UNIVERSIDAD DE GUADALAJARA

CENTRO UNIVERSITARIO DE CIENCIAS EXACTAS E INGENIERIAS

Materia: Computación tolerante a fallas

Clave: I7036

Sección: D06

NRC: 179961

Workflow managers

Código estudiante: 221350567

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Carrera: Ingeniería en Computación

Fecha: 1/10/2023

Docente: Michel Emanuel Lopez Franco

2023B

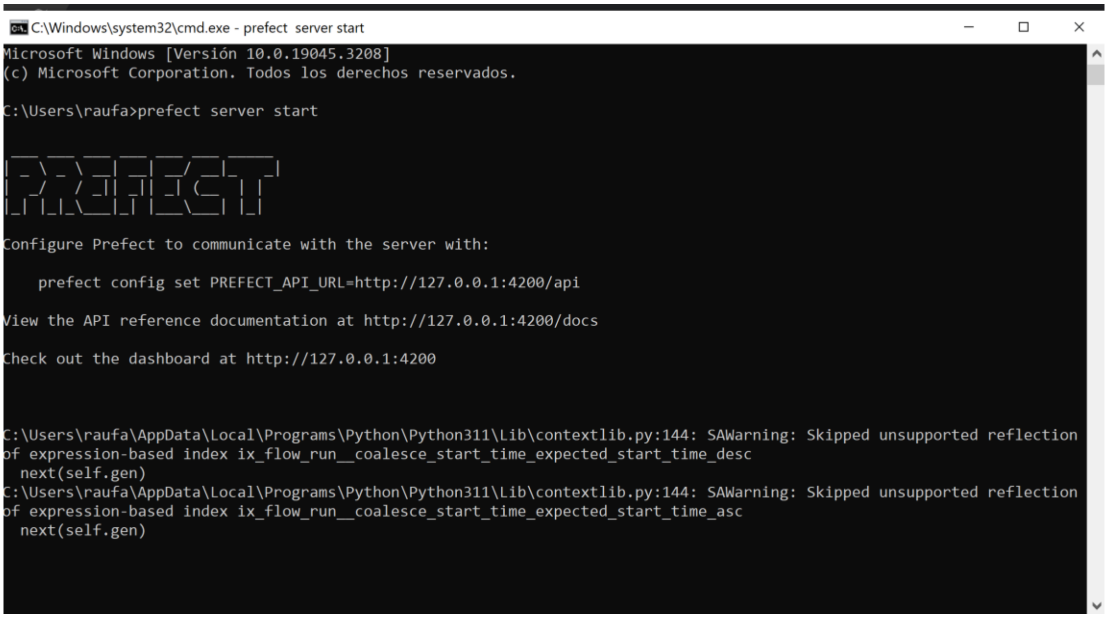
Workflow managers

Introducción

Prefect es una herramienta de orquestación del flujo de trabajo que permite a los desarrolladores crear, observar y reaccionar ante canalizaciones de datos. En este caso implementaremos ejemplos para la utilización de mismo y demostraremos como usarlos En este apartado veremos como utilizamos una API para poder realizar el desarrollo de nuestro programa y así poder realizarlo de forma automática

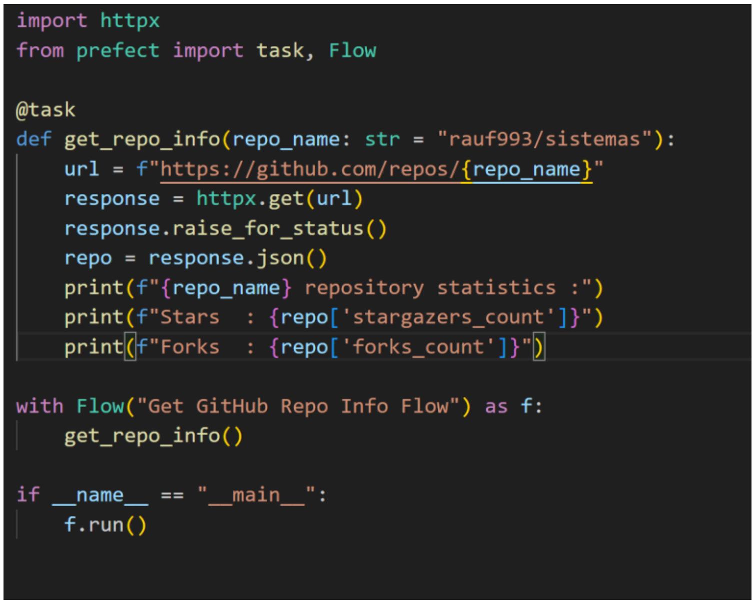
Desarrollo

Inicializamos el servidor de prefect



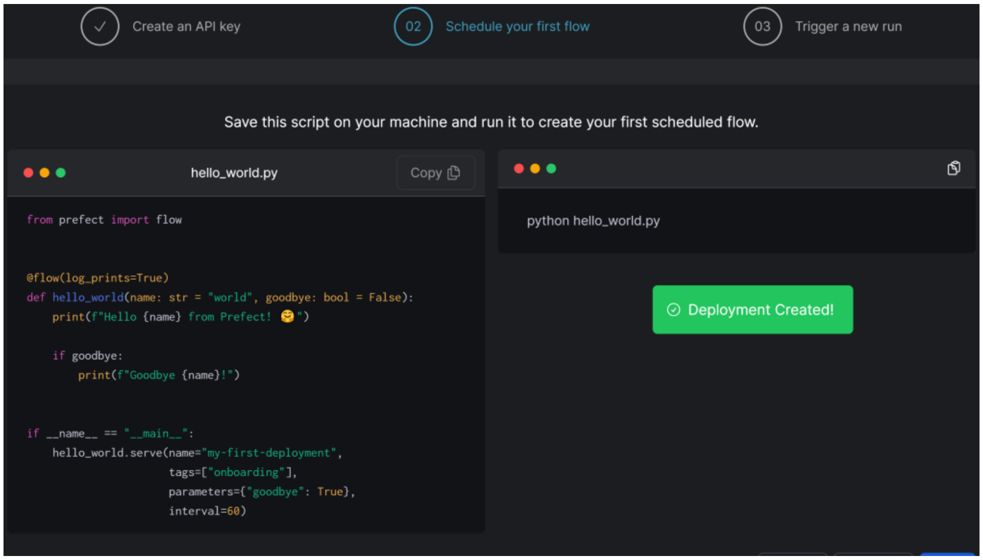
```
Microsoft Windows [Versión 10.0.19045.3208]
(c) Microsoft Corporation. Todos los derechos reservados.

C:\Users\raufa>prefect server start

 ___ ___ ___ ___ ___ ___ _____
| _ \ _ \ __| __| __/ __|_   _|
|  _/   / _|| _|| _| (__  | |
|_| |_|_\___|_| |___\___| |_|

Configure Prefect to communicate with the server with:

    prefect config set PREFECT_API_URL=http://127.0.0.1:4200/api

View the API reference documentation at http://127.0.0.1:4200/docs

Check out the dashboard at http://127.0.0.1:4200



C:\Users\raufa\AppData\Local\Programs\Python\Python311\Lib\contextlib.py:144: SAWarning: Skipped unsupported reflection
of expression-based index ix_flow_run__coalesce_start_time_expected_start_time_desc
  next(self.gen)
C:\Users\raufa\AppData\Local\Programs\Python\Python311\Lib\contextlib.py:144: SAWarning: Skipped unsupported reflection
of expression-based index ix_flow_run__coalesce_start_time_expected_start_time_asc
  next(self.gen)
```

Aquí tenemos un ejemplo del código para el repositorio de git hub



```python
import httpx
from prefect import task, Flow

@task
def get_repo_info(repo_name: str = "rauf993/sistemas"):
    url = f"https://github.com/repos/{repo_name}"
    response = httpx.get(url)
    response.raise_for_status()
    repo = response.json()
    print(f"{repo_name} repository statistics :")
    print(f"Stars  : {repo['stargazers_count']}")
    print(f"Forks  : {repo['forks_count']}")

with Flow("Get GitHub Repo Info Flow") as f:
    get_repo_info()

if __name__ == "__main__":
    f.run()
```

Ejemplo de código con hola mundo

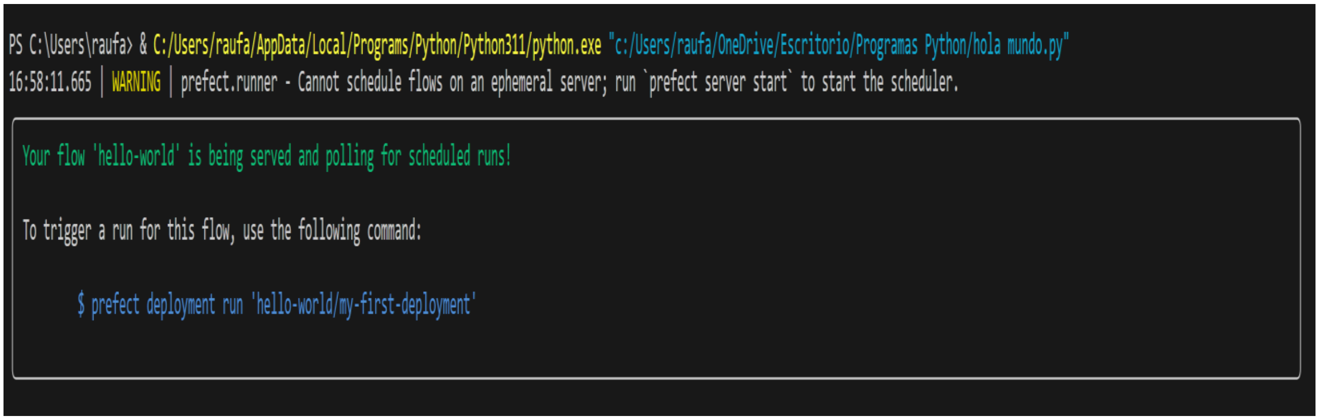


Save this script on your machine and run it to create your first scheduled flow.

```python
from prefect import flow


@flow(log_prints=True)
def hello_world(name: str = "world", goodbye: bool = False):
    print(f"Hello {name} from Prefect! 🤗")

    if goodbye:
        print(f"Goodbye {name}!")


if __name__ == "__main__":
    hello_world.serve(name="my-first-deployment",
                      tags=["onboarding"],
                      parameters={"goodbye": True},
                      interval=60)
```

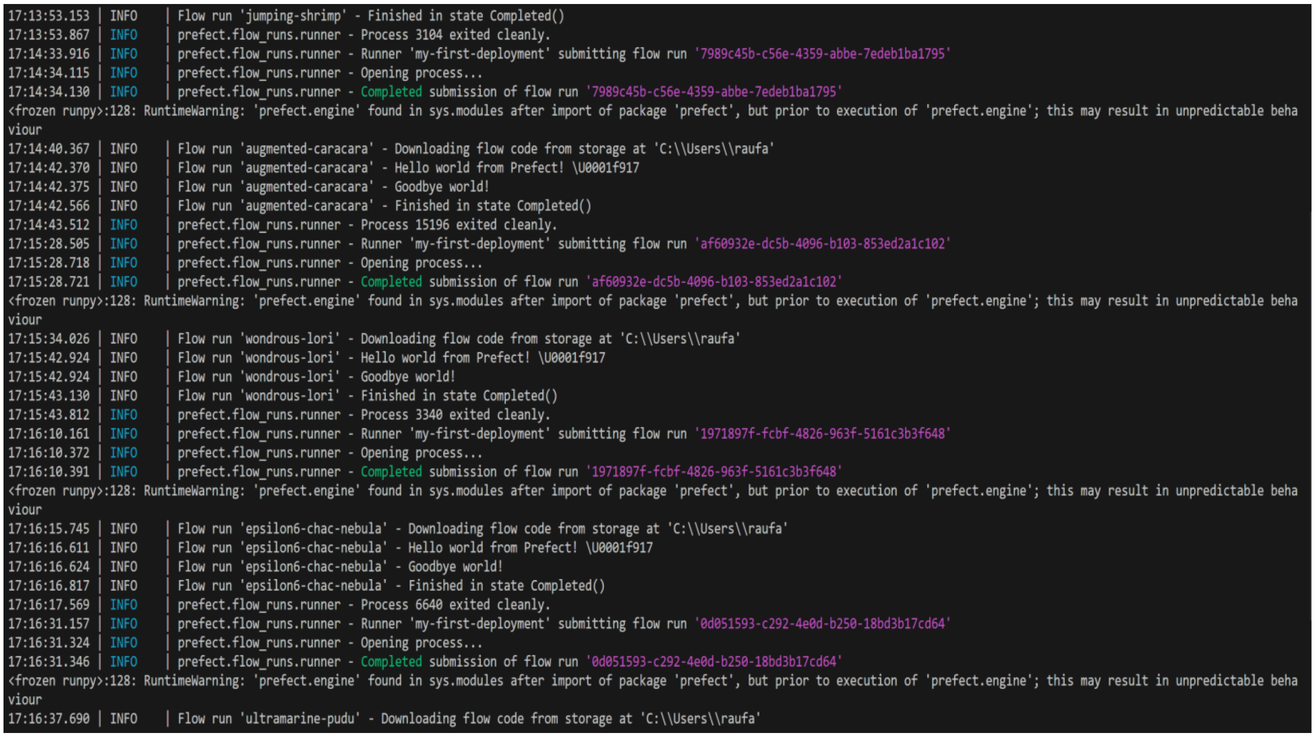
```
python hello_world.py
```

Compilamos el código ya con el servidor iniciado



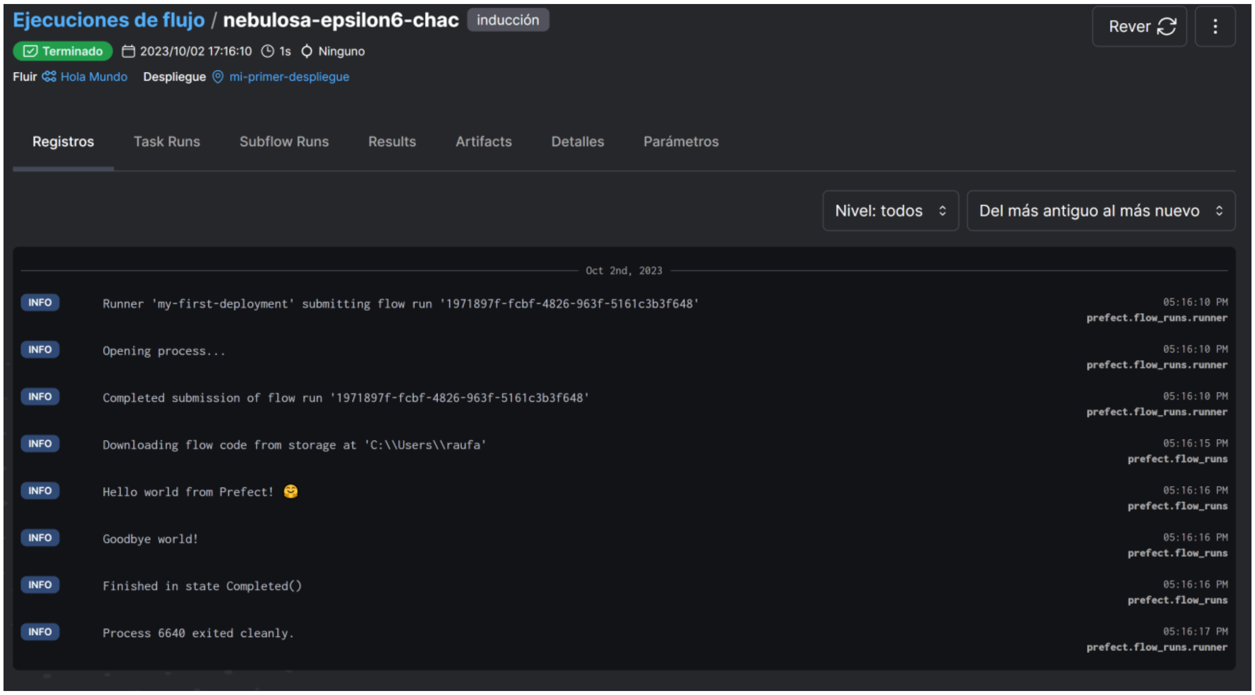
```
PS C:\Users\raufa> & C:/Users/raufa/AppData/Local/Programs/Python/Python311/python.exe "c:/Users/raufa/OneDrive/Escritorio/Programas Python/hola mundo.py"
16:58:11.665 | WARNING | prefect.runner - Cannot schedule flows on an ephemeral server; run `prefect server start` to start the scheduler.

 Your flow 'hello-world' is being served and polling for scheduled runs!

 To trigger a run for this flow, use the following command:

         $ prefect deployment run 'hello-world/my-first-deployment'

```

Aquí tenemos la información del código que acabamos de compilar en el cual no nos muestra errores y se ejecutara de forma automática hasta que nosotros lo terminemos desde la api



```
17:13:53.153 | INFO    | Flow run 'jumping-shrimp' - Finished in state Completed()
17:13:53.867 | INFO    | prefect.flow_runs.runner - Process 3104 exited cleanly.
17:14:33.916 | INFO    | prefect.flow_runs.runner - Runner 'my-first-deployment' submitting flow run '7989c45b-c56e-4359-abbe-7edeb1ba1795'
17:14:34.115 | INFO    | prefect.flow_runs.runner - Opening process...
17:14:34.130 | INFO    | prefect.flow_runs.runner - Completed submission of flow run '7989c45b-c56e-4359-abbe-7edeb1ba1795'
<frozen runpy>:128: RuntimeWarning: 'prefect.engine' found in sys.modules after import of package 'prefect', but prior to execution of 'prefect.engine'; this may result in unpredictable beha
viour
17:14:40.367 | INFO    | Flow run 'augmented-caracara' - Downloading flow code from storage at 'C:\\Users\\raufa'
17:14:42.370 | INFO    | Flow run 'augmented-caracara' - Hello world from Prefect! \U0001f917
17:14:42.375 | INFO    | Flow run 'augmented-caracara' - Goodbye world!
17:14:42.566 | INFO    | Flow run 'augmented-caracara' - Finished in state Completed()
17:14:43.512 | INFO    | prefect.flow_runs.runner - Process 15196 exited cleanly.
17:15:28.505 | INFO    | prefect.flow_runs.runner - Runner 'my-first-deployment' submitting flow run 'af60932e-dc5b-4096-b103-853ed2a1c102'
17:15:28.718 | INFO    | prefect.flow_runs.runner - Opening process...
17:15:28.721 | INFO    | prefect.flow_runs.runner - Completed submission of flow run 'af60932e-dc5b-4096-b103-853ed2a1c102'
<frozen runpy>:128: RuntimeWarning: 'prefect.engine' found in sys.modules after import of package 'prefect', but prior to execution of 'prefect.engine'; this may result in unpredictable beha
viour
17:15:34.026 | INFO    | Flow run 'wondrous-lori' - Downloading flow code from storage at 'C:\\Users\\raufa'
17:15:42.924 | INFO    | Flow run 'wondrous-lori' - Hello world from Prefect! \U0001f917
17:15:42.924 | INFO    | Flow run 'wondrous-lori' - Goodbye world!
17:15:43.130 | INFO    | Flow run 'wondrous-lori' - Finished in state Completed()
17:15:43.812 | INFO    | prefect.flow_runs.runner - Process 3340 exited cleanly.
17:16:10.161 | INFO    | prefect.flow_runs.runner - Runner 'my-first-deployment' submitting flow run '1971897f-fcbf-4826-963f-5161c3b3f648'
17:16:10.372 | INFO    | prefect.flow_runs.runner - Opening process...
17:16:10.391 | INFO    | prefect.flow_runs.runner - Completed submission of flow run '1971897f-fcbf-4826-963f-5161c3b3f648'
<frozen runpy>:128: RuntimeWarning: 'prefect.engine' found in sys.modules after import of package 'prefect', but prior to execution of 'prefect.engine'; this may result in unpredictable beha
viour
17:16:15.745 | INFO    | Flow run 'epsilon6-chac-nebula' - Downloading flow code from storage at 'C:\\Users\\raufa'
17:16:16.611 | INFO    | Flow run 'epsilon6-chac-nebula' - Hello world from Prefect! \U0001f917
17:16:16.624 | INFO    | Flow run 'epsilon6-chac-nebula' - Goodbye world!
17:16:16.817 | INFO    | Flow run 'epsilon6-chac-nebula' - Finished in state Completed()
17:16:17.569 | INFO    | prefect.flow_runs.runner - Process 6640 exited cleanly.
17:16:31.157 | INFO    | prefect.flow_runs.runner - Runner 'my-first-deployment' submitting flow run '0d051593-c292-4e0d-b250-18bd3b17cd64'
17:16:31.324 | INFO    | prefect.flow_runs.runner - Opening process...
17:16:31.346 | INFO    | prefect.flow_runs.runner - Completed submission of flow run '0d051593-c292-4e0d-b250-18bd3b17cd64'
<frozen runpy>:128: RuntimeWarning: 'prefect.engine' found in sys.modules after import of package 'prefect', but prior to execution of 'prefect.engine'; this may result in unpredictable beha
viour
17:16:37.690 | INFO    | Flow run 'ultramarine-pudu' - Downloading flow code from storage at 'C:\\Users\\raufa'
```

Aquí se muestran las ejecuciones



Ejecuciones de flujo / nebulosa-epsilon6-chac inducción

Terminado 2023/10/02 17:16:10 1s Ninguno

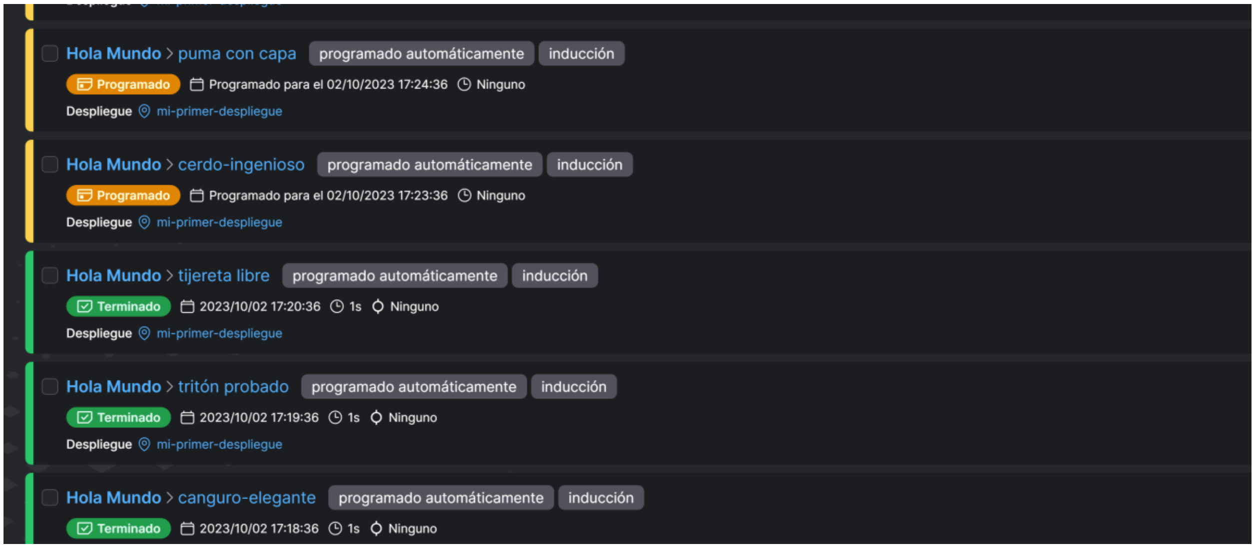
Fluir Hola Mundo Despliegue mi-primer-despliegue

Nivel: todos

Del más antiguo al más nuevo

```
                                   Oct 2nd, 2023

INFO   Runner 'my-first-deployment' submitting flow run '1971897f-fcbf-4826-963f-5161c3b3f648'      05:16:10 PM
                                                                                    prefect.flow_runs.runner
INFO   Opening process...                                                                           05:16:10 PM
                                                                                    prefect.flow_runs.runner
INFO   Completed submission of flow run '1971897f-fcbf-4826-963f-5161c3b3f648'                      05:16:10 PM
                                                                                    prefect.flow_runs.runner
INFO   Downloading flow code from storage at 'C:\\Users\\raufa'                                     05:16:15 PM
                                                                                           prefect.flow_runs
INFO   Hello world from Prefect! 🤗                                                                 05:16:16 PM
                                                                                           prefect.flow_runs
INFO   Goodbye world!                                                                               05:16:16 PM
                                                                                           prefect.flow_runs
INFO   Finished in state Completed()                                                                05:16:16 PM
                                                                                           prefect.flow_runs
INFO   Process 6640 exited cleanly.                                                                 05:16:17 PM
                                                                                    prefect.flow_runs.runner
```

En esta parte podemos ver si el programa ya ha terminado y cuanto hace falta para que acabe



□ Hola Mundo > puma con capa programado automáticamente inducción

Programado Programado para el 02/10/2023 17:24:36 Ninguno

Despliegue mi-primer-despliegue

□ Hola Mundo > cerdo-ingenioso programado automáticamente inducción

Programado Programado para el 02/10/2023 17:23:36 Ninguno

Despliegue mi-primer-despliegue

□ Hola Mundo > tijereta libre programado automáticamente inducción

Terminado 2023/10/02 17:20:36 1s Ninguno

Despliegue mi-primer-despliegue

□ Hola Mundo > tritón probado programado automáticamente inducción

Terminado 2023/10/02 17:19:36 1s Ninguno

Despliegue mi-primer-despliegue

□ Hola Mundo > canguro-elegante programado automáticamente inducción

Terminado 2023/10/02 17:18:36 1s Ninguno

Conclusión

Prefect es una herramienta muy útil para desarrollar, crear, observar y reaccionar ante datos o programas en los cuales requieren de ser analizados . En este caso implementamos ejemplos en el cual se podía ejecutar de forma automática y verificar si habían o no errores

Enlaces

Pagina de documentación de prefect

https://docs.prefect.io/