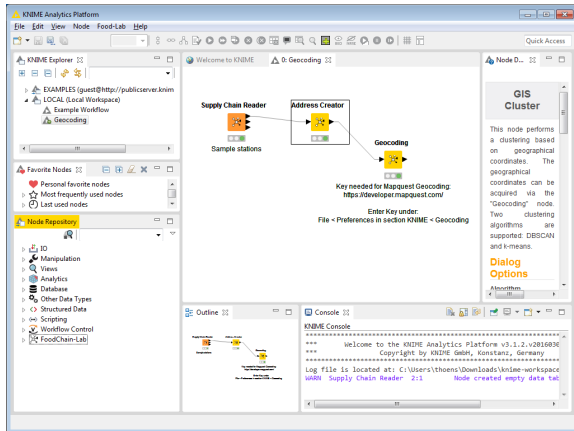
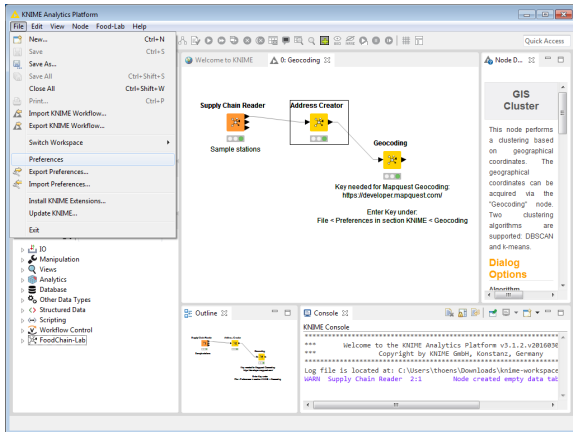


# Geocoding in FoodChain-Lab

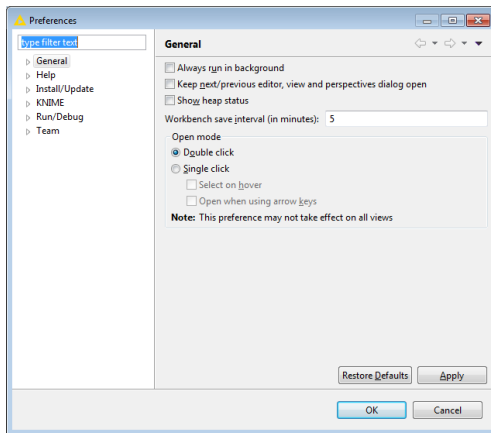
- Perform a geocoding by using the Geocoding workflow from <https://github.com/SiLeBAT/BfROpenLabResources/raw/master/GitHubPages/workflows/Geocoding.zip>.
- Use "Street", "HouseNumber", "City" and "Country" as input parameters.
- Do the geocoding by using the MapQuest Geocoding Service.



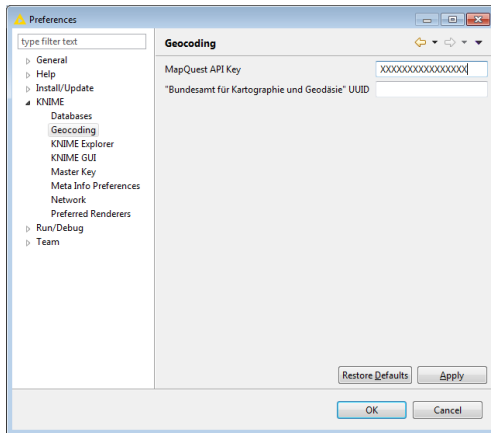
- Import the Geocoding workflow from <https://github.com/SiLeBAT/BfROpenLabResources/raw/master/GitHubPages/workflows/Geocoding.zip>.
- In this tutorial we are using the MapQuest Open Geocoding service.



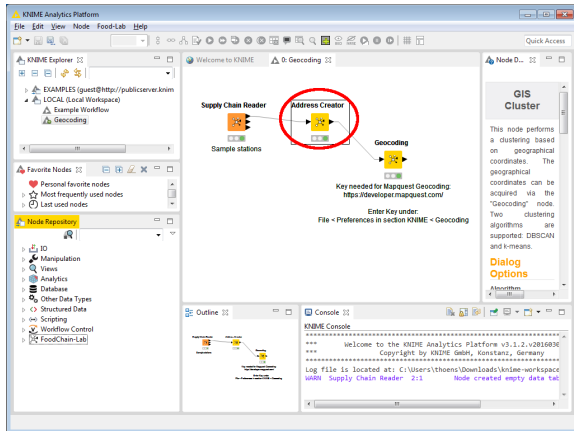
- For using MapQuest you have to register and create a key at <https://developer.mapquest.com>
- This key has to be entered in the KNIME preferences.
- Select **File < Preferences** in the menu bar.



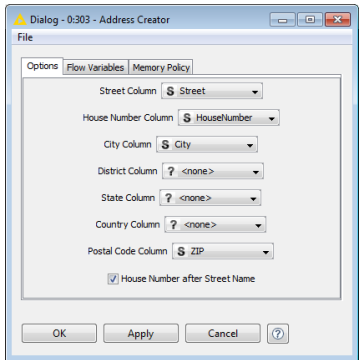
- The Preferences dialog will pop up.
- Here you can specify all preferences for KNIME and FoodChain-Lab.



- Select **KNIME** < **Geocoding** in the navigation tree on the left.
- Enter your **MapQuest Application Key** and press **OK**.

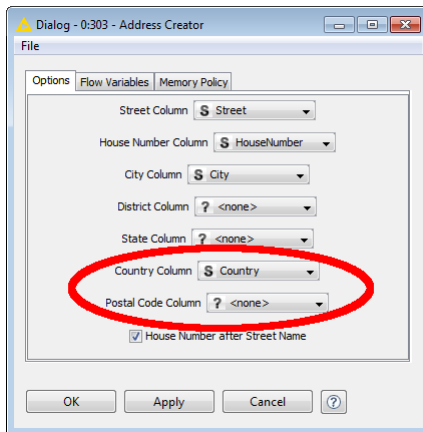


- To perform geocoding we need one column with addresses in our data table. The **Supply Chain Reader** puts out all parts of the address (street, city, ...) in different columns.
- The address column is created via the **Address Creator** node.
- Double click on this node to open its dialog.

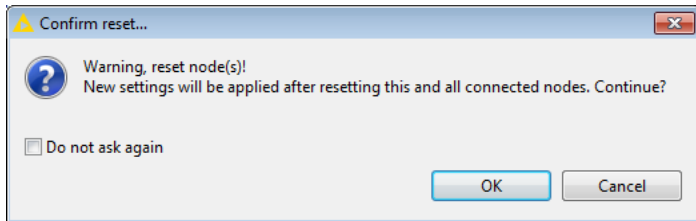


- In the dialog you can specify the columns that should be used for creating the address column.

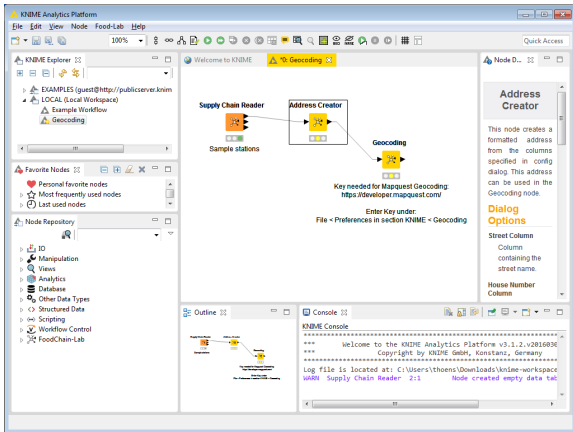




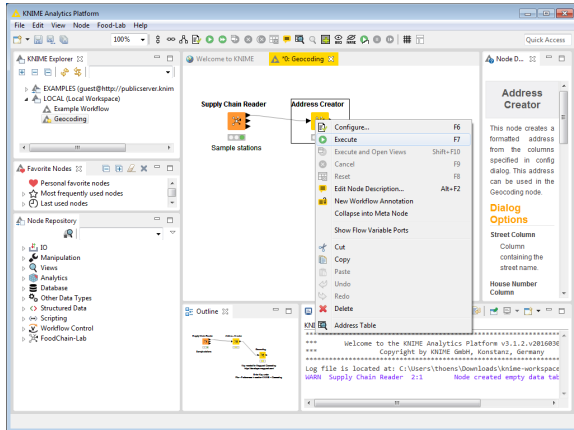
- Since we want to do the Geocoding based on "Street", "HouseNumber", "City" and "Country", we have to set the **Country Column** to "Country" and the **Postal Code Column** to "none".
- Press **OK** to close the dialog.



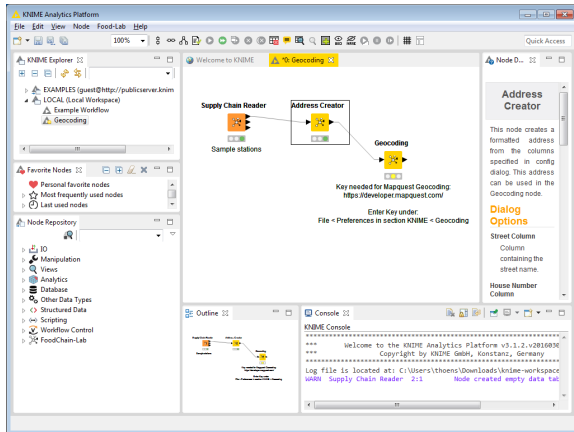
- Since we changed the settings, the node resets automatically.
- Press **OK**.



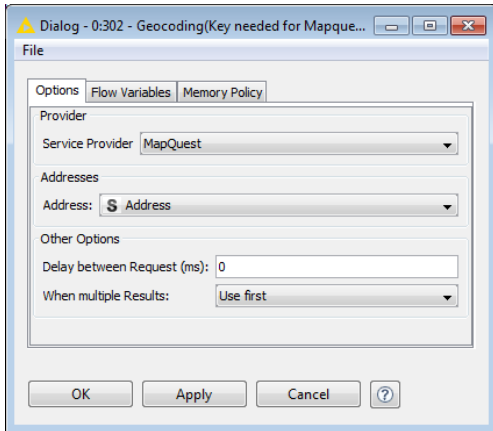
- The configuration for the **Address Creator** has been updated.



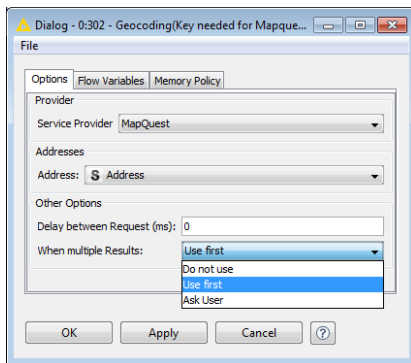
- Right click on the **Address Creator** node and select **Execute**.



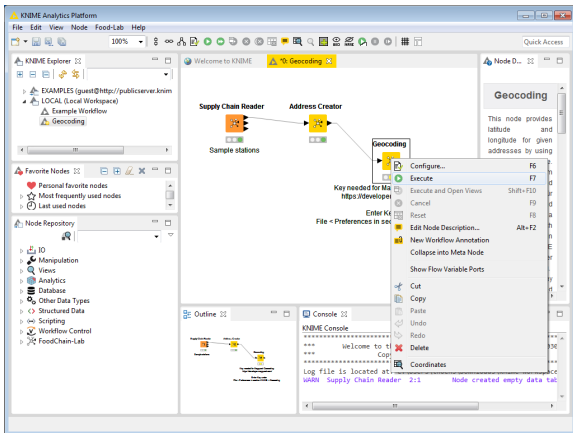
- Now that we updated the **Address**, the geocoding can be set up.
- Double click on the **Geocoding** node to open its dialog.



- Here you can specify the **Service Provider** for geocoding and the column that should be used.
- Both are already correctly set, so we don't need to change anything here.

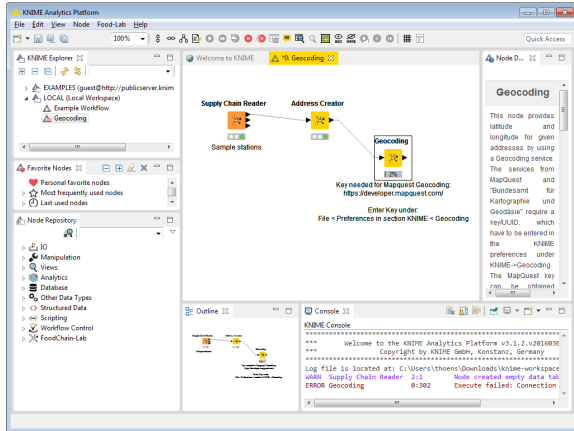


- For many requests geocoding services return multiple results (e.g. when there are two streets with the same name).
- To deal with this we have to decide if we just want to use the first or look at all choices and try to find the best.
- Looking manually at all choices is a lot of work for large data sets. In this tutorial select **Use first** and press **OK**.

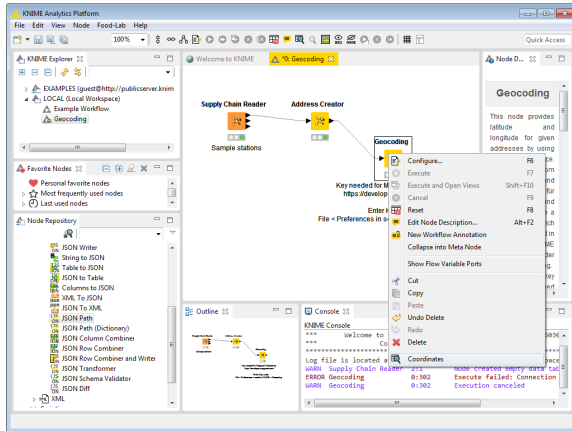


- Right click on the **Geocoding** node and select **Execute**.





- The execution can take a while.
- The progress bar under the node shows what percentage of data has been processed.



- When the execution is finished, we can look at the results.
- Right click on the **Geocoding** node and select **Coordinates**.

Coordinates - 0:302 - Geocoding (Key needed for Mapquest Geocod...)

File

Table: default - Rows: 756 Spec - Columns: 29 Properties Flow Variables

Row ID	ID	S node	S Street	S HouseN...	S ZIP	S City	S
Row0	1	Hedemair Andr...	Nebelhornstra...	46	87561	Oberstdorf	?
Row1	2	Frank Adolf	Dammkarlstrasse	39	82481	Mittenwald	?
Row2	3	Vogel Anton	Weller Strasse	5	87527	Fischen	?
Row3	4	Schaich Peter	Bogenstrasse	2	87527	SONTHOFEN	?
Row4	5	RAEDLER HORST	GRUENTENST...	7	87527	SONTHOFEN	?
Row5	6	Otte	Lettenweg	11	79639	Grenzach-W...	?
Row6	7	SCHLAGETER T...	MARGKRAFEN...	47	79639	GRENZACH-...	?
Row7	8	Riedl-Leirer Mo...	Friedrichstrasse	92	79713	Bad Säckingen	?
Row8	9	Riescher Peter	Badeweg	3	87509	Immenstadt	?
Row9	10	Büchle Ewald	Hardstrasse	41	79618	Rheinfelden	?
Row10	11	Ammergauer R...	Schnitzlergasse	9	82487	Oberammer...	?
Row11	12	Martin Paul	Hauptstrasse	3	79804	Dögern	?
Row12	13	Kracht Roland	Römerstrasse	13	79541	Lörrach	?
Row13	14	Bächle Bernhard	Hauptstrasse	125	79689	Schopfheim	?
Row14	15	Gneiner H. D.	Ernst-Lehman...	12	88045	Friedrichsha...	?
Row15	16	Pantele Norbert	Petersgasse	3	82418	Murnau	?
Row16	17	Wolf Walter	Am Gries	2	83674	Lengries	?
Row17	18	Höferlin Paul	Fullastrasse	4	79415	Bad Bellingen	?
Row18	19	MOHR, KARL	ROSENHEIME...	35	83098	BRANNENBU...	?
Row19	20	Mees Friedemann	Tegginger Stra...	9	78315	Radolfzell	?
Row20	21	WAGNER XAVER	HAUPTSTRASSE	47	83324	RUHPOLDING	?
Row21	22	Jung Ralf	Im Thal	2	82377	Penzberg	?
Row22	23	Sautter Alfons	Bodenseestrasse	106	88682	Mimmenhau...	?
Row23	24	Guggenbichler ...	Münchner Stra...	11	83703	Gmund	?
Row24	25	Planthaler Zwei...	Salz-Strasse	12	83451	Piding	?
Row25	26	Stumpf Jürgen	Dorfstrasse	16	86977	Rettenbach	?

- In the dialog that pops up, you can look at the whole data table.

Coordinates - 0:302 - Geocoding (Key needed for Mapquest Geocod...)

File

Table: default - Rows: 756 Spec - Columns: 29 Properties Flow Variables

Row ID	GeocodingDis...	S GeocodingState	S Geocod...	S Geocod...	D Geocod...	D Geocod...
Row0	dkreis Oberl...	Free State of Bav...	DE	50662	10.186	10.784
Row1		?	US	?	39.784	-100.446
Row2	nergruppe (VG...	Free State of Bav...	DE	87527	10.186	10.272
Row3	dkreis Oberl...	Free State of Bav...	DE	87527	47.512	10.28
Row4	dkreis Oberl...	Free State of Bav...	DE	87527	47.513	10.279
Row5	dkreis Lörrach	Baden-Württemberg	DE	79639	47.549	7.869
Row6		?	US	?	39.784	-100.446
Row7	waltungsgemei...	Baden-Württemberg	DE	79739	47.558	8.169
Row8	dkreis Oberl...	Free State of Bav...	DE	87527	47.501	10.272
Row9		?	US	?	39.784	-100.446
Row10	dkreis Garmisc...	Free State of Bav...	DE	83324	47.503	11.378
Row11	waltungsgemei...	Baden-Württemberg	DE	79804	47.606	8.169
Row12	waltungsgemei...	Baden-Württemberg	DE	79739	47.591	7.869
Row13	waltungsgemei...	Baden-Württemberg	DE	79650	47.661	7.838
Row14	lenseekreis	Baden-Württemberg	DE	88682	47.765	9.286
Row15	dkreis Garmisc...	Free State of Bav...	DE	82418	47.679	11.2
Row16		?	US	?	39.784	-100.446
Row17		?	US	?	39.784	-100.446
Row18	dkreis Rosenh...	Free State of Bav...	DE	83098	47.738	11.378
Row19	dkreis Konstanz	Baden-Württemberg	DE	78315	47.739	8.973
Row20	dkreis Traunstein	Free State of Bav...	DE	83324	47.767	12.64
Row21	dkreis Weilhei...	Free State of Bav...	DE	82377	47.756	11.378
Row22	lenseekreis	Baden-Württemberg	DE	88682	47.765	9.286
Row23	dkreis Miesbach	Free State of Bav...	DE	83703	47.768	11.725
Row24	dkreis Berchte...	Free State of Bav...	DE	83451	47.759	12.901
Row25	enstein (VGem)	Free State of Bav...	DE	93191	49.069	12.456

- Scroll to the right to look at the columns with latitude and longitude (the two rightmost columns).
- Some geocoding requests were not successful. MapQuest returned US coordinates, although all addresses are in Germany.