

# Application - Config - Update Application schema

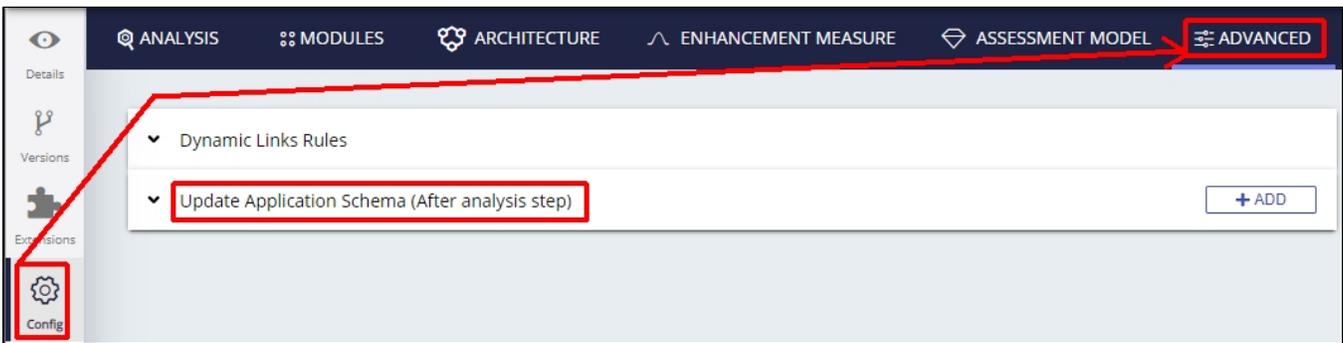
- [Introduction](#)
- [Options](#)
- [Adding a tool](#)
  - [SQL editor validation](#)
    - [Behaviour in Console 1.27.1 and 2.1](#)
    - [Behaviour in Console 1.27.0 and 2.0](#)
- [Changes made](#)

**Summary:** this section explains how to manage specific tools that can be run before or after an analysis to enrich the content of the final snapshot or achieve a specific aim.

## Introduction

To access to the panel, click **Advanced** within the **Application - Config** section. Available tools are explained below.

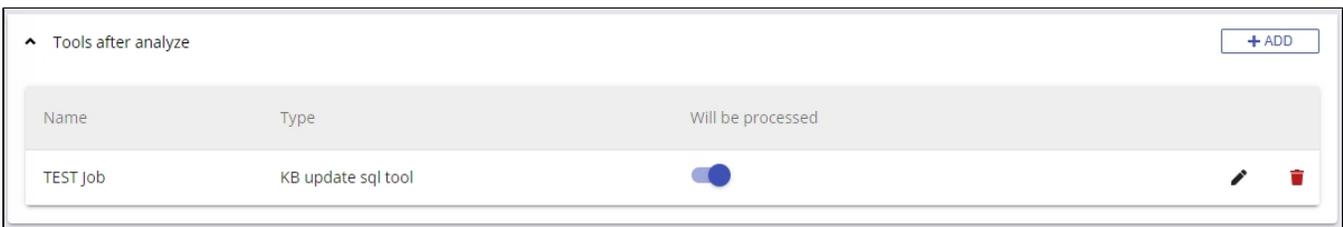
*Click to enlarge*



## Options

This sections lists all the tool "jobs" that will be run immediately **after an analysis has completed**, but **before the snapshot is generated**:

*Click to enlarge*



<a href="#">+ ADD</a>	Click to add a new tool job, see below.
<b>Name</b>	Name of the tool.
<b>Type</b>	Indicates the type of tool that will be run.
<b>Will be processed</b>	This toggles the tool job: <ul style="list-style-type: none"><li>• <b>ENABLED</b> &gt; The tool will be run after the analysis - by default all newly created Tools will be set to ENABLED</li><li>• <b>DISABLED</b> &gt; The tool will NOT be run.</li></ul> When a tool is set to DISABLED, this is usually a temporary action. You should delete the tool if you want to permanently remove it.

	Edit the existing tool.
	Delete the tool.

## Adding a tool

Click the  button - a new form will be displayed:

*Click to enlarge*

 AIP CONSOLE
PB
CLOSE

### CAST Knowledge Base

Name  
Test Tool

---

New test tool

---

Will be processed

Insertion mode  
KB update sql tool

Parameters

SQL code editor

```

1 /* Template creating new links between existing unlinked objects */
2 insert into $CI_LINKS (CALLER_ID, CALLED_ID, LINK_TYPE, ERROR_ID)
3 select caller.OBJECT_ID, called.OBJECT_ID, 'callLink', 0
4 from $CTV_GUID_OBJECTS caller,
5      $CTV_GUID_OBJECTS called
6 where caller.OBJECT_NAME='AUTHORLENGTH'
7        and called.OBJECT_NAME='AUTHORSIZE'

```

SQL syntax errors:

 SAVE AND RUN
 SAVE

<b>Name</b>	Enter a name for the tool.
<b>Description</b>	Enter a description.
<b>Will be processed</b>	<p>This toggles the tool job:</p> <ul style="list-style-type: none"> <li><b>ENABLED</b> &gt; The tool will be run after the analysis - by default all newly created Tools will be set to ENABLED</li> <li><b>DISABLED</b> &gt; The tool will NOT be run.</li> </ul> <p>When a tool is set to DISABLED, this is usually a temporary action. You should delete the tool if you want to permanently remove it.</p>
<b>Insertion Mode</b>	Choose the job type:

	<p><b>KB Update SQL Tool</b></p> <p>The <b>KB Update SQL Tool</b> provides (as its name suggests) a means to modify the content of the Analysis schema (also known as the Knowledge Base) after an analysis has been completed. There are many reasons for this requirement, but to give you some examples of how the assistant could be used:</p> <ul style="list-style-type: none"> <li>• Update links that have been omitted by analyzers when dynamic programming is in use</li> <li>• Update erroneous links identified by grep searches</li> <li>• Managing specific situations (e.g. Java frameworks)</li> <li>• Overcoming specific limitations inherent in a CAST analyzer (for example searching using the parent type and not just on the object name ("class.function()") calls in the Universal Analyzer), ability to handle virtual functions and the ability to ignore links)</li> </ul> <p>The following processes are possible with the assistant:</p> <ul style="list-style-type: none"> <li>• Add a new object</li> <li>• Add a new parent link (Belongs To) to an object</li> <li>• Add/modify/delete the property of an existing object</li> <li>• Delete existing links</li> <li>• Delete existing objects</li> </ul> <p>A set of entry tables in the Analysis schema must be injected with the relevant data that will modify the data. When the <b>KB Update SQL Tool</b> is then run, a specific stored procedure (also located in the Analysis schema) is called which will carry out the update using the data in the entry tables.</p> <p>For more detailed information see <a href="#">Application - Config - Update Application schema - KB Update SQL Tool</a>.</p>
<b>Parameters</b>	<i>Not currently used.</i>
<b>SQL Code editor</b>	<p>Enter the SQL code to be executed in this section. Only <b>standard SQL</b> is supported.</p> <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <p> <b>Use of section sign §</b></p> <p>In <b>Console 1.22</b>, the <b>section sign §</b> (HTML code <code>&amp;#167;</code>) <b>MUST</b> be used as a <b>variable in front of any table name</b>. This character will be replaced by the name of the Analysis schema (attached to the current Application) with a dot separator. For example, this code is acceptable:</p> <pre style="background-color: #f9f9f9; padding: 10px; border: 1px solid #ccc;"> Insert into §CI_OBJECTS_SET(SET_NAME,OBJECT_ID,ERROR_ID) Select distinct '§(ModuleName)',o.OBJECT_ID,0 From §CDT_OBJECTS o where OBJECT_ID in ( select distinct cf.OBJECT_ID                     from §CSV_FILE_OBJECTS cf                     where upper(FILE_PATH) like '%\\JEE\\CLIENT\\%' )</pre> <p>In <b>Console 1.23</b>, the section sign is no longer required in front of any table name. Any referenced tables will be assumed to belong to the current Application's Analysis schema.</p> </div>
<b>Run Tool</b>	This button is disabled until the form has been successfully saved. Once saved, you can use this button to execute the current tool.
<b>Save and Run</b>	This button will save the data in the tool and then execute it immediately. See <b>SQL editor validation</b> (below) for more information about the validation process in place.
<b>Save</b>	This button will save the data in the tool. See <b>SQL editor validation</b> (below) for more information about the validation process in place.

## SQL editor validation

### Behaviour in Console 1.27.1 and 2.1

In Console 1.27.1 and 2.1, SQL validation is not performed when the **Save** or **Save and Run** button is clicked. If the editor contains a syntax error:

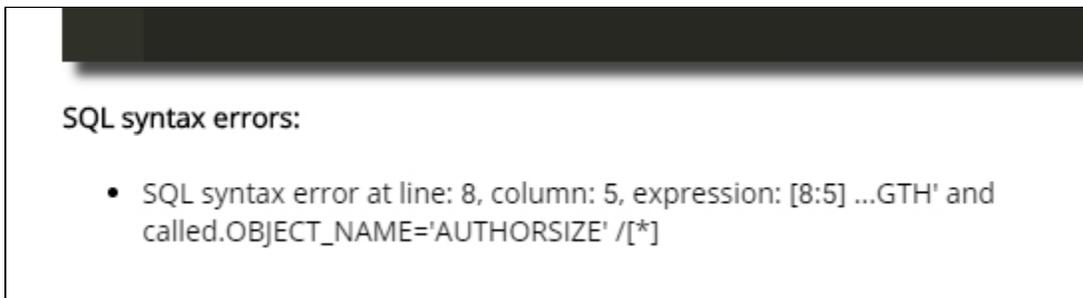
- When you click **Save and Run** and the editor contains a syntax error, then the content is saved regardless (when you try to run the job an error will occur).
- If you click **Save** and the editor contains a syntax error, then the content is saved regardless (when you try to run the job an error will occur).

It is possible to **enable SQL validation**, if required see [Configuring SQL validation](#).

### Behaviour in Console 1.27.0 and 2.0

In Console 1.27.0 and 2.0, an SQL validation process is in place as follows. When the form is saved (**Save** or **Save and Run** button is clicked):

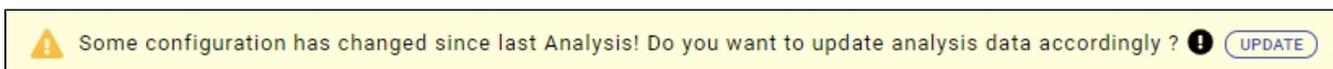
- all the SQL queries are checked for syntax errors.
- if any errors are detected, the errors are displayed underneath the editor and will need to be corrected before the form can be saved:



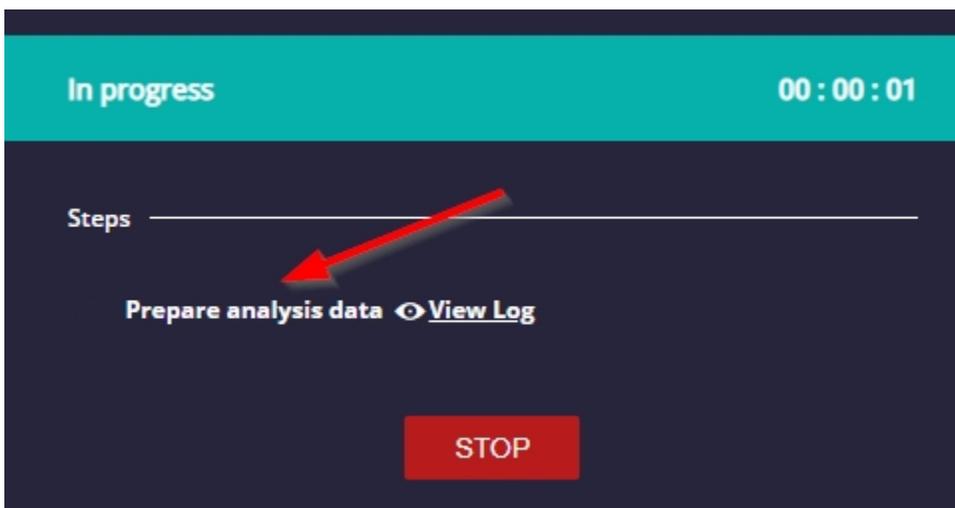
- if no errors are found, the queries are checked against a list of allowed query rules, as follows:
  - The changes are allowed only on **specific tables in the Analysis schema** (those with the "ci\_" prefix) and **temporary tables** (with "main\_t\_tmp\_" prefix)
  - SELECT - it is permitted to select from any table. If select is used with a function, then only the "droptemporarytable" function is allowed and only with a temporary table name parameter
  - INSERT INTO - insertion is permitted only into Analysis schema tables or temporary tables
  - UPDATE / DELETE - only temporary table records can be updated or deleted
  - CREATE TABLE / DROP TABLE - only temporary tables can be created or deleted
  - Only statements mentioned in this list are allowed
  - Subqueries are also validated
- finally, the data in the tool is saved.

## Changes made

Any changes made in the **Update Application schema** page (e.g. adding a new tool job) will cause a banner to appear at the top:



This indicates that the changes you have made will impact your analysis results and therefore that the data that is used for the Architecture Studio, Transaction configuration and upload to CAST Imaging will not be up-to-date. Clicking the **Update** button in the banner will run a special step called **Prepare analysis data** that should complete relatively quickly (more quickly than a full analysis or snapshot) and ensures that the data used by the Architecture Studio, Transaction configuration and upload to CAST Imaging is up-to-date based on the changes you have made.



This step is always actioned when you either run an analysis (without a snapshot) or generate a new snapshot. When the **Prepare analysis data** step is complete, the banner will no longer be displayed.