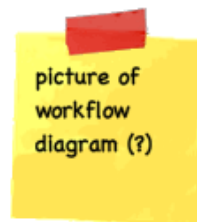


## What do you want to do today?

Tip: You can switch mode whenever you want.



**Build workflows**



**Analyze data**

☐ Remember this choice for next time and skip this dialog?

Workflow WizardData Analysis

Files

Workflows

▼ built in

workflow 1 (locked icon)

workflow 2 (locked icon)

▼ custom

workflow 3 (locked icon)

workflow 4

Components

select  
an icon

Help

# What workflow do you want to work with?

Tip: You can open other workflows whenever you want.

select  
an icon

Create blank workflow

select  
an icon

Import workflow from file

select  
an icon

Clone existing workflow

select  
an icon

Edit existing workflow

The lower two options each lead to a dialog listing existing workflows (for the "edit" option, locked workflows will be grayed out). The user can also just right-click one of the workflows in the left-hand menu. This could be indicated in a tip or tool balloon.

Workflow Wizard

Data Analysis

Files

Workflows

▼ built in

workflow 1 (locked icon)

workflow 2 (locked icon)

▼ custom

workflow 3 (locked icon)

workflow 4

Components

- Open in workflow viewer
  - Open in workflow editor
  - Clone as new workflow
  - View source code
- Locked

Right-clicking a workflow in the left-hand menu offers a floating menu.

select an icon

Help

# What workflow do you want to work with?

Tip: You can open other workflows whenever you want.

select an icon

Create blank workflow

select an icon

Import workflow from file

select an icon

Clone existing workflow

select an icon

Edit existing workflow


Once a workflow is opened, components or groups of components can be copied and pasted into other workflows. This way users can "recycle" part of an existing workflow without having to rebuild everything and reconnect all the inputs and outputs.


Workflow Wizard    Data Analysis

Files


Workflows


▼ built in

 workflow 1 (locked icon)

 workflow 2 (locked icon)

▼ custom

 workflow 3 (locked icon)

 workflow 4

Components

- Open in workflow viewer
  - Open in workflow editor
  - Clone as new workflow
  - View source code
- ✓ Locked

Workflows can be locked to prevent editing. Built-in workflows are locked by default and cannot be unlocked. Custom workflows can be locked or unlocked at will.

Should probably make it possible to group workflows into categories. This function could be accessible

select an icon  
Help

# What workflow do you want to work with?

Tip: You can open other workflows whenever you want.

select an icon

Create blank workflow

select an icon

Import workflow from file

select an icon

Clone existing workflow

select an icon

Edit existing workflow

The workflow viewer is the same thing as the editor but with editing disabled. Component properties can still be examined by mouseover or clicking. Components or groups of components can still be copied and pasted into editable workflows.

Files

Workflows

Components

▼ built-in

▶ alignment

▶ blast

▶ input from file

▶ output to file

▶ combinations

▼ custom

▶ custom category 1

▶ custom category 2

▼ adapters

▶ splitters

▶ joiners

▶ transformers

This is the status message box. It provides feedback and instructions to the user when appropriate.

*Drag components here to start building a workflow.*

This is the main window, where the workflow assembly will be diagrammed.

...



This is the log message box. It tracks and summarizes user actions for future reference.  
Newer items appear on the bottom line.  
The text automatically scrolls when the bottom of the box is reached.

Workflow Wizard Data Analysis

Files

Workflows

Components

- ▼ built-in
  - ▼ alignment
    -  align with ClustalW
    -  align with MUSCLE
    - ▶ blast
    - ▶ input from file
    - ▶ output to file
    - ▶ combinations
  - ▼ custom
    - ▶ custom category 1
    - ▶ custom category 2
  - ▼ adapters
    - ▶ splitters
    - ▶ joiners
    - ▶ transformers

- Add to workflow
- Open in component viewer
- View source code

New blank workflow

This is the status message box. It provides feedback and instructions to the user when appropriate.

Drag components here to start building a workflow.

Right-clicking a component in the left-hand menu offers a floating menu.

...

This is the log message box. It tracks and summarizes user actions for future reference.  
Newer items appear on the bottom line.  
The text automatically scrolls when the bottom of the box is reached.

Files

Workflows

Components

▼ built-in

▼ alignment

align with ClustalW

align with MUSCLE

▶ blast

▶ input from file

▶ output to file

▶ combinations

▼ custom

▶ custom category 1

▶ custom category 2

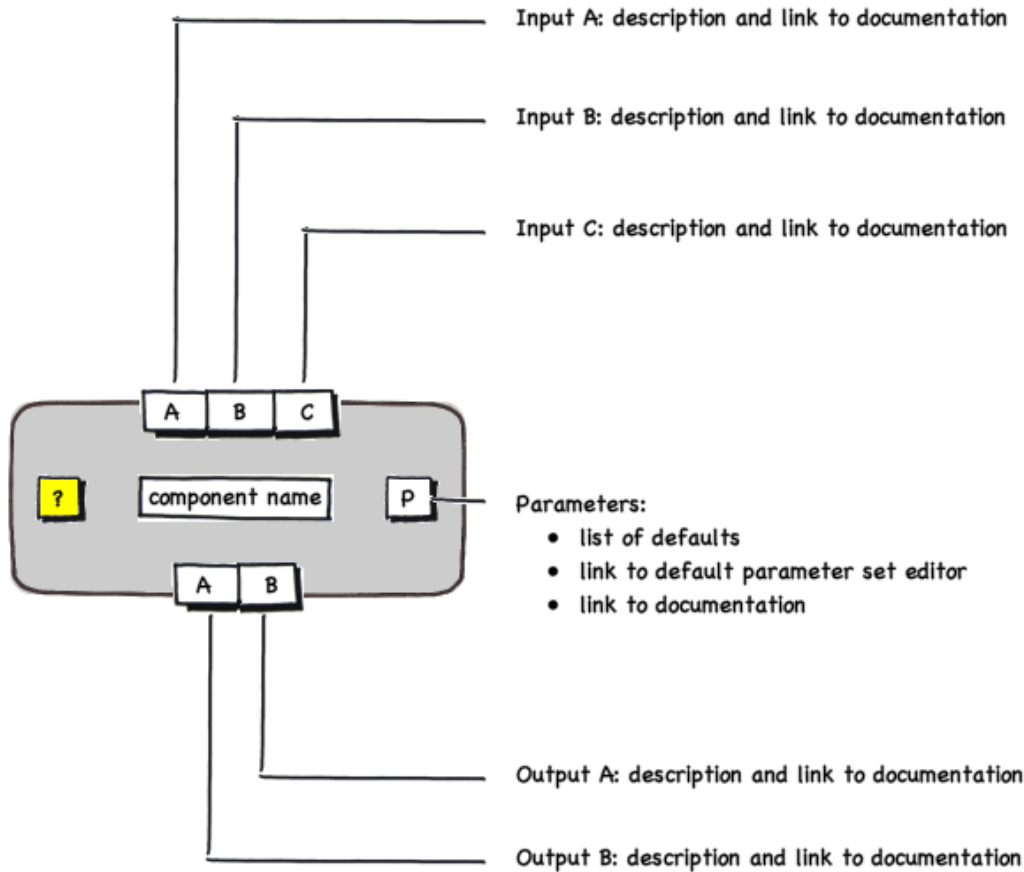
▼ adapters

▶ splitters

▶ joiners

▶ transformers

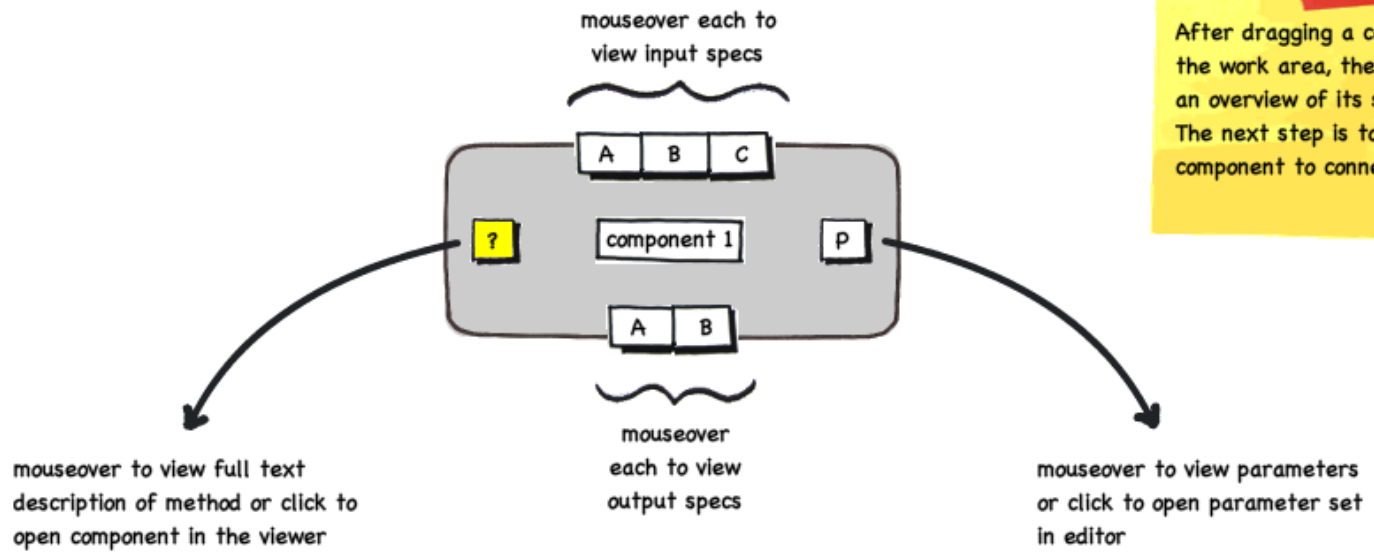
In the component viewer, the log box displays the component name and a one-line description



In the component viewer, the log box displays the full method description.

- built-in
  - alignment
    - align with ClustalW
    - align with MUSCLE
  - blast
  - input from file
  - output to file
  - combinations
- custom
  - custom category 1
  - custom category 2
- adapters
  - splitters
  - joiners
  - transformers

INSTRUCTION: add another component



After dragging a component to the work area, the user can get an overview of its specifications. The next step is to add another component to connect to.

Component 1 added to workflow



Files

Workflows

Components

▼ built-in

▼ alignment

align with ClustalW

align with MUSCLE

▶ blast

▶ input from file

▶ output to file

▶ combinations

▼ custom

▶ custom category 1

▶ custom category 2

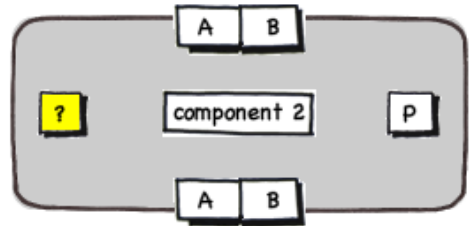
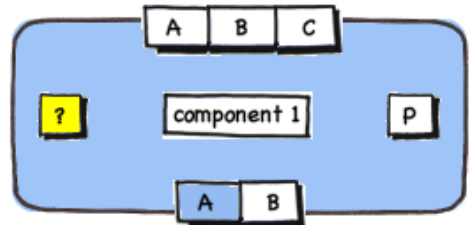
▼ adapters

▶ splitters

▶ joiners

▶ transformers

INSTRUCTION: select another component to connect



To connect components, the user first selects the upstream component and clicks on an output port. The selected component is highlighted in a different color, as is the selected output port.

The next step is to select another component.

Component 2 added to workflow  
Component 1 selected  
Output A selected

- Files
- Workflows
- Components
- ▼ built-in

▼ alignment

align with ClustalW

align with MUSCLE

▶ blast

▶ input from file

▶ output to file

▶ combinations

▼ custom

▶ custom category 1

▶ custom category 2

▼ adapters

▶ splitters

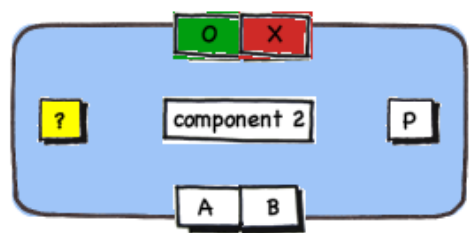
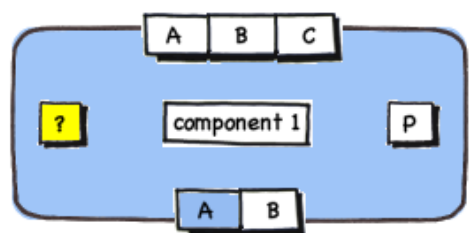
▶ joiners

▶ transformers

INSTRUCTION: select an input port on the downstream component to connect

The user has selected another component, which is now also highlighted.

Compatible input ports are highlighted in green while incompatible ports are highlighted in red. In addition, a text cue is provided for color-blind users ('O' for green, 'X' for red, replacing the port letter).



Incompatible ports may be made compatible by using adapters that can split, join or transform data structures.

It would be awesome to have the app automatically suggest adapters where appropriate but it might be a bit complicated.

Component 1 selected  
Output A selected  
Component 2 selected

Files

Workflows

Components

▼ built-in

▼ alignment

align with ClustalW

align with MUSCLE

▶ blast

▶ input from file

▶ output to file

▶ combinations

▼ custom

▶ custom category 1

▶ custom category 2

▼ adapters

▶ splitters

▶ joiners

▶ transformers

My workflow

INSTRUCTION: make another connection or add another component

```
graph TD; C1[component 1] -- A --> C2[component 2];
```

The two components are now connected output to input.

The user must continue in this fashion until all inputs are filled. However, it is not necessary to utilize all outputs.

Component 2 selected

Input A selected

Connection established : Component 1/Output A to Component 2/Input A