PYANURA SDK
USER MANUAL

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INTRODUCTION

The Pyanura SDK is a Python-based software package developed by Revibe Energy AB to interface with ReVibe Anura sensors and transceivers. It provides a set of classes and command-line utilities that enable seamless integration of Anura devices into various applications. This SDK is designed for developers, researchers, and engineers looking for an efficient way to communicate with Anura hardware. It supports both programmatic usage via Python scripts and a command-line interface (CLI) for quick interactions.

Pyanura is open-source and available for download from GitHub: https://github.com/ReVibe-Energy/pyanura

INSTALLING FOR PROGRAMMATIC USE

The package is installable using `pip3` by pointing to the top level directory of the downloaded pyanura folder. First you should set up and activate a suitable virtual environment for your project. After that you can install the pyanura package using `pip3`.

pyanura is available for download from https://github.com/ReVibe-Energy/pyanura

Example (assuming the package is located in the Downloads directory):

```
Unset

pip3 install ~/Downloads/pyanura
```

Or with optional CLI dependencies included:

```
Unset

pip3 install ~/Downloads/pyanura[cli]
```

DEVELOPMENT SETUP

For development in the pyanura repository you should setup a virtual environment in which you will install the dependencies of pyanura but not the pyanura package itself.

pyanura is available for download from https://github.com/ReVibe-Energy/pyanura

Assuming you have activated a suitable a virtual environment, install the dependencies as follows:

```
Unset
pip3 install -r requirements.txt
```

(Optional) Install extra requirements needed to run the examples under /examples.

```
Unset
pip3 install -r requirements-extras.txt
```

After that you should be able to launch the anura command-line interface with the following command:

```
Unset
python3 -m anura.cli
```

RUNNING AN EXAMPLE

Assuming you have activated a virtual environment with all the required dependencies you can launch the examples from the pyanura root directory as follows:

```
Unset
python3 -m examples.forwarder --config examples/forwarder/example-config.json
```

INSTALLING CLI PIPX

If you just want to install the `anura` command-line utility and make it available on your `PATH` the best option is likely to install pipx using your system's package manager and then install pyanura.

Using this method you don't have to manually set up a virtual environment as `pipx` will create one for you. Additionally it will add a script to your `PATH` that will launch the command-line in the appropriate virtual environment.

Ensure the following dependencies are installed on your system:

- Python3 (>=3.11 is required for pyanura to function.)
- Python3-venv
- pipx

Note: when using TR10-USB on windows libusb1.0 is required
https://github.com/libusb/libusb

INSTALLATION CLI PIPX (Windows)

Follow these steps to install **pyanura**:

1. Install Python 3

Download and install the latest Python 3 release from the official Python website.
During installation, **check the box to add Python to PATH**.

2. Install pipx

Open a command prompt and run the following command to install `pipx`:

```
Unset
python -m pip install --user pipx
```

3. Initialize pipx

Run the following command to ensure `pipx` is ready for use:

```
Unset
pipx ensurepath
```

Close and reopen the command prompt to apply the changes to your PATH.

4. Install pyanura

Use `pipx` to install the **pyanura** package with the following command:

```
Unset
pipx install
git+https://github.com/ReVibe-Energy/pyanura#egg=pyanura[cli]
```

INSTALLATION CLI PIPX (Linux)

Follow these steps to install **pyanura** on linux:

1. Install pipx

Use the following command to install pipx:

```
Unset
sudo apt install pipx
```

2. Initialize pipx

Run the following command to ensure pipx is set up correctly:

```
Unset
pipx ensurepath
```

3. Install pyanura

Install the **pyanura** package via pipx using the command below:

```
Unset
pipx install git+https://github.com/ReVibe-Energy/pyanura#egg=pyanura[cli]
```

UDEV RULES FOR TR10-USB ON LINUX

To use the TR10-USB device on Linux, you need to create a UDEV rule. Follow the steps below:

1. Open a Terminal

You'll need root privileges to perform these steps. Open a terminal window and proceed.

2. Create the UDEV Rules File

Use a text editor to create the UDEV rules file. Here's how:

Option 1: Using nano

Run the following command:

```
Unset
sudo nano /etc/udev/rules.d/70-anura-transceiver.rules
```

Option 2: Using vi

Run this command:

```
Unset
sudo vi /etc/udev/rules.d/70-anura-transceiver.rules
```

3. Add the Rule

Paste the following line into the file:

```
Unset
SUBSYSTEM=="usb", ATTR{idVendor}=="16d0", ATTR{idProduct}=="13d4",
GROUP="plugdev", MODE="0660"
```

- **Explanation:**
  - SUBSYSTEM=="usb": Targets USB devices.
  - ATTR{idVendor}=="16d0": Matches devices with vendor ID 16d0.
  - ATTR{idProduct}=="13d4": Matches devices with product ID 13d4.
  - GROUP="plugdev": Assigns the device to the plugdev group.
  - MODE="0660": Sets file permissions to rw-rw----.

4. Save and Exit

- If using nano, press CTRL + O to save, then press CTRL + X to exit.
- If using vi, press ESC, type :wq, and press Enter to save and exit.

5. Reboot the Computer

To apply the new UDEV rule, reboot your system:

```
Unset
sudo reboot
```

Notes:

- Ensure the plugdev group exists on your system. You can check with:

```
Unset
getent group plugdev
```

- If it doesn't exist, create it using:

```
Unset
sudo groupadd plugdev
```

- Add your user to the plugdev group to gain access to the device:

```
Unset
sudo usermod -aG plugdev $USER
```

- Log out and back in to apply the group changes.

CLI USER MANUAL

The Pyanura CLI includes a built-in manual for reference. Access it by running the following command in your terminal.

$ anura –help