Installing The Project (Linux only)

Processing Server + React App Server Package

Processing Server

First, you need to install these libraries and dependencies:

- VTK 6.3 If applicable, use this command:

```
sudo apt-get install -y libeigen3-dev libomp-dev libvtk6-dev;
```

  May not work on older linux distributions
- Install https://github.com/nlohmann/json

```
sudo apt-get install nlohmann-json3-dev
```

Clone the processing server's repository: <INSERT LINK>

After that, setup the processing server (starting at the root folder of the package):

```
cd api
node-gyp rebuild
npm install
```

When done (with no errors), start the processing server with: npm start

React App Server Package

Install dependencies with: `npm install`

Start the web app server with: `npm start`

Load balancer

First install dependencies:

- postgresql (at least v9)
- Create a postgresql table with:

```
CREATE TABLE public.users (
 id UUID NOT NULL,
 "firstName" CHAR(64),
 "lastName" CHAR(64),
 email CHAR(128),
 password CHAR(60),
 CONSTRAINT users_pkey PRIMARY KEY(id)
)
WITH (oids = false);
```

- Update database login information (port number, username, password, database name) in /libs/routes.js
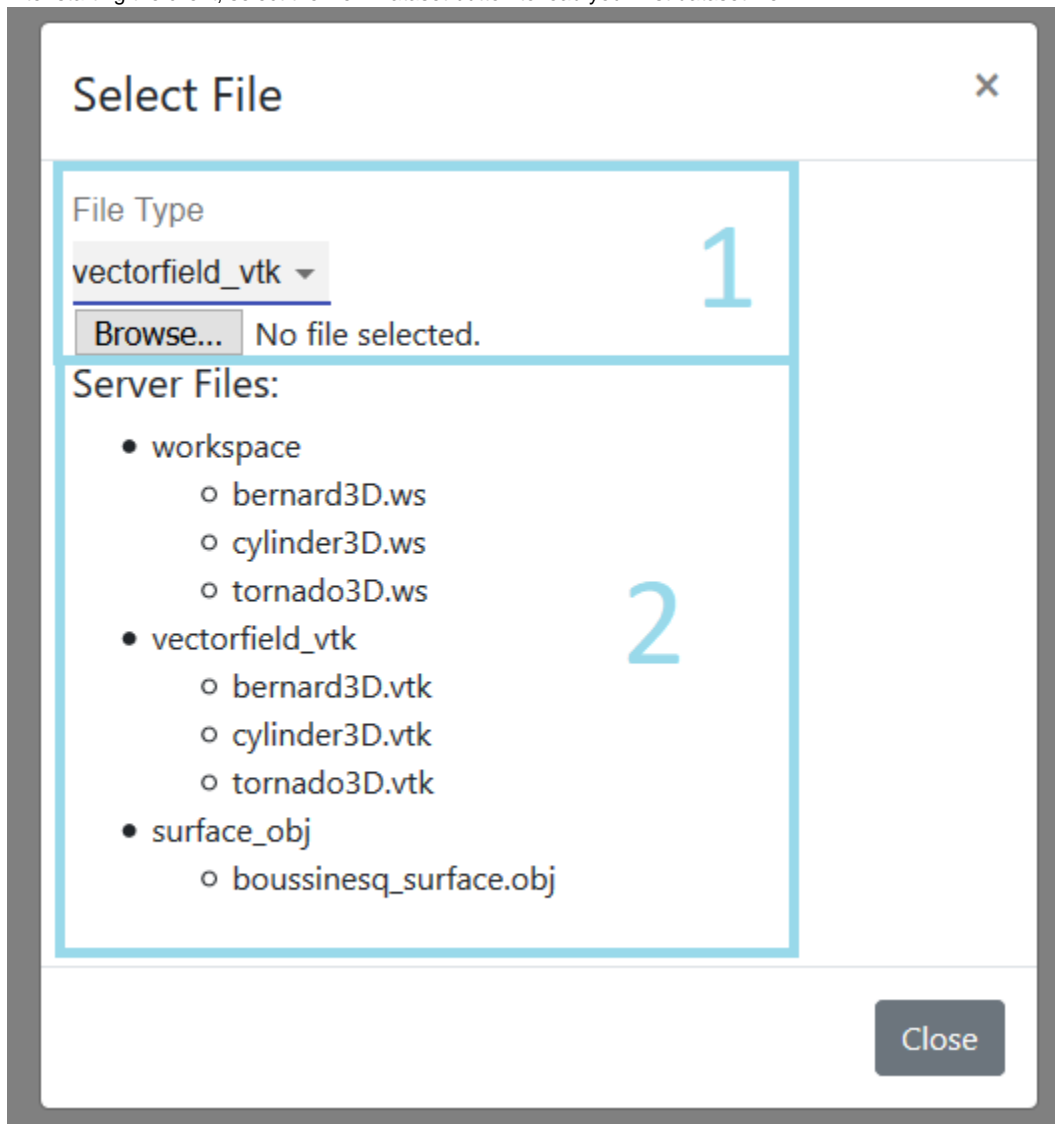
Install other dependencies with

```
npm install
```

Start the load balancer server with

```
npm start
```

Related pages

Setting Up Your First Dataset

After starting the client, select the New Dataset button to load your first dataset file.

Select File ✕

File Type

vectorfield_vtk ▾

Browse... No file selected.

1

Server Files:

- workspace
  - bernard3D.ws
  - cylinder3D.ws
  - tornado3D.ws
- vectorfield_vtk
  - bernard3D.vtk
  - cylinder3D.vtk
  - tornado3D.vtk
- surface_obj
  - boussinesq_surface.obj

2

Close

There are two dataset loading options:

- #1 Upload the file from your computer

  Select the appropriate File Type, then select Browse to choose the file on your computer
- #2 Select a file from the server

  You will see a list of files available from the server (If you don't, please check the server connection). A workspace is a saved client state, it can contain multiple datasets and tasks.

Once you select the file, wait for it to be loaded, and if necessary, submitted to the server for processing.

Directory

☑ cylinder3D.vtk

DataSet/Render Options
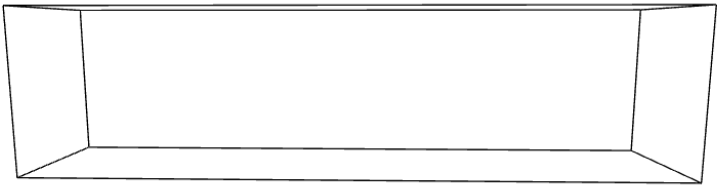
cylinder3D.vtk

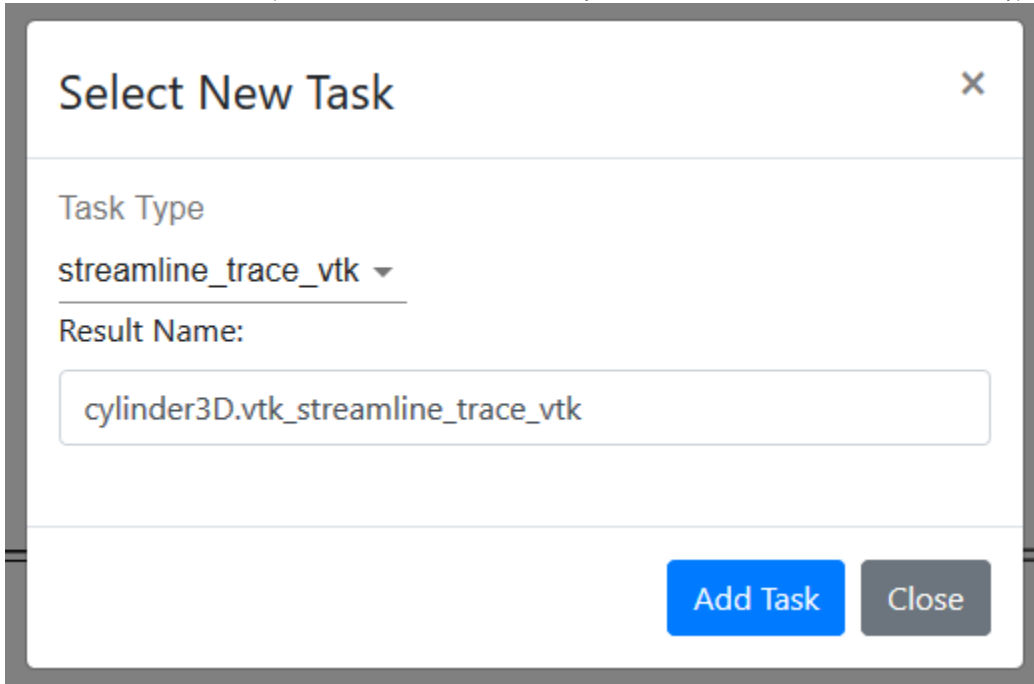type: vectorfield_vtk

Dims: 192,64,48

Origin: 0,0,0

Spacing: 0.166667,0.125,0.125

Data Range:
0,32.1667327880859,0,8.125,0,6.125

Creating a Task

Select the New Task button (if it is not visible, make sure that you have selected the dataset in the Directory)

Select New Task ✕

Task Type

streamline_trace_vtk ▾

Result Name:

cylinder3D.vtk_streamline_trace_vtk

Add Task   Close

Make sure that the result name is unique. The resulting name will be assigned to the newly created results dataset returned by executing the task.

After all the appropriate task parameters are entered, click on the Apply button at the bottom of the task parameters panel (you may have to scroll down).

Seeding Points

(0,0,0),(1,1,1)

Apply

Generating Parameters

Most task parameters are automatically generated upon task creation. However, there are some parameters that can be manually generated. For example, the Seeding Type parameter of the Streamline Trace task can be used to generate a list of seeding points. First, select the Seeding Type dropdown

Show Seeding Curve

points ▾

Seeding Type

points
start end
random
uniform

Se

(0,0,0),

Apply

Fill in the appropriate parameters and click Generate to create the new list of seeding points. (Note that this does not submit the task to the server, these generation features are only updating the task parameter itself)

Seeding Type

uniform ▾

Uniform Spacing X

6.433346

Uniform Spacing Y

1.625

Uniform Spacing Z

1.225

Generate Seeding Pts