# **Tutorial: MEDUSA apps**

For MEDUSA© Platform v2022

If you have any questions that are beyond the scope of this help file, please feel free to ask for help in the [forum](https://forum.medusabci.com/) or [contact with us](mailto:support@medusabci.com).

1. **Introduction to MEDUSA apps**

MEDUSA apps are standalone programs designed to run within the MEDUSA Platform independently of signal acquisition and visualization modules.

These programs can implement multitude of different experiments while one or more signals are being monitored. For instance, gamified cognitive tasks, visual stimulation paradigms or brain-computer interfaces (BCI) are just some examples. The limit is your imagination!

In this tutorial you will learn the basics to develop your own MEDUSA app from scratch. But before getting there, we have to delve into some of the features of the platform.

**Internal states**

In order to facilitate the development of new apps, MEDUSA has a predefined workflow with some rules that must be followed.

The first rule is that all apps must have the same possible range of internal states defining their lifecycle, represented by 2 variables.

The first one is app\_state, which represents the state of the app and it has 4 possible values: off, powering on, powering off and on. An app is off when it has not been launched yet. An app is on when is prepared to start a run. The other states are the transitions between these the on and off states.

The second variable is run\_state, which represents the state of each run. This variable can take 5 possible values: ready, running, paused, stop y finished.

The following figures show the lifecycle of the app and the run within MEDUSA.

[ADD FIGURES]