

La idea de la siguiente prueba es verificar los conocimientos básicos de Python, la capacidad de entender documentación técnica y la habilidad de enviar datos a una plataforma web desde un cliente.

- Se debe de contar con una instalación de Python mayor a la versión 3.4.
- Se debe de crear una cuenta en adafruit.io <https://io.adafruit.com>
- El plan a utilizar es el gratuito, no es necesario pagar por alguna suscripción.

Our pricing is as simple as our API.

Try Adafruit IO for free. Unlock its full potential for \$10 per month.

| Get Started | Power Up |
|------------------------------|---|
| FREE forever | \$10 or \$99 per month or per year |
| 30 data points per minute | 60 data points per minute |
| 30 days of data storage | 60 days of data storage |
| Actions every 15 minutes | Actions every 5 seconds |
| 5 dashboard limit | Unlimited dashboards |
| 2 WipperSnapper device limit | Unlimited WipperSnapper devices |
| 5 group limit | Unlimited groups |
| 10 feed limit | Unlimited feeds |
| Learn more about IO+ | Learn more about IO+ |

- Una vez que te has dado de alta en adafruit IO podrás ver el siguiente menú, donde la llave amarilla contiene las llaves para el acceso vía API.



New to WipperSnapper?
[Follow this guide to get connected!](#)

Scripting

```
ADAFRUIT_IO_USERNAME =  
ADAFRUIT_IO_KEY = "dd8a"
```

- En la parte de Feeds podrás verificar los datos que se envíen hacia adafruit.

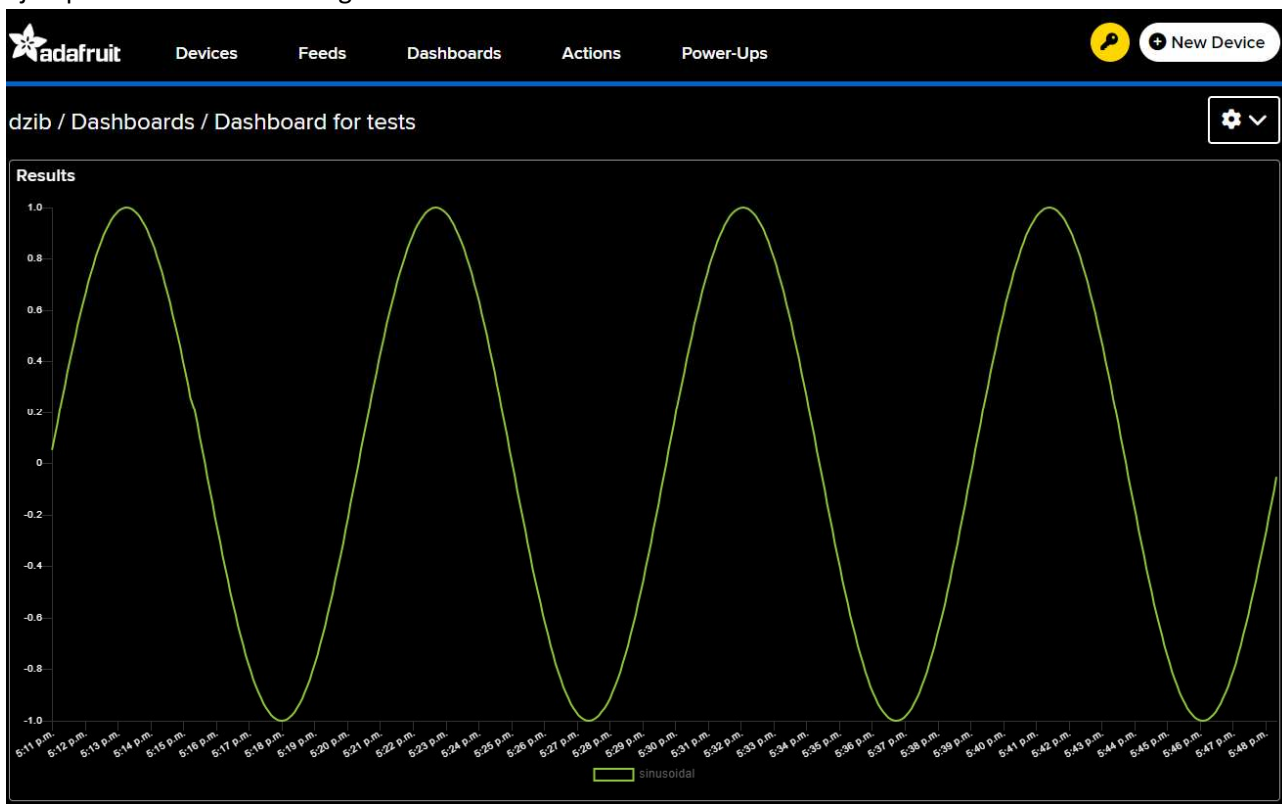
The screenshot shows the Adafruit website's 'Feeds' section for user 'dzib'. The navigation bar at the top includes 'Devices', 'Feeds' (highlighted with a red circle), 'Dashboards', 'Actions', and 'Power-Ups'. Below the navigation bar, there are buttons for 'New Feed' and 'New Group', and a search bar. A table lists the feeds:

| Feed Name | Key | Last value | Recorded |
|--|--------------|---------------------|------------------------|
| <input type="checkbox"/> cosinusoidal | cosinusoidal | 0.8910065241883683 | less than a minute ago |
| <input type="checkbox"/> <u>sinusoidal</u> | sinusoidal | 0.45399049973954575 | less than a minute ago |

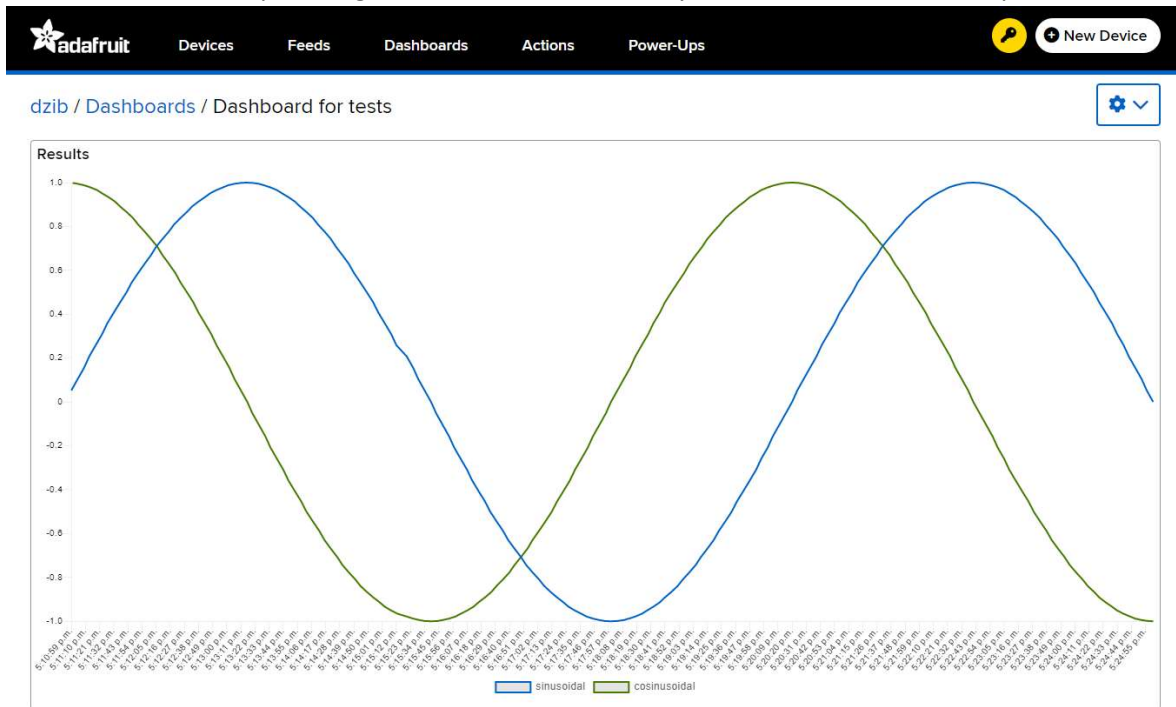
- En la parte de Dashboards podrás crear las visualizaciones que desees con los datos.

The screenshot shows the Adafruit website's 'Dashboards' section. The navigation bar at the top includes 'Devices', 'Feeds', 'Dashboards' (highlighted with a red circle), 'Actions', and 'Power-Ups'.

- La prueba consiste en que a partir de Python simules una onda senoidal del periodo que sea (debe de ser fácil de visualizar) y se grafiquen los datos en un dashboard de la herramienta de adafruit.
- Ejemplo de onda sinusoidal graficada con la herramienta de visualización de adafruit.



- Como reto adicional, puedes graficar una señal senoidal y cosenoidal al mismo tiempo.



Entregables

- Enlace a un repositorio tipo git.
- El repositorio git debe de contener el código debidamente comentado e imágenes que prueben la graficación de las señales senoidales y cosenoidales.

Material adicional de apoyo.

- <https://learn.adafruit.com/series/adafruit-io-basics>

Adafruit IO Basics

New to Adafruit IO? Start Here!

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- https://github.com/adafruit/Adafruit_IO_Python

Installation

Easy Installation

If you have [PIP](#) installed (typically with apt-get install python-pip on a Debian/Ubuntu-based system) then run:

```
pip3 install adafruit-io
```

This will automatically install the Adafruit IO Python client code for your Python scripts to use. You might want to examine the examples folder in this GitHub repository to see examples of usage.

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- https://github.com/adafruit/Adafruit_IO_Python/tree/master/examples/basics

| | |
|------------------|---|
| master | Adafruit_IO_Python / examples / basics / |
| cj8scrambler | Add support for dashboards, blocks and layouts |
| .. | |
| analog_in.py | analog_in example match new MCP3xxx API |
| analog_output.py | Adding dht22 example, updating header to include MIT license info |
| dashboard.py | Add support for dashboards, blocks and layouts |
| digital_in.py | add back removed digital in.. |
| digital_out.py | docstrings reflect file name |

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- <https://www.python.org/downloads/>

| Downloads | Documentation | Community | Success Stories | News |
|-----------------------------|--|-----------|-----------------|------|
| All releases | Download for Windows Python 3.10.6 Note that Python 3.9+ cannot be used on Windows 7 or earlier. Not the OS you are looking for? Python can be used on many operating systems and environments. View the full list of downloads. | | | |
| Source code | | | | |
| Windows | | | | |
| macOS | | | | |
| Other Platforms | | | | |
| License | | | | |
| Alternative Implementations | | | | |

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- Client libraries <https://io.adafruit.com/api/docs/#including-an-adafruit-io-key>

We have lots of client libraries to help you get started with your project:

- [Arduino C++](#)
- [CircuitPython](#)
- [Python](#)
- [Ruby](#)