Kitematic is a FOSS project for managing and running Docker containers with a GUI. This software was extended as part of this work by adding a simple form for controlling options of workflows, i.e. input parameters.

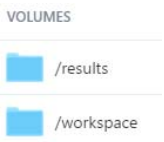
Getting started - Build the container from the image on Docker Hub

- Unzip the 'Kitematic' zip-file and run 'Kitematic.exe'
- Search for the repository 'qgis-model'
- Make sure to have the correct tag selected: click on ooo and then SELECTED TAG: latest (by default it says 'latest'): choose the tag 'rs-jonjona'. Close dialogue by clicking the ⊗
- Click CREATE to build the container from the image (all required files will be downloaded automatically)
- When first created, the container will start an initial run

Run container

- In the 'Containers' list on the left choose the container 'qgis-model' (if you have created the container from the correct image, it should have a sub-heading 'qgis-models:rs-jonjona')
- Start the container by clicking the ▷ START -Button. This will automatically run the analysis inside the container.

Enable access to results



- While the container is running a window with available volumes will appear on the right →
- Click on the '/results' volume
- When opening for the first time, you will be asked to confirm you want to enable the volume. Click 'Enable Volumes'
- Your file browser will open in the local folder containing the mounted volume. The 'results' folder contains sub-folders with the results (the shapefiles) of each model run, with the latest folder containing the results of the last run. Once the volume was enabled, results can always be accessed through this local folder in your normal file browser. You can copy the output files into any folder on your disk, open them in your preferred GIS etc.
- You can also access the volumes through the 'Settings' Tab and the 'Volumes' sub-tab (see Figure 1). It shows the folders within the Docker Container and corresponding local folders in your file system. Click on the corresponding link under 'LOCAL FOLDER' to open it. You can also manually define/change the location of the local folders on your file system by clicking CHANGE .

Change Input Parameters

- Click the 'Settings' Tab. The resulting page provides access to all kinds of container settings through sub-tabs (including the 'Volumes' sub-tab mentioned above)
- Choose the 'Model' sub-tab
- On the following page under 'Model Options' you can choose your preferred settings for the three model parameters (See figure 1). Hover over an option to see a tooltip explaining the parameter.
- Click SAVE AND RUN to save the settings and run the analysis with the new parameters.

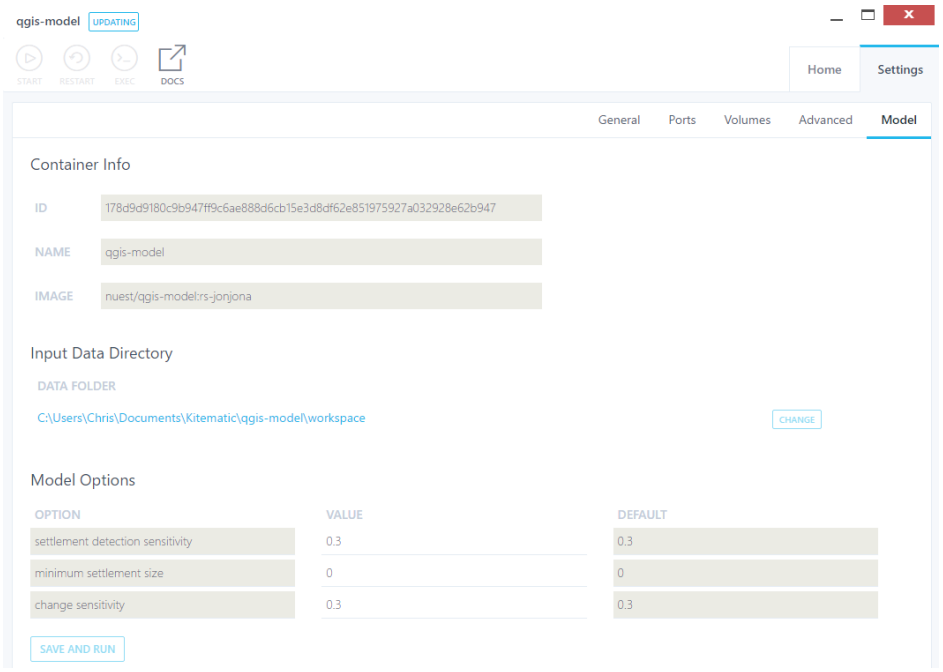
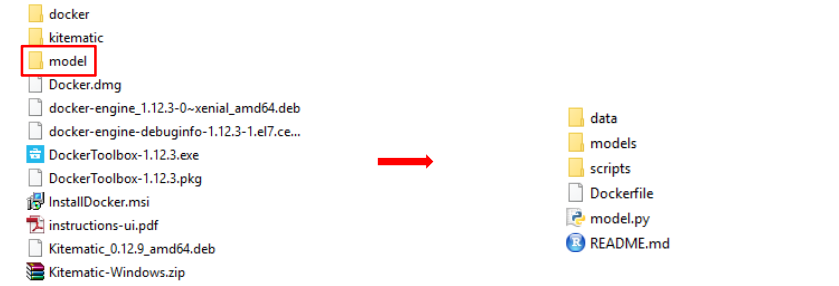


Figure 1: Overview of the 'Model Options' sub-tab. The ‘Volumes’ sub-tab can also be accessed through ‘Settings’.

Change Input Data

You can modify the ‘workspace’ of the containerized method by manipulating the corresponding local folder, e.g. to change the input images :

- If necessary, enable the 'workspace' volume by clicking on it on the 'Home' tab, or through the ‘Volumes’ sub-tab under ‘Settings’ (similar to the ‘/results’ volume)
- The local workspace folder will now be available in your file browser and you can now mount files into the workspace within the container simply by copying them into this local folder
- When enabling the volume for the first time, you will have to copy the workspace into the local folder (otherwise the container will not use any newly added data, but instead use the default workspace within the container). To do so, copy the whole content of the 'model' folder provided within this example package into the local 'workspace' folder.



copy the content of ‘model’ into your ‘workspace’ folder

your ‘workspace‘ folder should look like this

- The ‘data’ folder within ‘workspace’ contains the images of the Jonjona study area (including preview images). You can change the input images by copying them into this folder overwriting the existing images (they need to have the same format and names, i.e. 'pre-conflict.tif' and 'post-conflict.tif')
- The container will now use this workspace when running. If you have copied new images into the ‘data’ folder, those images will be used

Known Issues

- When you access the 'Model' tab under settings, the container automatically updates and starts. You can just stop it by clicking the 

- Button