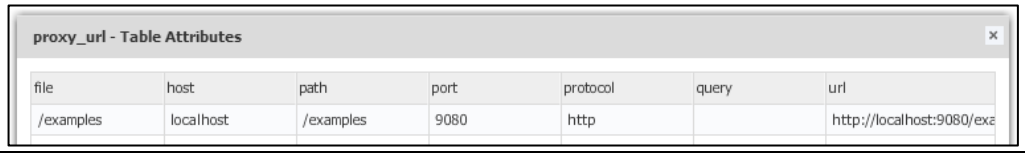
    Operation: **Parse URL**
    Source: **$ProxyParams[*].url**
    Target: **$proxy_url**



18. Click the **Test** button at the top-right corner to see the result of the step.



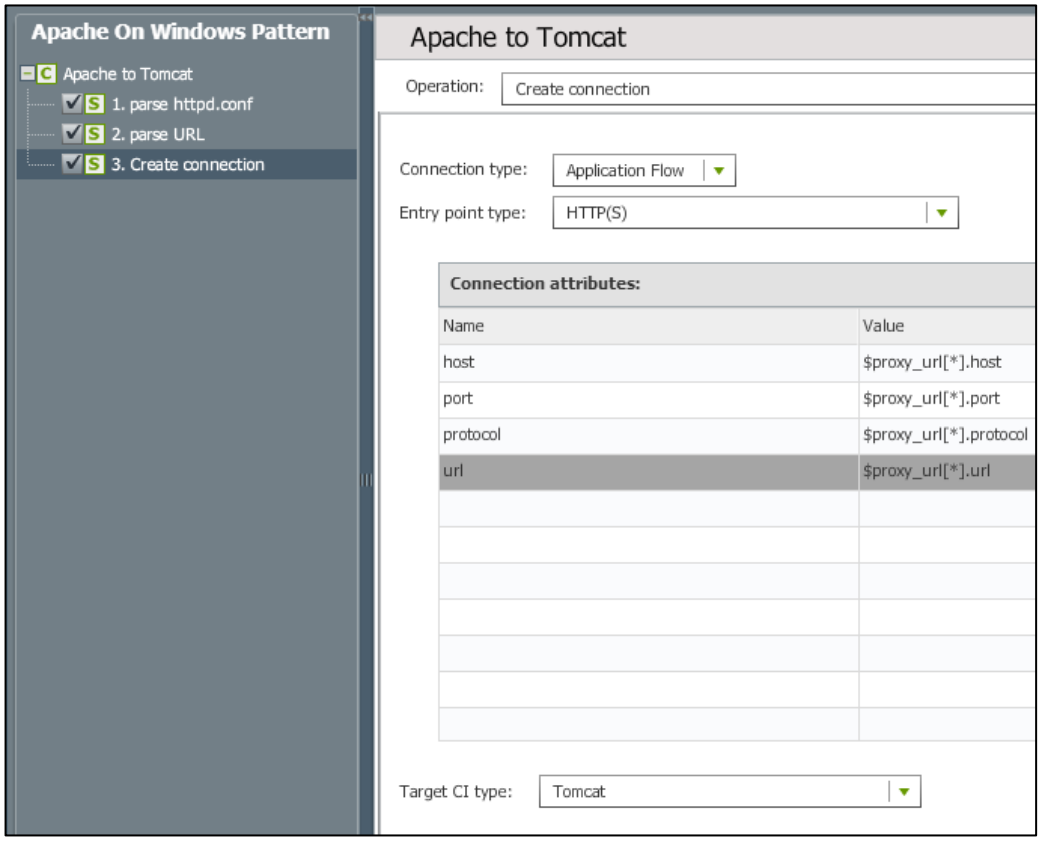
Result:



©2015 ServiceNow, Inc. All rights reserved.

19. Add a new step after the step you just created and name it **Create connection.** Enter the following information in the application form:

    Operation: **Create connection**
    Connection type: **Application Flow**
    Entry point type: **HTTP(S)**
    post: **$proxy_url[*].host**
    port: **$proxy_url[*].port**
    protocol: **$proxy_url[*].protocol**
    url: **$proxy_url[*].url**
    Target CI type: **Tomcat**

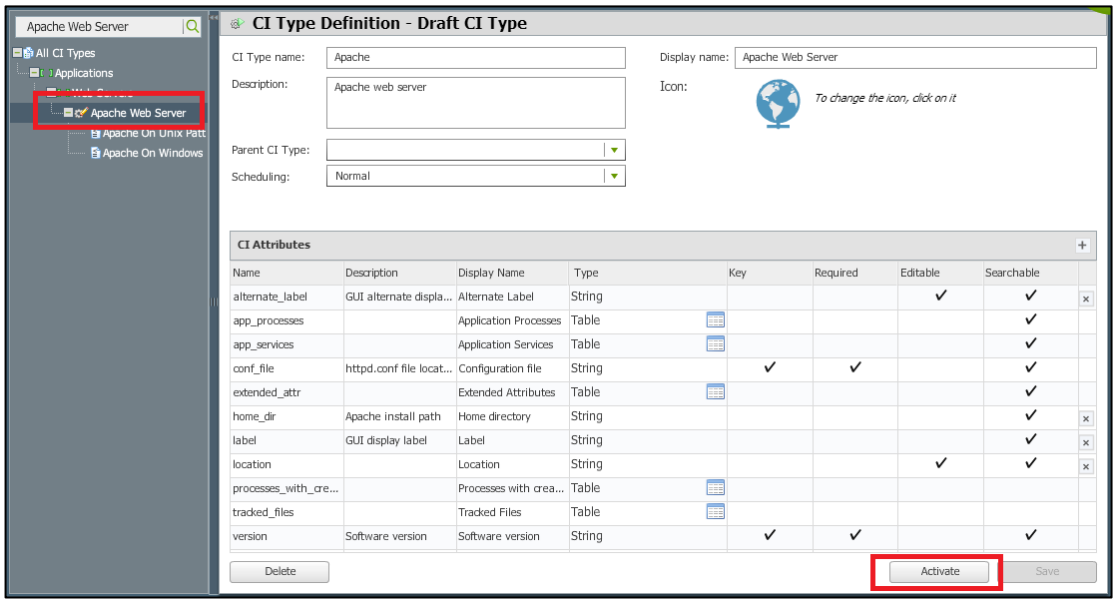


20. Click **Save** in the top-right corner and select **Back to pattern.**



©2015 ServiceNow, Inc. All rights reserved.

21. To activate the changes made to this pattern, first select **Apache Web Server** on the left side and click **Activate** at the bottom right.



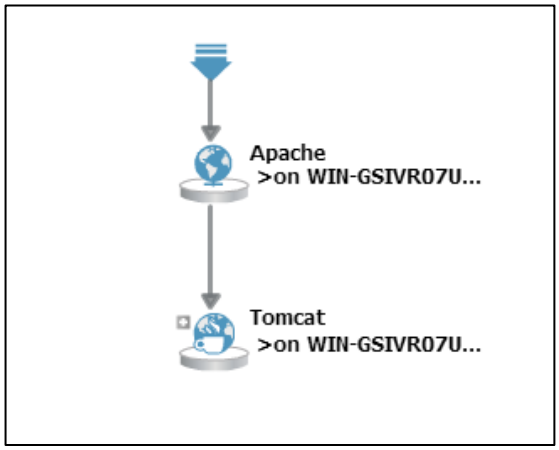
22. Click the **Dashboard** icon at the top to return to the service view.

23. Right-click the **Lab Service** business service in the left corner and select **Rerun Discovery** to rediscover the business service using the new pattern changes.

©2015 ServiceNow, Inc. All rights reserved.

Lab Success Verification

1. Wait for the discovery to complete. Notice the newly discovered connection between the Apache and Tomcat servers.



Progress Report

1. In your ServiceNow instance, navigate to **Lab Management > Report Lab Progress**.
2. Click **I am done!**

®2015 ServiceNow, Inc. All rights reserved.

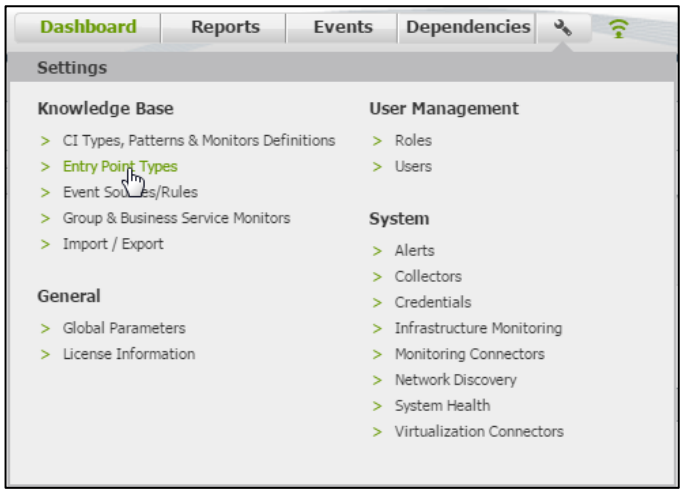
Lab Goal

This lab explains how to create a new entry point and CI type for HSQLDB

Lab 3.1 Create a New CI for HSQLDB

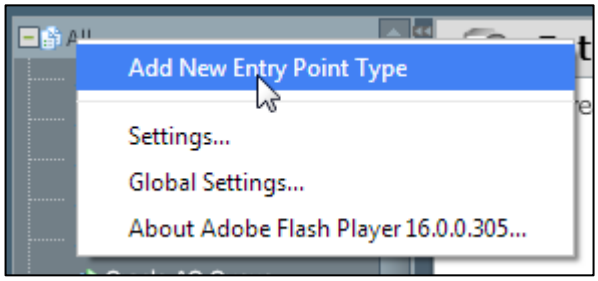
Create an Entry Point for the HSQLDB

1. Click the wrench at the top-right of the screen to bring up the **Settings** dialog. Select **Entry Points Types.**



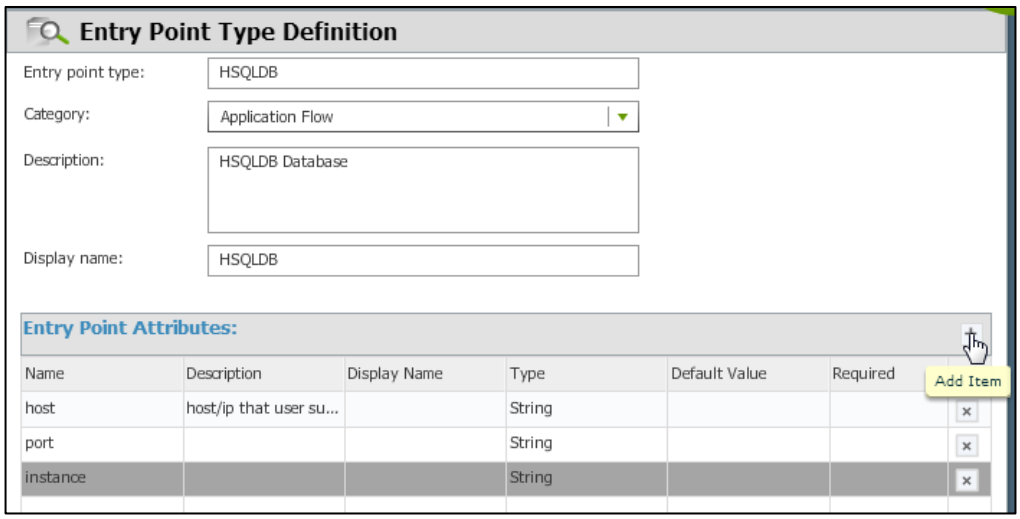
®2015 ServiceNow, Inc. All rights reserved.

2. Right-click on **All** at the top-left of the screen and choose **Add New Entry Point Type**.



3. Enter the following information in the **Entry Point Definition** form. To add more **Entry Point Attributes** click the **(+)** sign on the right side.

   Entry point type: **HSQLDB**
   Category: **Application Flow**
   Descrip**tion: HSQLDB Database**
   Display name: **HSQLDB**
   Entry point attribute 1: **host**
   Entry point attribute 2: **port**
   Entry point attribute 3: **instance**

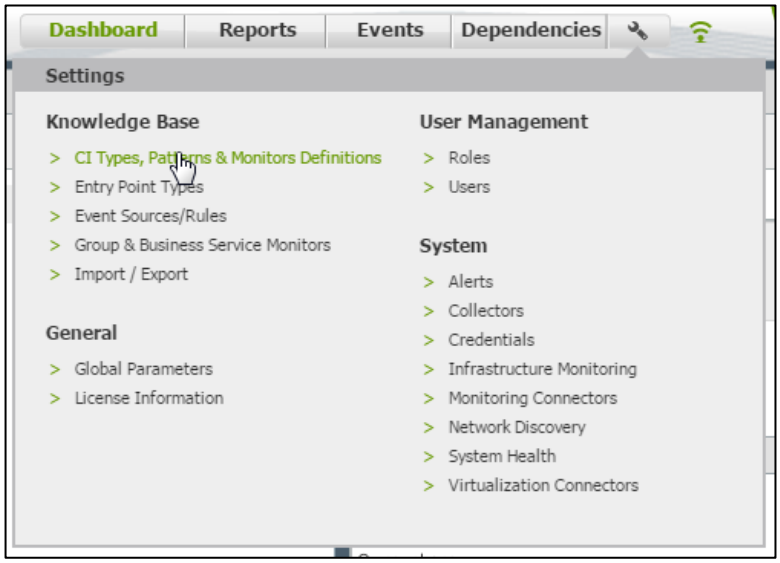


   When you are finished, click **Save**.

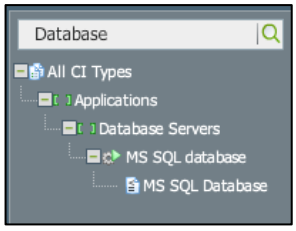
©2015 ServiceNow, Inc. All rights reserved.

Create a New CI Type for the HSQLDB Database

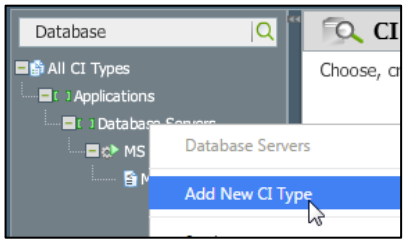
1. Click the wrench at the top-right corner to expand the **Settings** menu. Select **CI Types, Patterns & Monitors Definitions.**



2. Search for **Database** in the search box.



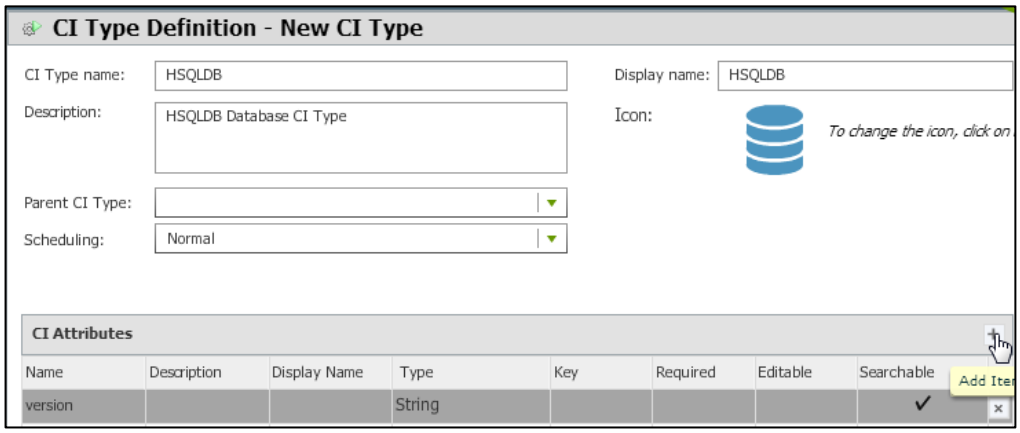
3. Right-click on **Database Servers** and choose **Add New CI Type**.



©2015 ServiceNow, Inc. All rights reserved.

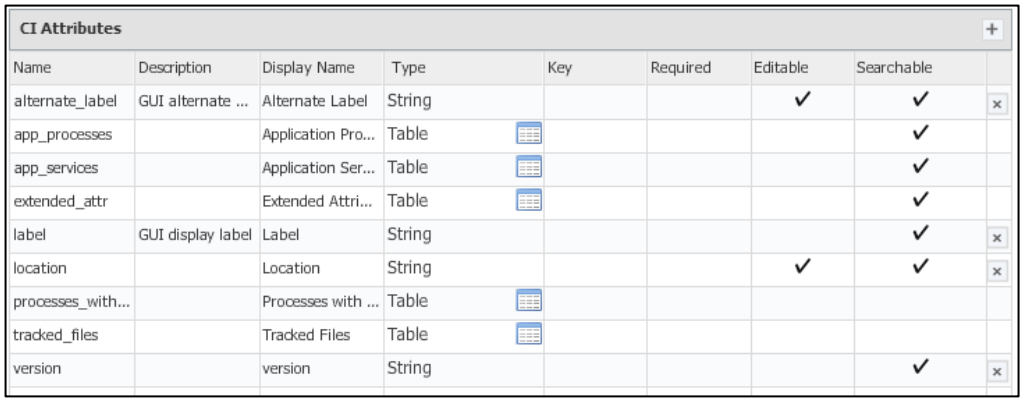
4. Enter the following information in the **CI Type Definition** form. To add more **CI Attributes** click the **(+)** sign on the right side.

   CI Type name: **HSQLDB**
   Display name: **HSQLDB**
   Description: **HSQLDB Database CI Type**
   Parent CI Type: **blank**
   Scheduling: **Normal**
   Icon: Feel free to change the icon by **double clicking the image**
   CI attribute 1: **version**



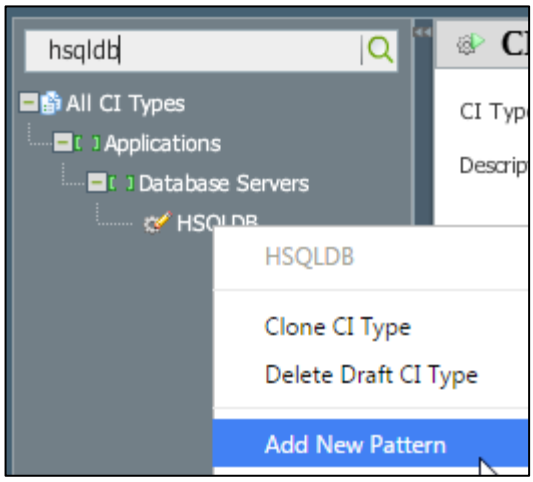
5. Click **Save**.

   Notice that **ServiceWatch** prepopulates other relevant CI attributes.



©2015 ServiceNow, Inc. All rights reserved.

6. Search for the new CI Type by typing **HSQLDB** in the search box and then right-click the HSQLDB CI Type on left side and select **Add New Pattern**.



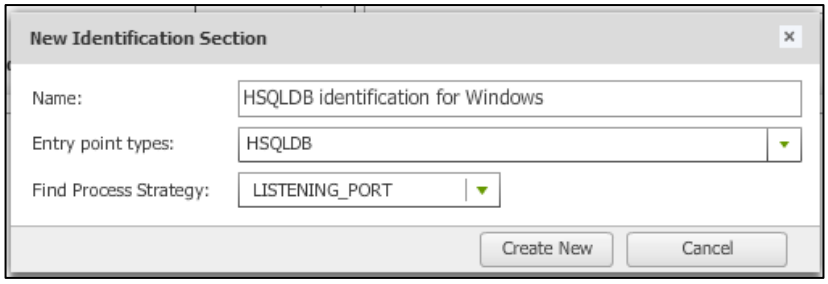
7. Name the pattern **HSQLDB** and a new Identification Section by clicking the **Add new Identification Section** plus sign **(+)** on the right side.



©2015 ServiceNow, Inc. All rights reserved.

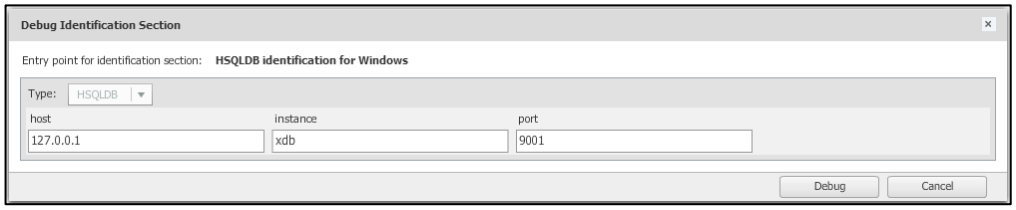
8. Fill out the **New Identification Section** form as follows and click **Create New**.

   Name: **HSQLDB identification for Windows**
   Entry **point types: HSQLDB**
   Find Process Strategy: LISTENING_PORT



9. Click **Debug** and enter the following in the **Debug Identification Section.** Click **Debug**.

   host: **127.0.0.1**
   instance: **xdb**
   port: **9001**



10. Rename the first step to **match HSQLDB** and use the following attributes for the operation to match if this identification should run:

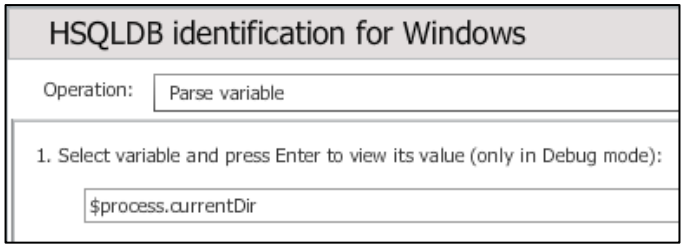
    Operation: **Match**
    Left field: **$process.commandLine**
    Operator: **Contains**
    Right field: **“hsqldb” <-Note: Include the double quotes**



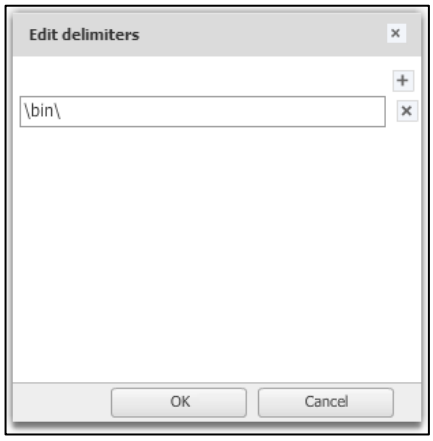
®2015 ServiceNow, Inc. All rights reserved.

11. Create a new step after the previous one and name it **get install dir**. For **Operation**, choose **Parse variable** and enter the following information in the form:

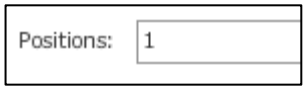
    Operation: **Parse variable**
    Selected variable: **$process.commandLine**



12. Click the **Delimiters** button at the bottom-left of the form and enter **\bin** as the delimiter. Click **OK.**

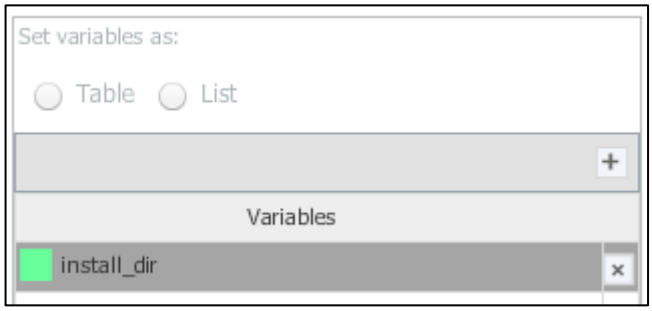


13. Enter **1** in the **Positions** field



®2015 ServiceNow, Inc. All rights reserved.

14. Rename the automatically created variable **__NAME__** to **install_dir**

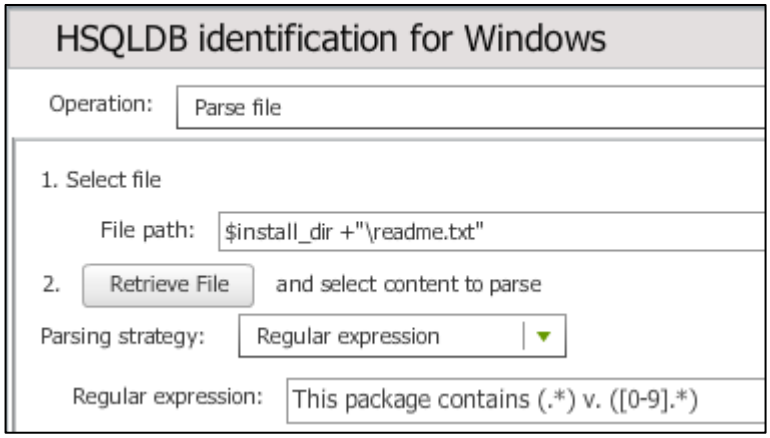


Notice that the install directory without the trailing **\bin** is now the selected part of the string.

15. Create a new step below the previous one and name it **parse Label and Version**. Choose **Parse file** as the operation and enter the following information in the form:

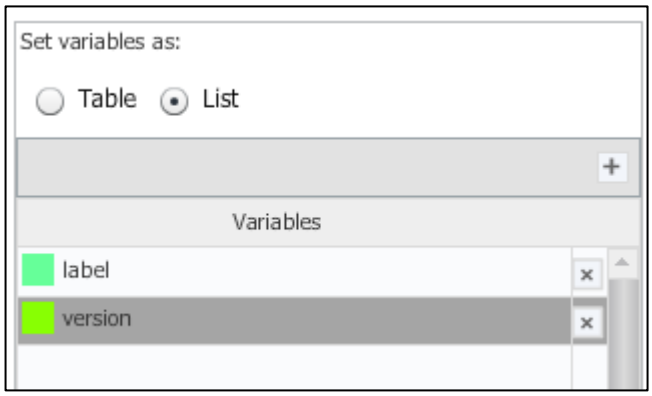
Operation: **Parse file**
File path: **$install_dir +"\readme.txt"**
Parsing strategy: **Regular expression**
Regular expression: **This package contains (.*) v. ([0-9].*)**

Click **Retrieve File**

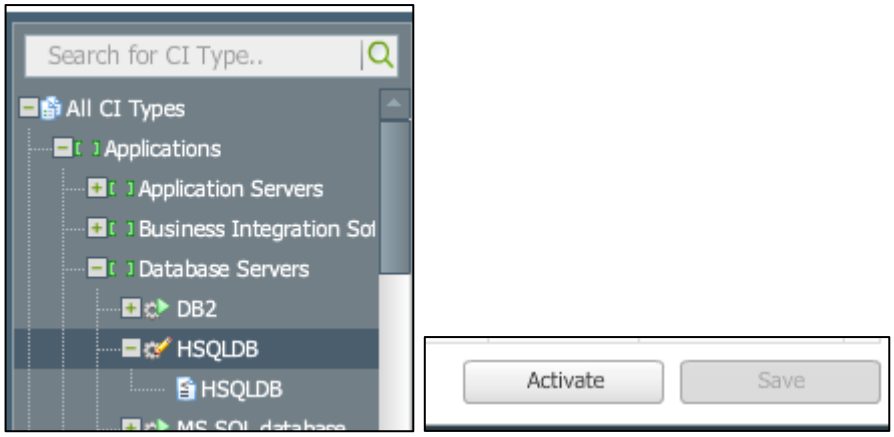


©2015 ServiceNow, Inc. All rights reserved.

16. Create an additional variable and name the two variables **label** and **version**. Set the variables to be of the type **List**.



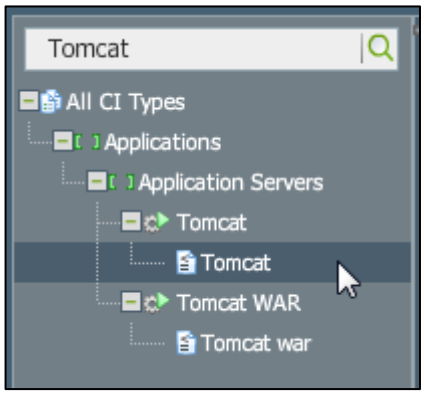
17. Save the pattern by clicking **Save**. Click **Back to patterns**. Remember to activate the new pattern by selecting the **HSQLDB** CI and clicking **Activate** in the lower-right part of the form.



®2015 ServiceNow, Inc. All rights reserved.

Create a Connection between Tomcat and the HSQLDB Database

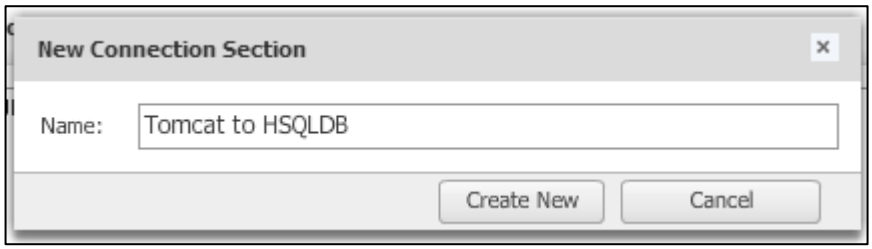
1. Use the search box at the top left hand side to locate and select the Tomcat pattern in list.



2. In the **Connectivity Sections** choose to create a new connection by clicking the plus sign (**+**) on the right side.



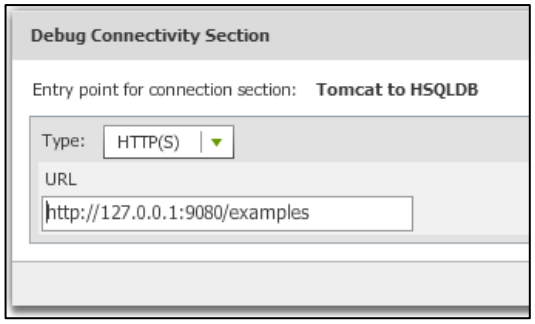
3. Name the new connection **Tomcat to HSQLDB** and click **Create New**



®2015 ServiceNow, Inc. All rights reserved.

4. Enable the debugger by clicking on the **Debug** icon at the top of the screen.
   Enter the following information in the form:

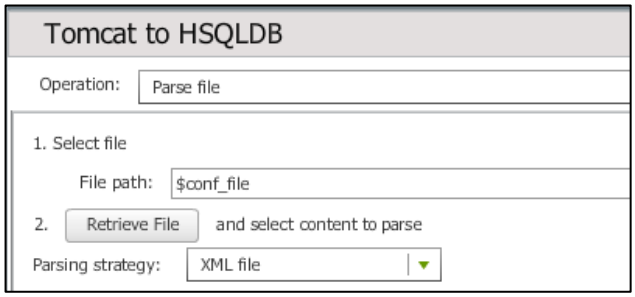
   Type: **HTTP(S)**
   URL: **http://127.0.0.1:9080/examples**



5. Click **Debug**.

6. Rename the first step to **parse server.xml** and use the **Parse file** operation with the following variables:

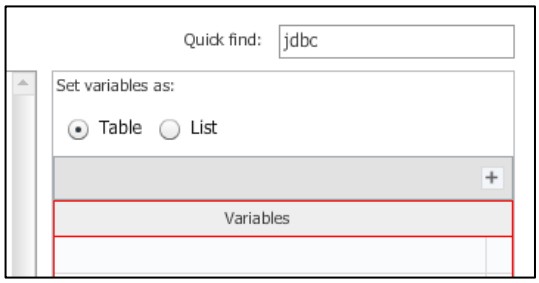
   Operation: **Parse file**
   File path: **$conf_file**
   Parsing strategy: **XML file**



   Click **Retrieve File**

©2015 ServiceNow, Inc. All rights reserved.

7. To find the **jdbc** connection in the server.xml file type **jdbc** in the **Quick find** box on the right side.



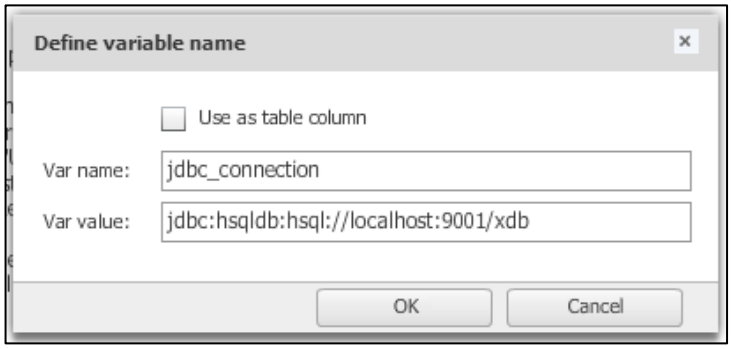
Notice that as you type, the focus is automatically shifted and highlights the corresponding part of the config file.

```
  <Realm className="org.apache.catalina.realm.JDBCRealm" driverName="org.hsqldb.jdbc.JDBCDriver"
connectionURL="jdbc:hsqldb:hsql://localhost:9001/xdb" connectionName="sa" connectionPassword=""/>
 </Realm>
```

8. Select the part of the **jdbc** string that contains **jdbc:hsqldb:hsql://localhost:9001/xdb**

```
  <Realm className="org.apache.catalina.realm.JDBCRealm" driverName="org.hsqldb.jdbc.JDBCDriver"
connectionURL="jdbc:hsqldb:hsql://localhost:9001/xdb" connectionName="sa" connectionPassword=""/>
 </Realm>
```

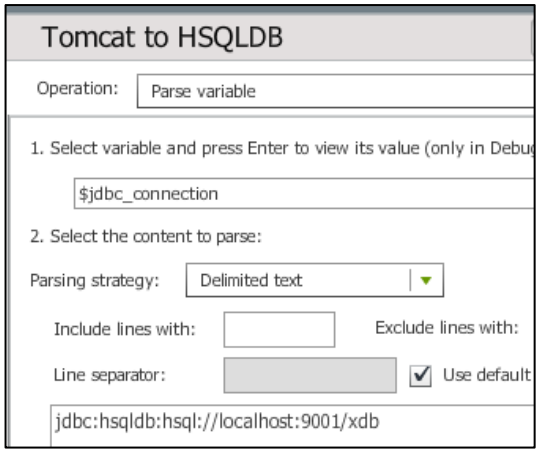
This action brings up a **Define variable name** prompt. Enter **jdbc_connect** as the name of the variable and click **OK**.



©2015 ServiceNow, Inc. All rights reserved.

9. Create a new step after the previous step and call it **parse jdbc variable**. Select **Parse variable** as the type of operation with the following variables:

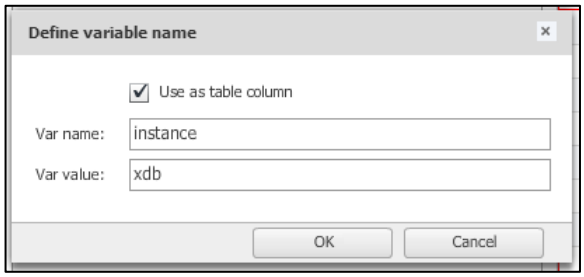
   Operation: **Parse variable**
   File path: **$jdbc_connection**



10. Using your cursor, highlight the string **xdb**.



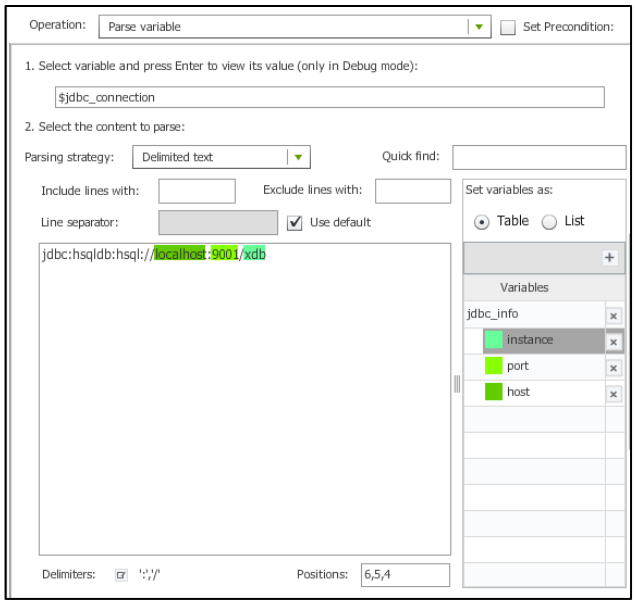
   Select the box **Use as table column** and enter the Var name **instance**.



©2015 ServiceNow, Inc. All rights reserved.

11. Perform the same action for port **9001** as well as for the **localhost**. Name the variables **port** and **host.** Notice how **Delimiters** and **Positions** are automatically populated.

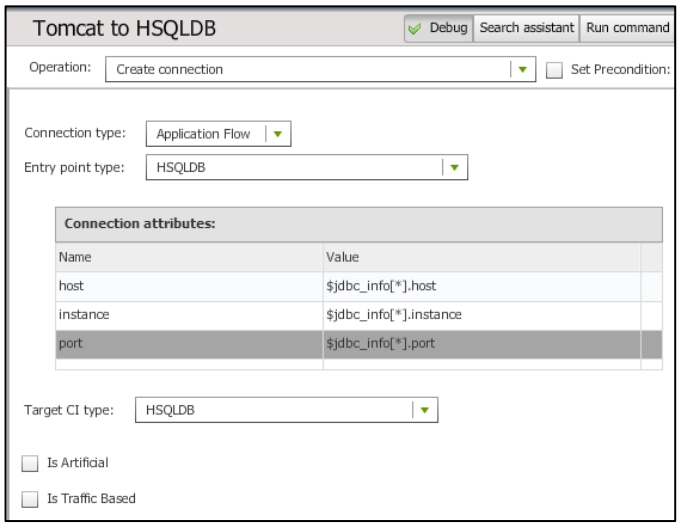
    Rename the table to **jdbc_info**.



®2015 ServiceNow, Inc. All rights reserved.

12. Create a new step after the previous one and name it **create connection**
    Select **Create connection** as the type of operation with the following variables:

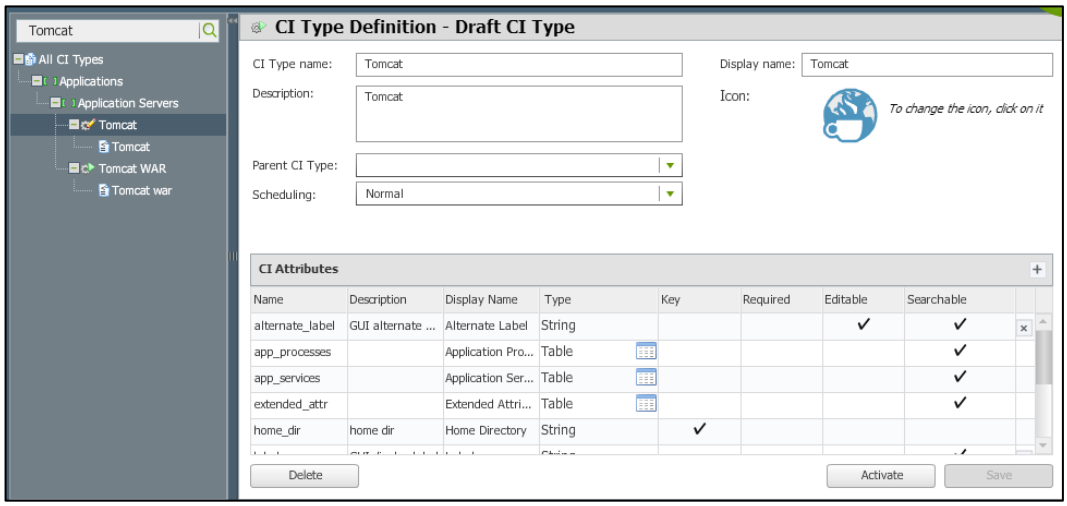
    Operation: **Create connection**
    Connection type: **Application flow**
    Entry point type: **HSQLDB**
    host: **$jdbc_info[*].host**
    instance: **$jdbc_info[*].instance**
    port: **$jdbc_info[*].port**
    Target CI type: **HSQLDB**



13. Click **Save** and return to pattern.

©2015 ServiceNow, Inc. All rights reserved.

14. Select the **Tomcat CI** and choose **Activate** in the bottom-right side of the form to submit the changes to the pattern.



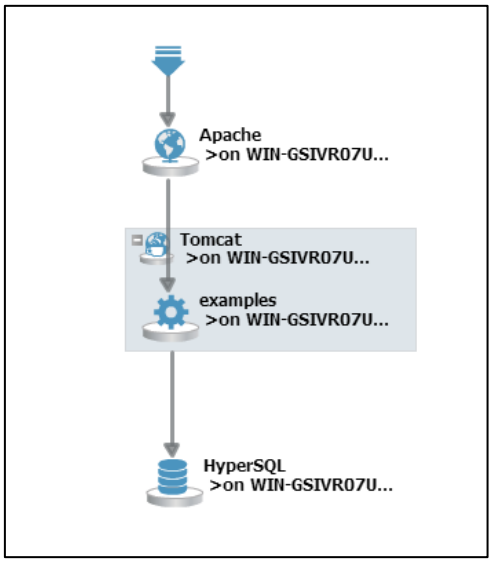
15. Click the **Dashboard** icon at the top to return to the service view.

16. Right-click the **Lab Service** business service in the left corner. Select **Rerun Discovery** to rediscover the business service using the new pattern changes.

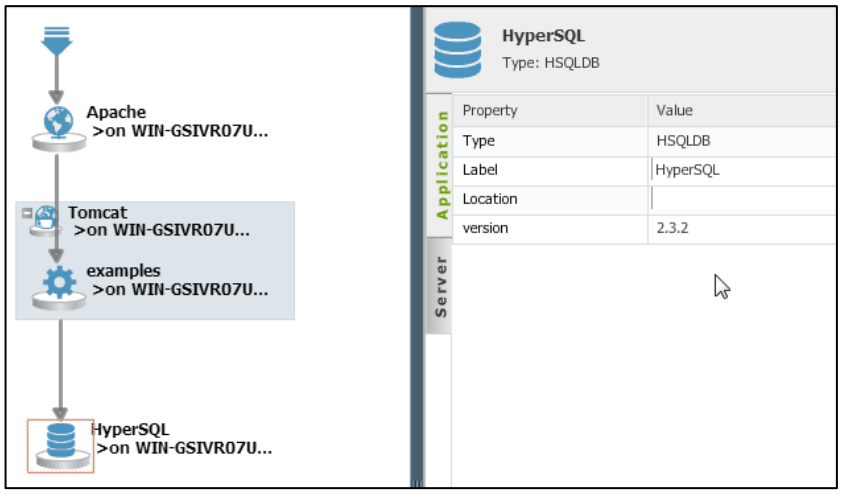
®2015 ServiceNow, Inc. All rights reserved.

Lab Success Verification

1. Wait for the discovery to complete. Notice the newly discovered connection between the Tomcat and the HSQLDB servers.



2. Select the **HyperSQL** server and confirm that the custom CI attributes **Label** and **version** have been populated



Progress Report

1. In your ServiceNow instance, navigate to **Lab Management > Report Lab Progress**.
2. Click **I am done!**

©2015 ServiceNow, Inc. All rights reserved.

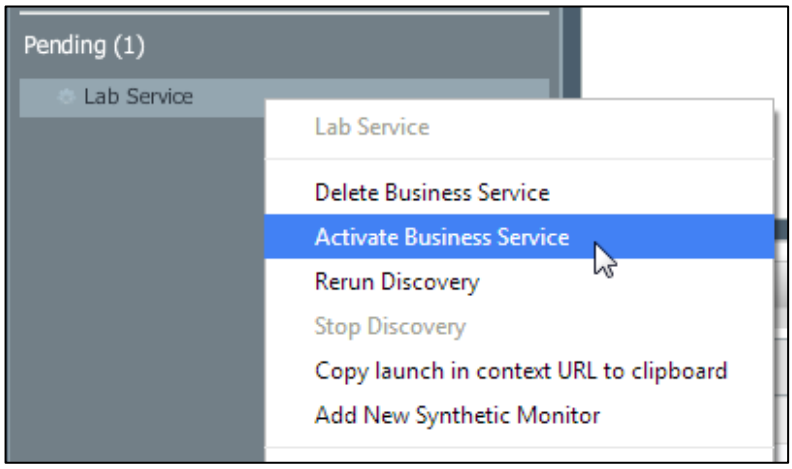
Lab Goal

This lab explains how to set up integration between ServiceWatch and ServiceNow.

Lab 4.1 Integration to ServiceNow

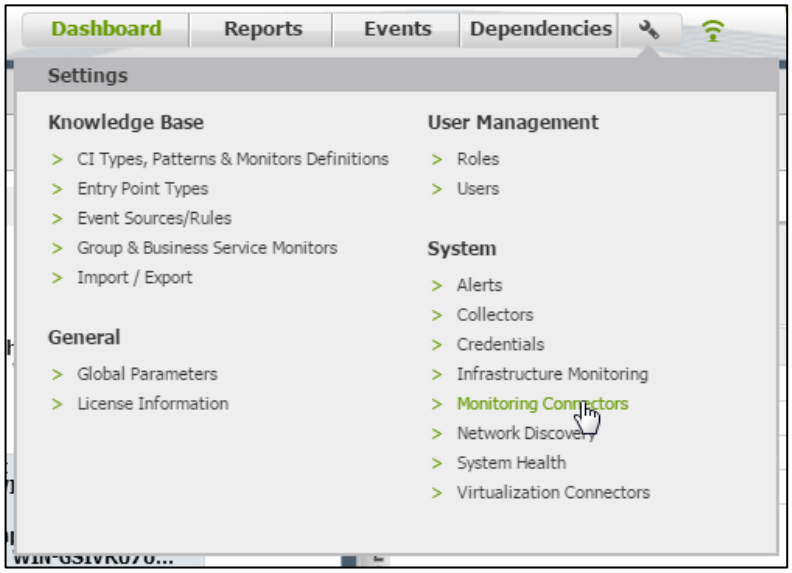
Setting up an Integration between ServiceWatch and ServiceNow

1. Locate your lab service in the bottom-left corner. Right-click the name of the service and choose **Activate Business Service**.

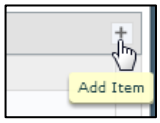


©2015 ServiceNow, Inc. All rights reserved.

2. Click the wrench icon at the top-right corner. Select **Monitoring Connectors**.



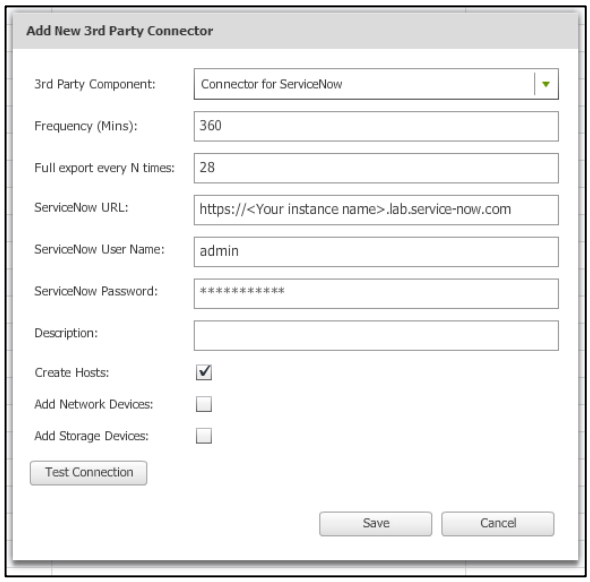
3. Click the plus icon (**+**) on the right side to add a new item.



®2015 ServiceNow, Inc. All rights reserved.

4. Select the **Connector for ServiceNow** in the list of 3rd Party Components and enter the following variables:

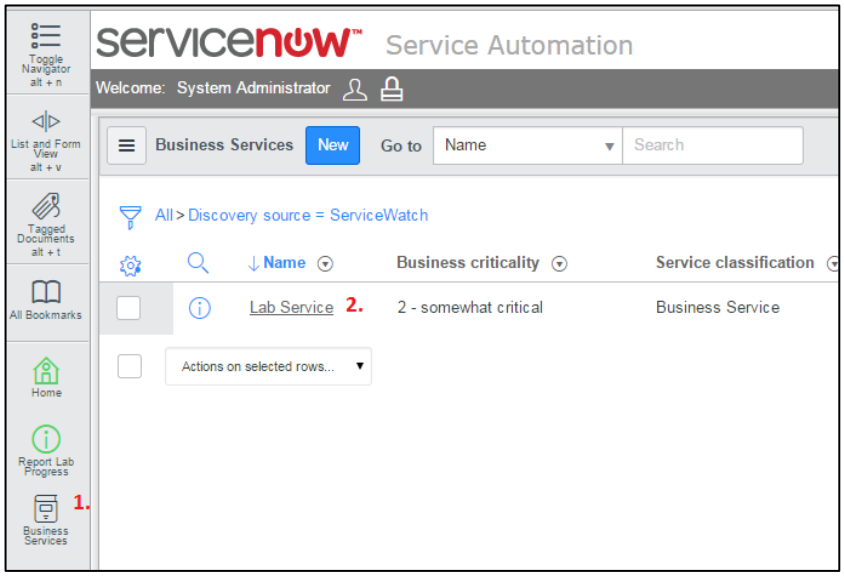
   3rd Party Component: **Connector for ServiceNow**
   Frequency (Mins): **360**
   Full export every N times: **28**
   ServiceNow URL: **https://<your instance name>.lab.service-now.com**
   ServiceNow User Name: **admin**
   ServiceNow Password: **Knowledge15**
   Create Hosts: **Checked**



5. Click **Test Connection** to confirm the connection and then click **Save** on the dialog. Click **Save** one more time on the next screen and then click on the **Dashboard** icon at the top to return to your service map.

®2015 ServiceNow, Inc. All rights reserved.

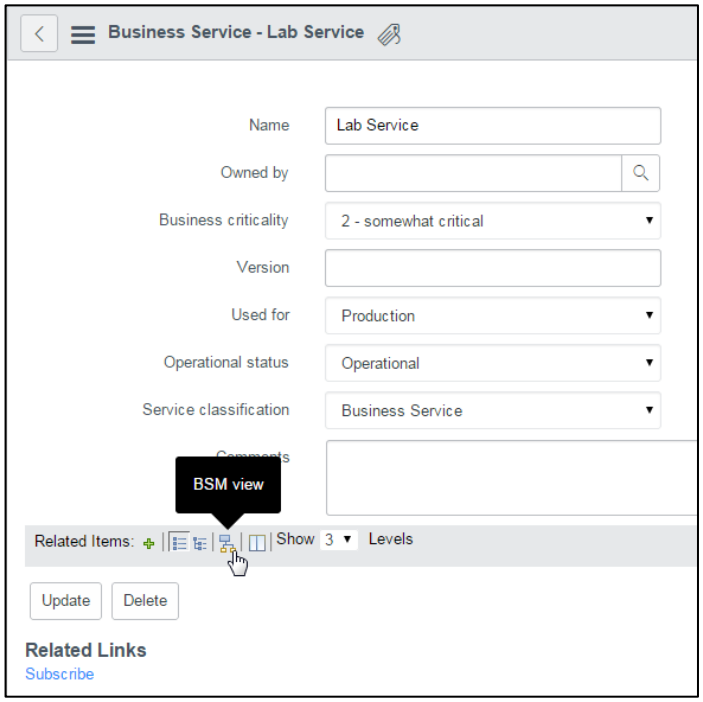
6. First time the integration runs it will take a few minutes. Navigate to your ServiceNow instance and click on the **Business Services** bookmark on the left side. When the integration is complete your service appears in the list.



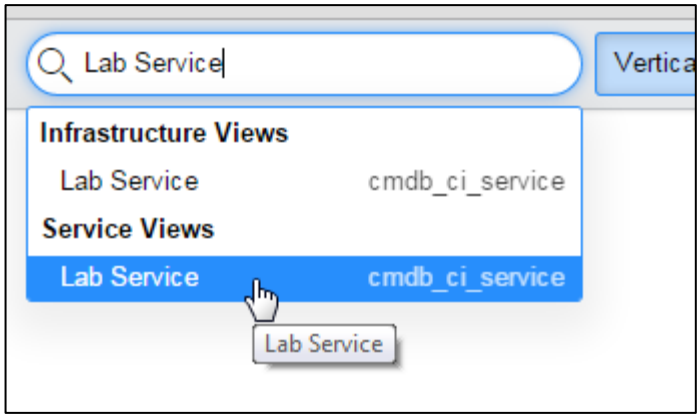
7. After the service is integrated click the name of the service to bring up the details.

©2015 ServiceNow, Inc. All rights reserved.

8. Click the **BSM View** icon to bring up the BSM Map.

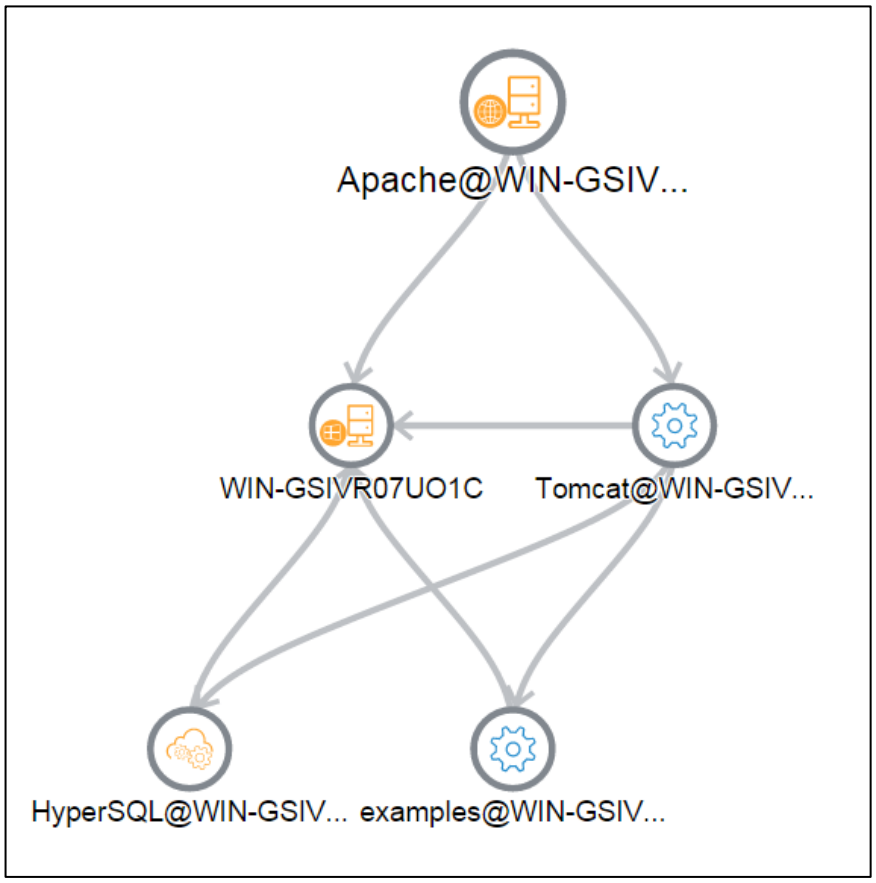


9. The BSM Map defaults to **Infrastructure View**. Since the business service has been created from ServiceWatch, you need to switch to the Service Views. To do so, first locate the search box at the top of the BSM Map and type the name of your service. Select the entry under **Service Views**.



©2015 ServiceNow, Inc. All rights reserved.

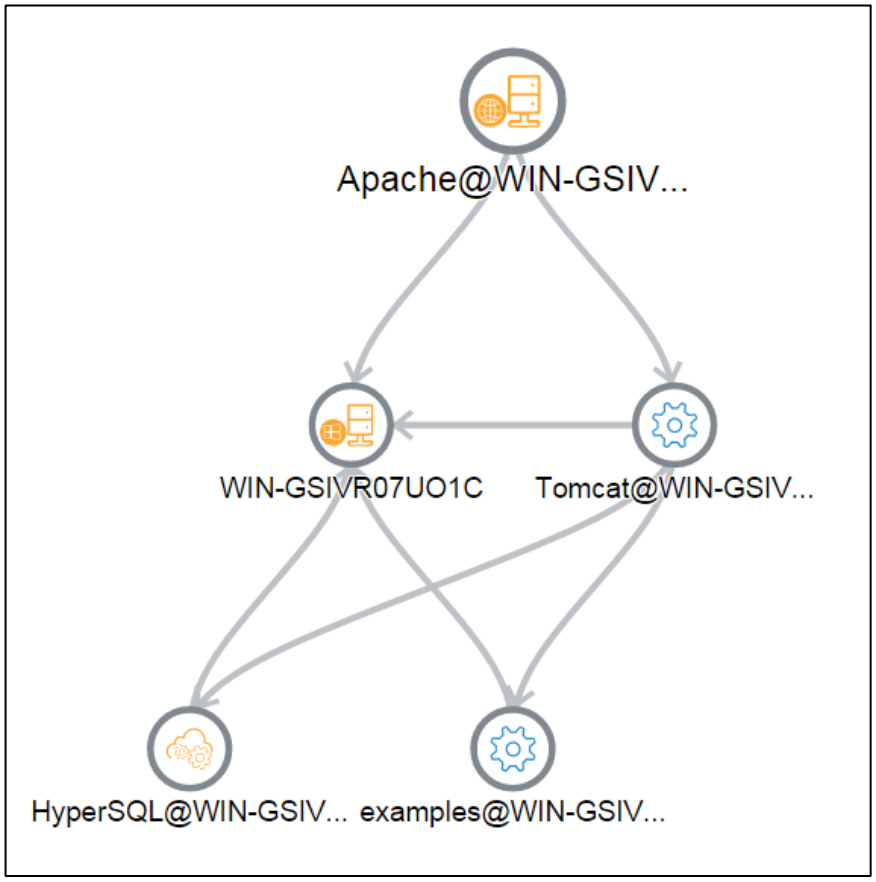
10. The BSM Map now displays the service according to what has been discovered in ServiceWatch.



©2015 ServiceNow, Inc. All rights reserved.

Lab Success Verification

1. The business service from ServiceWatch should now be integrated with ServiceNow and viewable in the BSM Map.



Progress Report

1. In your ServiceNow instance, navigate to **Lab Management > Report Lab Progress**.
2. Click **I am done!**

©2015 ServiceNow, Inc. All rights reserved.