

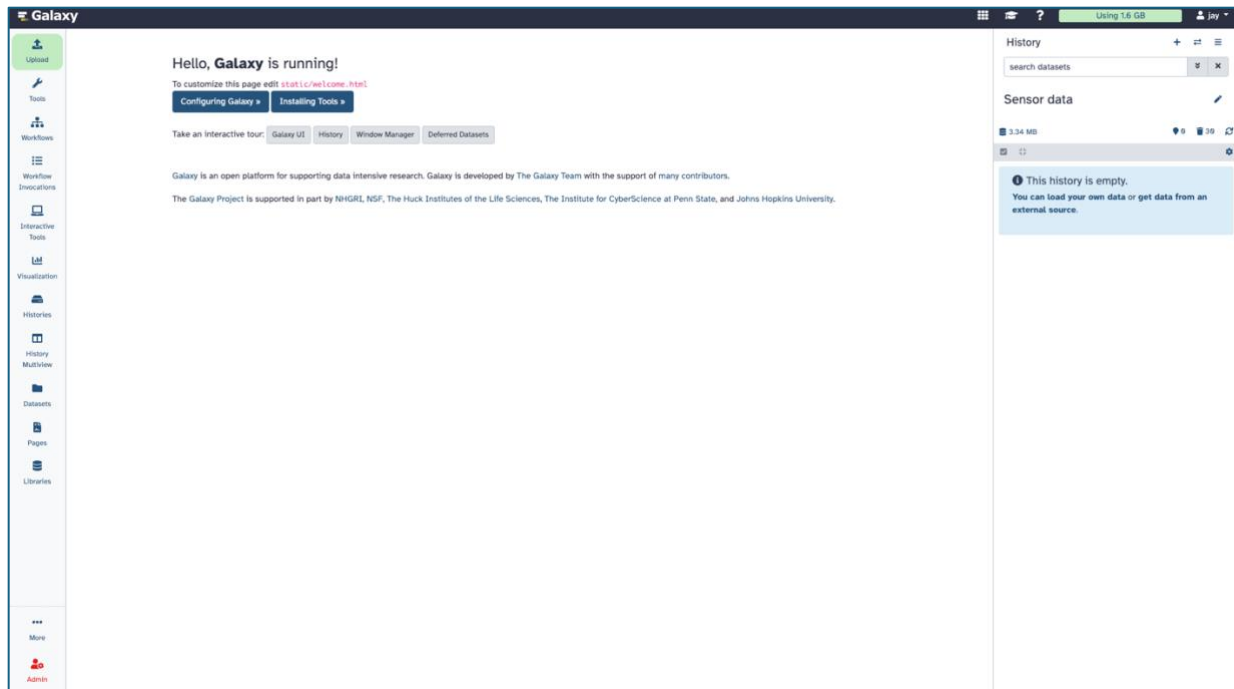
GAIA-C (Galaxy Air Investigation and Analysis for Citizens) - A scalable Galaxy workflow interface for air pollution research.

Tutorial to execute data analysis workflow

Select the top right “**Login or Register**” button and login to the default admin user account using default username “**admin@example.org**” and password “**password**”.

Step 1: Download the data

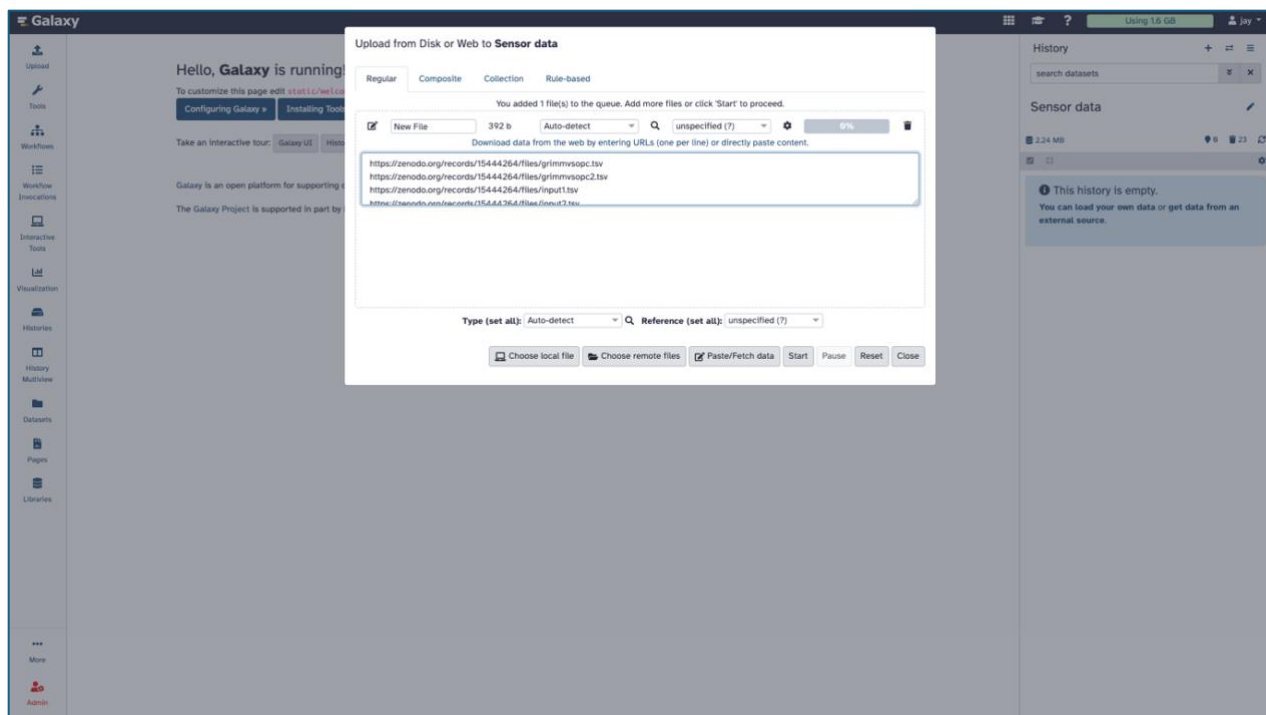
1.1 Select the **Upload** icon in the top-left corner.



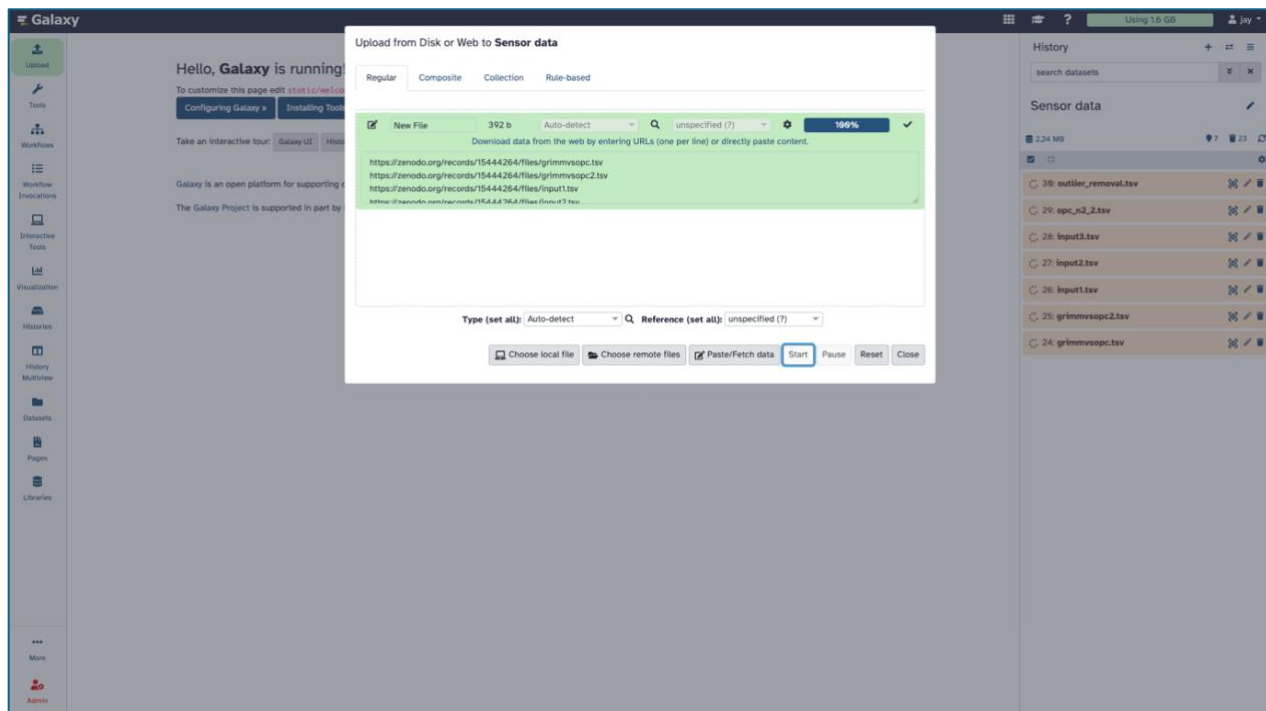
1.2 Copy and paste the following links into the Upload tool

<https://zenodo.org/records/15444264/files/grimmvsopc.tsv>
<https://zenodo.org/records/15444264/files/grimmvsopc2.tsv>
<https://zenodo.org/records/15444264/files/input1.tsv>
<https://zenodo.org/records/15444264/files/input2.tsv>
<https://zenodo.org/records/15444264/files/input3.tsv>
https://zenodo.org/records/15444264/files/opc_n2_2.tsv
https://zenodo.org/records/15444264/files/outlier_removal.tsv

Select “**Paste/Fetch data**” and copy-paste all the links into the input box. Click “**Auto-detect**”, then either manually enter “**tabular**” as the data type or select it from the drop-down menu, and click “**Start.**”

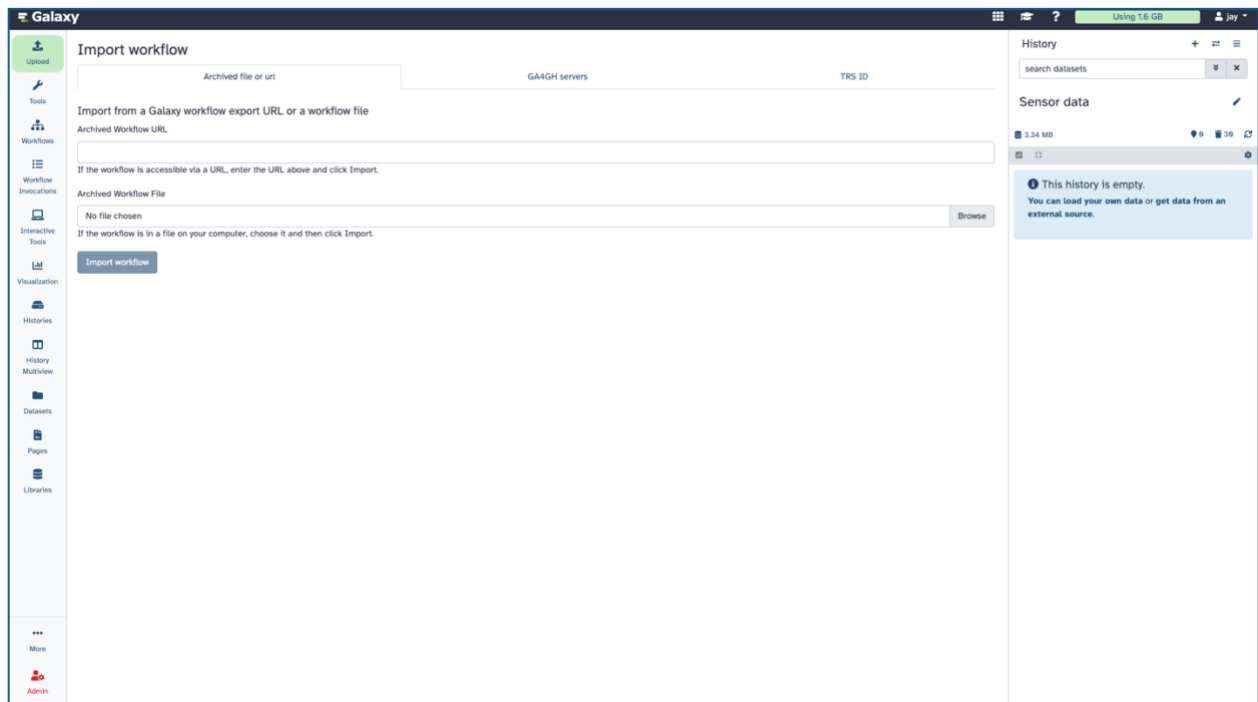


The data will be downloaded in the right-side **history** panel.

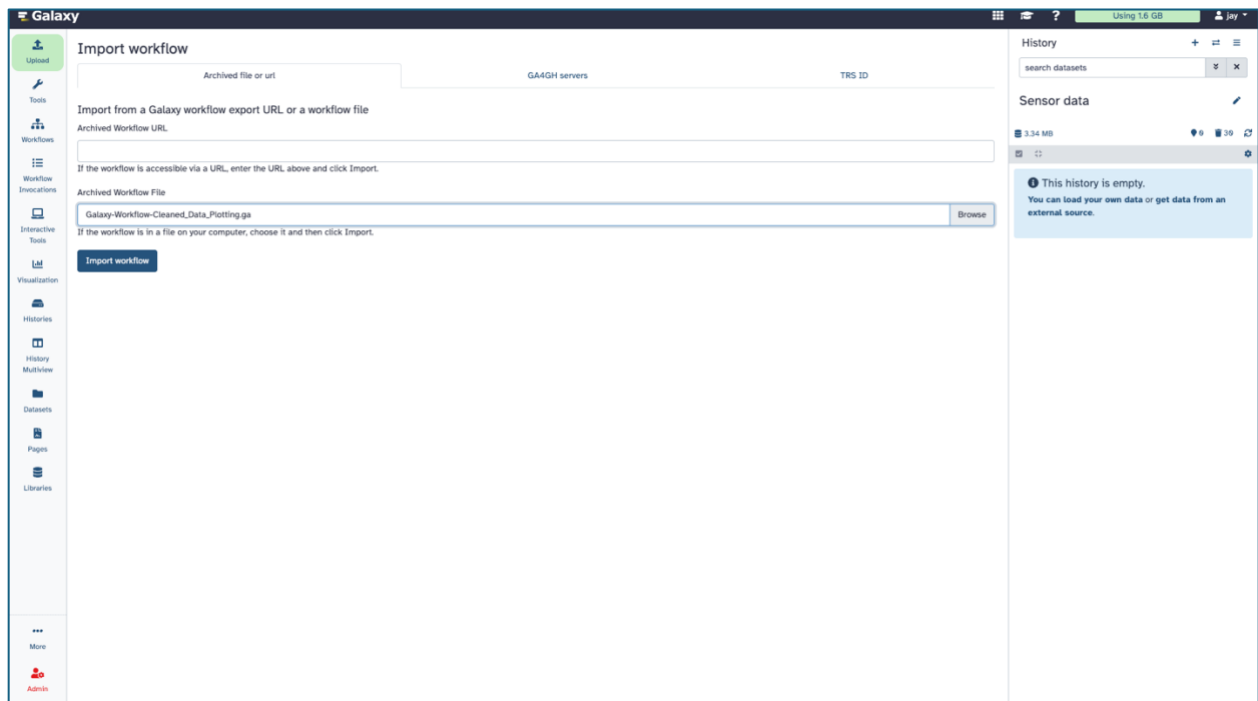


Step 2: Workflow execution

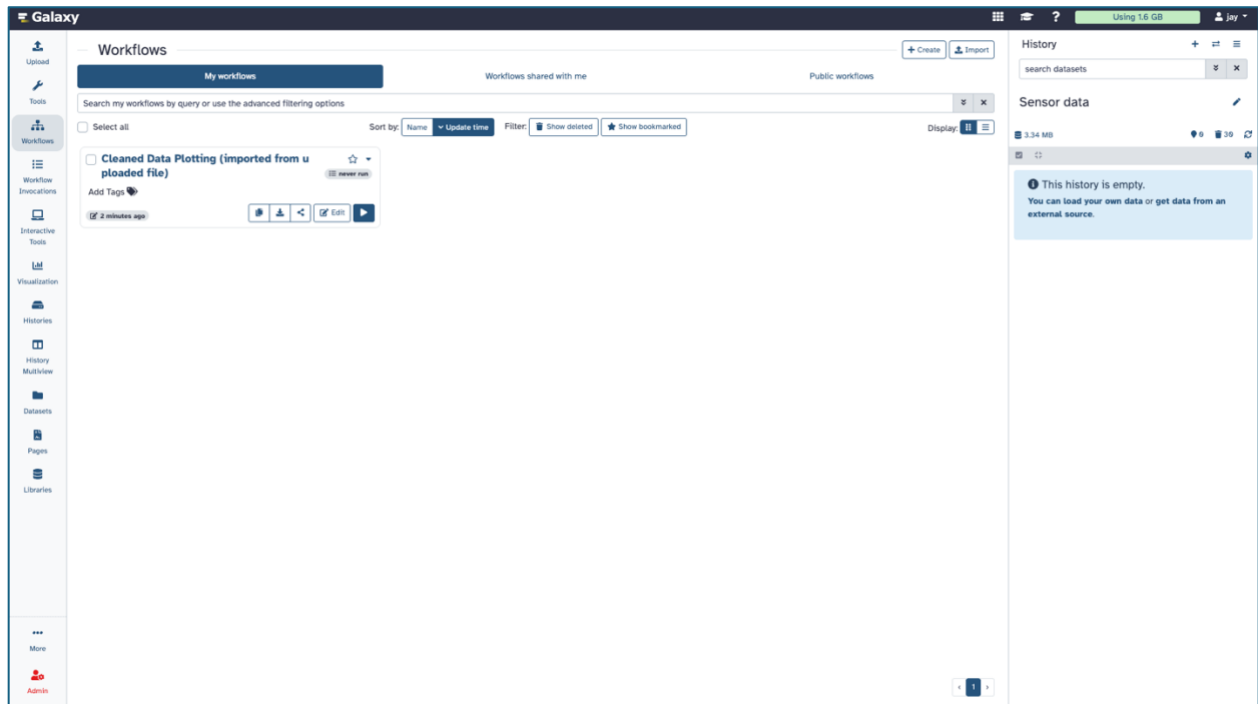
2.1 Select the **workflow** icon from the left-hand menu



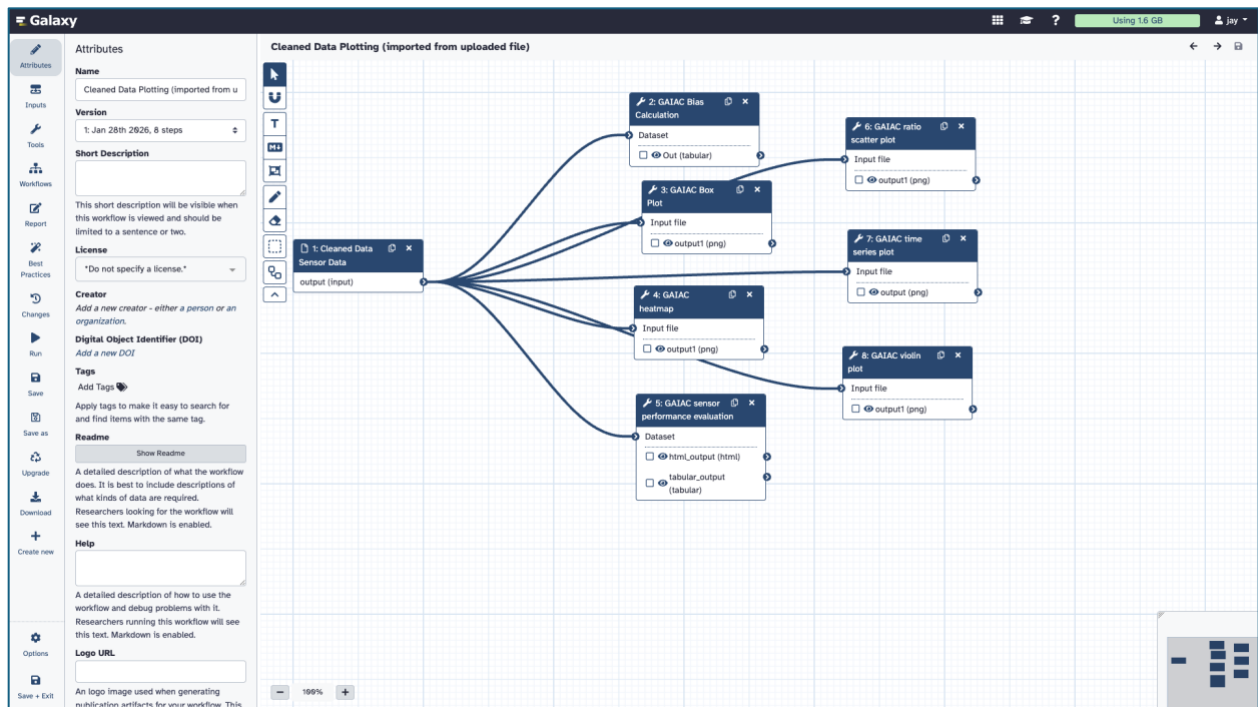
2.2 Browse for the workflow file (e.g., “Galaxy-Workflow-Cleaned_Data_Plotting.ga”), then click **Import workflow**.



2.3 From the list, for desired workflow, click on the **Edit** icon



2.4 The workflow editor allows you to edit the workflow.



2.5 Tool parameters can be configured from the right-side panel by selecting a tool from workflow editor. Once ready, click the **Run** button from the left-hand toolbar

The screenshot displays the Galaxy workflow editor interface. On the left, the 'Attributes' panel shows details for the workflow, including its name, version, and license. The central workspace contains a workflow diagram with tools connected by arrows. The right-hand panel is open to the 'Tool Parameters' for the selected tool, '6: GAIAC ratio scatter plot'. This panel allows users to configure various parameters such as the input file, plot title, figure dimensions, and axis labels. The 'Run' button is visible in the top right corner of the workflow editor.

2.6 Select the input data, then click **Run workflow**.

This screenshot shows the Galaxy interface after selecting the input data. The workflow 'Cleaned Data Plotting (imported from uploaded file) (Version 1)' is displayed. The 'Cleaned Data Sensor Data' tool is selected, and the input data is '37: outlier_removal.tsv'. The 'Run workflow' button is visible in the top right corner. The right-hand panel shows the 'History' section with a list of datasets, including '37: outlier_removal.tsv', '36: epc_n2_2.tsv', '35: input3.tsv', '34: input2.tsv', '33: input1.tsv', '32: grimmvsopc2.tsv', and '31: grimmvsopc.tsv'.

2.7 This will execute the job, and the result will be available in the History pane

The screenshot displays the Galaxy GAIAC interface. On the left is a sidebar with navigation options: Upload, Tools (with a search bar), Workflows, Workflow Invocations, Interactive Tools, Visualization, Histories, History Multiview, Datasets, Pages, Libraries, Recent Exports, and Admin. The main workspace shows an 'Invoked Workflow: Cleaned Data Plotting (Imported from uploaded file) (Version: 1)'. A progress bar at the top indicates '8 of 8 steps successfully scheduled' and '6 of 7 jobs complete...'. Below the progress bar are tabs for Overview, Steps, Inputs, Outputs, Report, Export, and Metrics. The workflow graph consists of eight steps: 1. Cleaned Data Sensor Data (2: grimmvsopc2.tsv), 2. GAIAC Bias Calculation (1 job running), 3. GAIAC Box Plot (1 job running), 4. GAIAC heatmap (1 job running), 5. GAIAC sensor performance evaluation (1 job running), 6. GAIAC ratio scatter plot (1 job running), 7. GAIAC time series plot (1 job queued), and 8. GAIAC violin plot (1 job queued). A zoom slider at the bottom left is set to 100%. On the right, the 'History' pane shows a list of datasets, including 'Sensor Data' and various GAIAC plots. The 'Sensor Data' entry is highlighted, showing its details and a 'never run' status.
