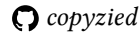


LAB #3: WEB APPLICATION WITH GENIE

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In this lab, we will create a basic web application using **Genie** framework in Julia. The application will allow us to control the behaviour of a sine wave, given some adjustable parameters. we are required to carry out this lab using the REPL .

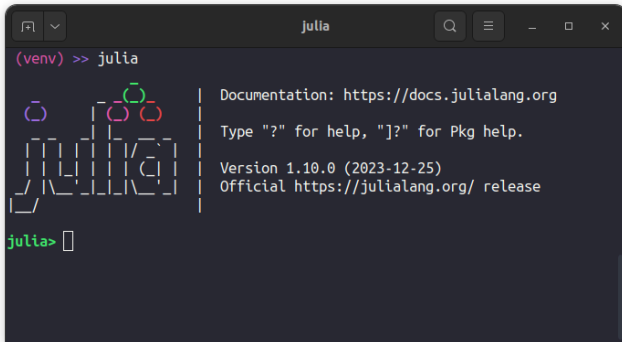


Figure 1: Julia REPL

Exo 1: codes of Sine Wave Control

```
using GenieFramework
@genietools

@app begin

    @in N::Int32 = 1000
    @in amp::Float32 = 0.25
    @in freq::Int32 = 1
    @in pi::Float32 = 1
    @in ofs::Float32 = 1

    @out my_sine = PlotData()

    @onchange N, amp, freq, pi, ofs begin
        x = range(0, 1, length=N)
        y = amp*sin.(2*pi*freq*x.+pi).+ofs

        my_sine = PlotData(x=x,
                           y=y,

    plot=StipplePlotly.Charts.PLOT_TYPE_LINE)
end
```

end

@page("/", "app.jl.html")

```
<header class="st-header q-pa-sm">
    <h1 class="st-header__title text-h3" Sinewave
Dashboard </h1>
</header>

<div class="row">
    <div class="st-col col-12 col-sm st-module">
        <p><b># Samples</b></p>
        <q-slider v-model="N"
:min="10" :max="1000"
:step="10" :label="true">
    </q-slider>
    </div>

    <div class="st-col col-12 col-sm st-module">
        <p><b>Amplitude</b></p>
        <q-slider v-model="amp"
:min="0" :max="3"
:step=".5" :label="true">
    </q-slider>
    </div>

    <div class="st-col col-12 col-sm st-module">
        <p><b>Frequency</b></p>
        <q-slider v-model="freq"
:min="0" :max="10"
:step="1" :label="true">
    </q-slider>
    </div>

    <div class="st-col col-12 col-sm st-module">
        <p><b>phase</b></p>
        <q-slider v-model="pi"
:min="-3.14" :max="3.14"
:step=".314" :label="true">
    </q-slider>
    </div>

    <div class="st-col col-12 col-sm st-module">
        <p><b>offset</b></p>
```

```

<q-slider v-model="ofs"
  :min="-.5" :max="1"
  :step=".1" :label="true">
</q-slider>
</div>
</div>

<div class="row">
  <div class="st-col col-12 col-sm st-module">
    <p><b>Sinewave</b></p>
    <plotly :data="my_sine"> </plotly>
  </div>
</div>
<div>

```

```
julia --project
```

```

julia> using GenieFramework
julia> Genie.loadapp() # Load app
julia> up() # Start server

```

We can now open the browser and navigate to the link localhost:8000. We will get the graphical interface as in Figure 2.

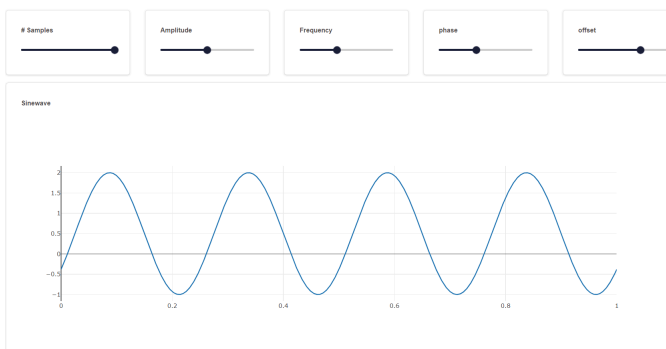


Figure 2: Genie -> Sine Wave