

## Workflow managers



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- **NRC:** 179961
- **Sección:** D06
- **Ciclo:** 2025-A

## Instrucciones:

¿Qué es Prefect?

Introducción a PREFECT

Task Failed Successfully

Jeremiah Lowin

[https://youtu.be/TlawR\\_gi8-Y?list=PLMGWGsnelbxcHmA5cVRq8a39S9s\\_gxAMq](https://youtu.be/TlawR_gi8-Y?list=PLMGWGsnelbxcHmA5cVRq8a39S9s_gxAMq)

Tarea:

Parte 1.

Seguir el tutorial siguiente y ejecutarlo en tu maquina.

Getting Started with Prefect (PyData Denver)

<https://www.youtube.com/watch?v=FETN0iivZps&t=2545s>

Parte 2.

Modificarlo y Generar un ejemplo.

link nuevo

<https://jsonplaceholder.cypress.io/>

## Desarrollo:

### Código (Python):

```
from prefect import flow, task
import requests
import json

@task(retries=3, retry_delay_seconds=10)
def obtener_datos(url: str = "https://jsonplaceholder.cypress.io/posts"):
    """Obtiene datos de la API JSONPlaceholder"""
    try:
        response = requests.get(url)
        response.raise_for_status()
        return response.json()
    except Exception as e:
        raise Exception(f"Error al obtener datos: {str(e)}")

@task
```

```

def procesar_datos(posts: list):
    """Procesa los datos para contar posts por usuario"""
    if not posts:
        raise ValueError("Lista de posts vacía")

    conteo_usuarios = {}
    for post in posts:
        user_id = post['userId']
        conteo_usuarios[user_id] = conteo_usuarios.get(user_id, 0) + 1
    return conteo_usuarios

@task
def guardar_resultados(conteo: dict, filename: str = "resultados.json"):
    """Guarda los resultados en un archivo JSON"""
    try:
        with open(filename, 'w') as f:
            json.dump(conteo, f, indent=2)
        return f"Resultados guardados en {filename}"
    except Exception as e:
        raise Exception(f"Error al guardar archivo: {str(e)}")

@flow(name="Análisis de Posts")
def flujo_principal(url: str = "https://jsonplaceholder.cypress.io/posts"):
    # Obtener datos
    datos = obtener_datos(url)

    # Procesar datos
    procesado = procesar_datos(datos)

    # Guardar resultados
    resultado = guardar_resultados(procesado)

    print("✅ Flujo completado exitosamente")
    print(f"📊 Total de usuarios: {len(procesado)}")
    print(f"📝 Total de posts: {sum(procesado.values())}")

if __name__ == "__main__":
    flujo_principal()

```

# Funcionamiento del Código:

## Parte 1: Explicación del Código

### 1. Estructura General

from prefect import flow, task

import requests

import json

Prefect: Framework para orquestar flujos de trabajo

Requests: Para hacer llamadas HTTP a la API

json: Para manipular archivos JSON

### 2. Tareas (Tasks)

@task(retries=3, retry\_delay\_seconds=10)

def obtener\_datos(url: str = "https://jsonplaceholder.cypress.io/posts"):

# Lógica de obtención de datos

response = requests.get(url)

return response.json()

Función: Obtiene datos de la API

Parámetros especiales:

retries=3: Reintentos automáticos ante fallos

retry\_delay\_seconds=10: Espera 10 segundos entre reintentos

url: Parámetro configurable

@task

def procesar\_datos(posts: list):

# Conteo de posts por usuario

conteo\_usuarios = {}

for post in posts:

user\_id = post["userId"]

```
conteo_usuarios[user_id] += 1
```

```
return conteo_usuarios
```

Propósito: Transformación de datos

Validación:

Chequea si la lista está vacía

Cuenta posts por ID de usuario

@task

```
def guardar_resultados(conteo: dict, filename: str = "resultados.json"):
```

```
    # Escritura de archivo
```

```
    with open(filename, 'w') as f:
```

```
        json.dump(conteo, f)
```

Persistencia: Guarda resultados en disco

Manejo de errores:

Try/except para operaciones de I/O

Retorna ubicación del archivo

### 3. Flujo Principal

@flow(name="Análisis de Posts")

```
def flujo_principal(url: str = "https://jsonplaceholder.cypress.io/posts"):
```

```
    datos = obtener_datos(url)
```

```
    procesado = procesar_datos(datos)
```

```
    resultado = guardar_resultados(procesado)
```

Orquestación: Coordina la ejecución de tareas

Parámetros:

url: Configurable desde fuera

name: Identificador en la UI de Prefect

## 4. Flujo de Ejecución

Inicia el flujo principal (flujo\_principal())

Ejecuta secuencialmente:

obtener\_datos()

procesar\_datos()

guardar\_resultados()

Maneja automáticamente:

Reintentos

Logging

Seguimiento de estado

## Parte 2: Explicación de Comandos CMD

### 1. Navegación al directorio

cd /d "D:\Septimo Semeste\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7"

cd: Cambia directorio

/d: Permite cambiar entre unidades de disco

Comillas Obligatorias por los espacios en nombres de carpetas

### 2. Instalación de dependencias

pip install prefect requests

Prefect: Motor del workflow

Requests: Cliente HTTP para la API

### 3. Ejecución del script

python Workflow\_managers.py

Secuencia interna:

Python carga el archivo

Detecta if \_\_name\_\_ == "\_\_main\_\_":

Ejecuta flujo\_principal()

Prefect inicia su motor de ejecución

#### 4. Salida Esperada

✅ Flujo completado exitosamente

📊 Total de usuarios: 10

📝 Total de posts: 100

Archivo generado: resultados.json con estructura:

```
{  
  "1": 10,  
  "2": 10,  
  ...  
}
```

#### 5. Opciones Avanzadas

prefect server start

Inicia la interfaz web en <http://localhost:4200>

Muestra:

Histórico de ejecuciones

Estado de tareas

Tiempos de ejecución

Logs detallados

Diagrama de Secuencia

CMD] -> Ejecuta Script Python -> Prefect Inicia ->

Tarea 1 (API) -> Tarea 2 (Procesar) -> Tarea 3 (Guardar) ->

Finaliza -> Muestra Resultados en CMD

Posibles Errores y Soluciones

ModuleNotFoundError:

Ejecutar `pip install -r requirements.txt`

Error de conexión a la API:

Verificar URL en el código

Chequear conexión a internet

Permisos de escritura:

Ejecutar CMD como administrador

Cambiar ruta de guardado

## **Para que sirve:**

El proyecto anterior sirve como sistema de automatización de flujos de trabajo (workflow) para realizar un proceso completo de Extracción, Transformación y Carga (ETL) utilizando datos de una API externa. Aquí te explico sus objetivos y aplicaciones prácticas:

### **1. Propósito Principal**

Automatizar un proceso de análisis de datos mediante:

Extracción: Obtener datos de una API externa (JSONPlaceholder).

Transformación: Procesar los datos para obtener métricas específicas.

Carga: Guardar los resultados en un formato persistente (JSON).

### **2. Casos de Uso**

Monitoreo de APIs: Verificar el estado y contenido de una API en producción.

Análisis de Datos: Generar métricas sobre el uso de recursos (ej: posts por usuario).

Automatización de Reportes: Crear reportes periódicos en formato estructurado.

Pruebas de Concepto: Demostrar el uso de workflow managers como Prefect.



### 3. Componentes Clave

Componente	Función	Tecnología Usada
<b>Tarea de Extracción</b>	Obtiene datos de la API	requests + Prefect
<b>Tarea de Procesamiento</b>	Calcula métricas (posts/usuario)	Python puro
<b>Tarea de Almacenamiento</b>	Guarda resultados en disco	json + Prefect
<b>Orquestador</b>	Coordina todo el flujo	Prefect

### 4. Beneficios Clave

Automatización:

Ejecución programada o manual del flujo completo.

Tolerancia a Fallos:

Reintentos automáticos en caso de errores (ej: caída de API).

Escalabilidad:

Fácil adaptación para procesar grandes volúmenes de datos.

Monitoreo:

Seguimiento visual del estado de ejecución (Prefect UI).

Reproducibilidad:

Mismo resultado en cualquier entorno de ejecución.

### 5. Aplicaciones en el Mundo Real

Business Intelligence:

Generar reportes diarios de métricas empresariales.

IoT:

Procesar datos de sensores en tiempo real.

Finanzas:

Monitorear transacciones y generar alertas.

Machine Learning:

Automatizar pipelines de entrenamiento de modelos.

## 6. Ejemplo Práctico

Imagina que trabajas en un startup que necesita:

Obtener datos diarios de su API de usuarios.

Calcular métricas clave (ej: usuarios activos por región).

Guardar resultados en cloud storage (S3, GCP, Azure).

Notificar al equipo vía Slack/Email.

Este proyecto sería el esqueleto base para implementar ese sistema completo.

## 7. Habilidades Desarrolladas

Uso de workflow managers profesionales (Prefect).

Integración con APIs REST.

Manejo de errores en flujos de datos.

Orquestación de tareas complejas.

Persistencia de resultados.

## 8. Evolución del Proyecto

Este código puede convertirse en:

graph LR

A[Proyecto Actual] --> B[Agregar conexión a base de datos]

A --> C[Implementar paralelismo]

A --> D[Agregar autenticación API]

A --> E[Desplegar en cloud]

A --> F[Crear dashboard interactivo]

## Pantallazos:

### Ejecución del programa:

```
PS D:\Septimo Semestre\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7> & C:/Users/jusue/AppData/Local/Programs/Python/Python313/python.exe "d:/Septimo Semestre/COMPUTACION TOLERANTE A FALLAS/Ejercicios/Ejercicio 7/Workflow_managers.py"
hjjk
PS D:\Septimo Semestre\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7> & C:/Users/jusue/AppData/Local/Programs/Python/Python313/python.exe "d:/Septimo Semestre/COMPUTACION TOLERANTE A FALLAS/Ejercicios/Ejercicio 7/Workflow_managers.py"
17:18:46.474 | INFO | prefect - Starting temporary server on http://127.0.0.1:8725
See https://docs.prefect.io/3.0/manage/self-host#self-host-a-prefect-server for more information on running a dedicated Prefect server.
17:19:11.901 | INFO | Flow run 'carmine-finch' - Beginning flow run 'carmine-finch' for flow 'Análisis de Posts'
17:19:13.118 | INFO | Task run 'obtener_datos-deb' - Finished in state Completed()
17:19:13.754 | INFO | Task run 'procesar_datos-26e' - Finished in state Completed()
17:19:14.678 | INFO | Task run 'guardar_resultados-a82' - Finished in state Completed()
✅ Flujo completado exitosamente
📊 Total de usuarios: 10
📄 Total de posts: 100
17:19:14.766 | INFO | Flow run 'carmine-finch' - Finished in state Completed()
17:19:14.797 | INFO | prefect - Stopping temporary server on http://127.0.0.1:8725
PS D:\Septimo Semestre\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7> & C:/Users/jusue/AppData/Local/Programs/Python/Python313/python.exe "d:/Septimo Semestre/COMPUTACION TOLERANTE A FALLAS/Ejercicios/Ejercicio 7/Workflow_managers.py"
```

### CMD:

Microsoft Windows [Versión 10.0.19045.5608]

(c) Microsoft Corporation. Todos los derechos reservados.

Clink v1.7.12.625e8b

Copyright (c) 2012-2018 Martin Ridgers

Portions Copyright (c) 2020-2025 Christopher Antos

<https://github.com/chrisant996/clink>

C:\Users\jusue>pip install prefect requests

Collecting prefect

Downloading prefect-3.2.13-py3-none-any.whl.metadata (12 kB)

Collecting requests

Downloading requests-2.32.3-py3-none-any.whl.metadata (4.6 kB)

Collecting aioredis<1.0.0,>=0.17.0 (from prefect)

Downloading aioredis-0.21.0-py3-none-any.whl.metadata (4.3 kB)

Collecting alembic<2.0.0,>=1.7.5 (from prefect)

Downloading alembic-1.15.1-py3-none-any.whl.metadata (7.2 kB)

Collecting anyio<5.0.0,>=4.4.0 (from prefect)

Downloading anyio-4.9.0-py3-none-any.whl.metadata (4.7 kB)

Collecting apprise<2.0.0,>=1.1.0 (from prefect)

Downloading apprise-1.9.2-py3-none-any.whl.metadata (52 kB)

Collecting asgi-lifespan<3.0,>=1.0 (from prefect)

Downloading asgi\_lifespan-2.1.0-py3-none-any.whl.metadata (10 kB)

Collecting asyncpg<1.0.0,>=0.23 (from prefect)

Downloading asyncpg-0.30.0-cp313-cp313-win\_amd64.whl.metadata (5.2 kB)

Collecting cachetools<6.0,>=5.3 (from prefect)

Downloading cachetools-5.5.2-py3-none-any.whl.metadata (5.4 kB)

Collecting click<8.2,>=8.0 (from prefect)

Downloading click-8.1.8-py3-none-any.whl.metadata (2.3 kB)

Collecting cloudpickle<4.0,>=2.0 (from prefect)

Downloading cloudpickle-3.1.1-py3-none-any.whl.metadata (7.1 kB)

Collecting coolname<3.0.0,>=1.0.4 (from prefect)

Downloading coolname-2.2.0-py2.py3-none-any.whl.metadata (6.2 kB)

Collecting cryptography>=36.0.1 (from prefect)

Downloading cryptography-44.0.2-cp39-abi3-win\_amd64.whl.metadata (5.7 kB)

Collecting dateparser<2.0.0,>=1.1.1 (from prefect)

Downloading dateparser-1.2.1-py3-none-any.whl.metadata (29 kB)

Collecting docker<8.0,>=4.0 (from prefect)

Downloading docker-7.1.0-py3-none-any.whl.metadata (3.8 kB)

Collecting exceptiongroup>=1.0.0 (from prefect)

Downloading exceptiongroup-1.2.2-py3-none-any.whl.metadata (6.6 kB)

Collecting fastapi<1.0.0,>=0.111.0 (from prefect)

Downloading fastapi-0.115.11-py3-none-any.whl.metadata (27 kB)

Collecting fsspec>=2022.5.0 (from prefect)

Downloading fsspec-2025.3.0-py3-none-any.whl.metadata (11 kB)  
Collecting graphviz>=0.20.1 (from prefect)  
Downloading graphviz-0.20.3-py3-none-any.whl.metadata (12 kB)  
Collecting griffe<2.0.0,>=0.49.0 (from prefect)  
Downloading griffe-1.6.0-py3-none-any.whl.metadata (5.0 kB)  
Collecting httpcore<2.0.0,>=1.0.5 (from prefect)  
Downloading httpcore-1.0.7-py3-none-any.whl.metadata (21 kB)  
Collecting httpx!=0.23.2,>=0.23 (from httpx[http2]!=0.23.2,>=0.23->prefect)  
Downloading httpx-0.28.1-py3-none-any.whl.metadata (7.1 kB)  
Collecting humanize<5.0.0,>=4.9.0 (from prefect)  
Downloading humanize-4.12.1-py3-none-any.whl.metadata (7.8 kB)  
Collecting jinja2-humanize-extension>=0.4.0 (from prefect)  
Downloading jinja2\_humanize\_extension-0.4.0-py3-none-any.whl.metadata (3.6 kB)  
Collecting jinja2<4.0.0,>=3.0.0 (from prefect)  
Downloading jinja2-3.1.6-py3-none-any.whl.metadata (2.9 kB)  
Collecting jsonpatch<2.0,>=1.32 (from prefect)  
Downloading jsonpatch-1.33-py2.py3-none-any.whl.metadata (3.0 kB)  
Collecting jsonschema<5.0.0,>=4.0.0 (from prefect)  
Downloading jsonschema-4.23.0-py3-none-any.whl.metadata (7.9 kB)  
Collecting opentelemetry-api<2.0.0,>=1.27.0 (from prefect)  
Downloading opentelemetry\_api-1.31.0-py3-none-any.whl.metadata (1.6 kB)  
Collecting orjson<4.0,>=3.7 (from prefect)  
Downloading orjson-3.10.15-cp313-cp313-win\_amd64.whl.metadata (42 kB)  
Collecting packaging<24.3,>=21.3 (from prefect)  
Downloading packaging-24.2-py3-none-any.whl.metadata (3.2 kB)  
Collecting pathspec>=0.8.0 (from prefect)

Downloading pathspec-0.12.1-py3-none-any.whl.metadata (21 kB)  
Collecting pendulum<4,>=3.0.0 (from prefect)  
Downloading pendulum-3.0.0.tar.gz (84 kB)  
Installing build dependencies ... done  
Getting requirements to build wheel ... done  
Preparing metadata (pyproject.toml) ... done  
Collecting prometheus-client>=0.20.0 (from prefect)  
Downloading prometheus\_client-0.21.1-py3-none-any.whl.metadata (1.8 kB)  
Collecting pydantic!=2.10.0,<3.0.0,>=2.9 (from prefect)  
Downloading pydantic-2.10.6-py3-none-any.whl.metadata (30 kB)  
Collecting pydantic-core<3.0.0,>=2.12.0 (from prefect)  
Downloading pydantic\_core-2.32.0-cp313-cp313-win\_amd64.whl.metadata (6.9 kB)  
Collecting pydantic-extra-types<3.0.0,>=2.8.2 (from prefect)  
Downloading pydantic\_extra\_types-2.10.3-py3-none-any.whl.metadata (3.9 kB)  
Collecting pydantic-settings>2.2.1 (from prefect)  
Downloading pydantic\_settings-2.8.1-py3-none-any.whl.metadata (3.5 kB)  
Collecting python-dateutil<3.0.0,>=2.8.2 (from prefect)  
Downloading python\_dateutil-2.9.0.post0-py2.py3-none-any.whl.metadata (8.4 kB)  
Collecting python-slugify<9.0,>=5.0 (from prefect)  
Downloading python\_slugify-8.0.4-py2.py3-none-any.whl.metadata (8.5 kB)  
Collecting python-socks<3.0,>=2.5.3 (from python-socks[asyncio]<3.0,>=2.5.3->prefect)  
Downloading python\_socks-2.7.1-py3-none-any.whl.metadata (8.0 kB)  
Collecting pytz<2026,>=2021.1 (from prefect)  
Downloading pytz-2025.1-py2.py3-none-any.whl.metadata (22 kB)  
Collecting pyyaml<7.0.0,>=5.4.1 (from prefect)

Downloading PyYAML-6.0.2-cp313-cp313-win\_amd64.whl.metadata (2.1 kB)  
Collecting readchar<5.0.0,>=4.0.0 (from prefect)  
Downloading readchar-4.2.1-py3-none-any.whl.metadata (7.5 kB)  
Collecting rfc3339-validator<0.2.0,>=0.1.4 (from prefect)  
Downloading rfc3339\_validator-0.1.4-py2.py3-none-any.whl.metadata (1.5 kB)  
Collecting rich<14.0,>=11.0 (from prefect)  
Downloading rich-13.9.4-py3-none-any.whl.metadata (18 kB)  
Collecting ruamel-yaml>=0.17.0 (from prefect)  
Downloading ruamel.yaml-0.18.10-py3-none-any.whl.metadata (23 kB)  
Collecting sniffio<2.0.0,>=1.3.0 (from prefect)  
Downloading sniffio-1.3.1-py3-none-any.whl.metadata (3.9 kB)  
Collecting sqlalchemy<3.0.0,>=2.0 (from sqlalchemy[asyncio]<3.0.0,>=2.0->prefect)  
Downloading sqlalchemy-2.0.39-cp313-cp313-win\_amd64.whl.metadata (9.9 kB)  
Collecting toml>=0.10.0 (from prefect)  
Downloading toml-0.10.2-py2.py3-none-any.whl.metadata (7.1 kB)  
Collecting typer!=0.12.2,<0.16.0,>=0.12.0 (from prefect)  
Downloading typer-0.15.2-py3-none-any.whl.metadata (15 kB)  
Collecting typing-extensions<5.0.0,>=4.5.0 (from prefect)  
Downloading typing\_extensions-4.12.2-py3-none-any.whl.metadata (3.0 kB)  
Collecting ujson<6.0.0,>=5.8.0 (from prefect)  
Downloading ujson-5.10.0-cp313-cp313-win\_amd64.whl.metadata (9.5 kB)  
Collecting uv>=0.6.0 (from prefect)  
Downloading uv-0.6.6-py3-none-win\_amd64.whl.metadata (11 kB)  
Collecting uvicorn!=0.29.0,>=0.14.0 (from prefect)  
Downloading uvicorn-0.34.0-py3-none-any.whl.metadata (6.5 kB)  
Collecting websockets<16.0,>=13.0 (from prefect)

Downloading websockets-15.0.1-cp313-cp313-win\_amd64.whl.metadata (7.0 kB)  
Collecting charset-normalizer<4,>=2 (from requests)  
Downloading charset\_normalizer-3.4.1-cp313-cp313-win\_amd64.whl.metadata (36 kB)  
Collecting idna<4,>=2.5 (from requests)  
Downloading idna-3.10-py3-none-any.whl.metadata (10 kB)  
Collecting urllib3<3,>=1.21.1 (from requests)  
Downloading urllib3-2.3.0-py3-none-any.whl.metadata (6.5 kB)  
Collecting certifi>=2017.4.17 (from requests)  
Downloading certifi-2025.1.31-py3-none-any.whl.metadata (2.5 kB)  
Collecting Mako (from alembic<2.0.0,>=1.7.5->prefect)  
Downloading Mako-1.3.9-py3-none-any.whl.metadata (2.9 kB)  
Collecting requests-oauthlib (from apprise<2.0.0,>=1.1.0->prefect)  
Downloading requests\_oauthlib-2.0.0-py2.py3-none-any.whl.metadata (11 kB)  
Collecting markdown (from apprise<2.0.0,>=1.1.0->prefect)  
Downloading Markdown-3.7-py3-none-any.whl.metadata (7.0 kB)  
Collecting colorama (from click<8.2,>=8.0->prefect)  
Downloading colorama-0.4.6-py2.py3-none-any.whl.metadata (17 kB)  
Collecting cffi>=1.12 (from cryptography>=36.0.1->prefect)  
Downloading cffi-1.17.1-cp313-cp313-win\_amd64.whl.metadata (1.6 kB)  
Collecting regex!=2019.02.19,!>=2021.8.27,>=2015.06.24 (from dateparser<2.0.0,>=1.1.1->prefect)  
Downloading regex-2024.11.6-cp313-cp313-win\_amd64.whl.metadata (41 kB)  
Collecting tzlocal>=0.2 (from dateparser<2.0.0,>=1.1.1->prefect)  
Downloading tzlocal-5.3.1-py3-none-any.whl.metadata (7.6 kB)  
Collecting pywin32>=304 (from docker<8.0,>=4.0->prefect)  
Downloading pywin32-310-cp313-cp313-win\_amd64.whl.metadata (9.4 kB)  
Collecting starlette<0.47.0,>=0.40.0 (from fastapi<1.0.0,>=0.111.0->prefect)



Downloading starlette-0.46.1-py3-none-any.whl.metadata (6.2 kB)  
Collecting h11<0.15,>=0.13 (from httpcore<2.0.0,>=1.0.5->prefect)  
Downloading h11-0.14.0-py3-none-any.whl.metadata (8.2 kB)  
Collecting h2<5,>=3 (from httpx[http2]!=0.23.2,>=0.23->prefect)  
Downloading h2-4.2.0-py3-none-any.whl.metadata (5.1 kB)  
Collecting MarkupSafe>=2.0 (from jinja2<4.0.0,>=3.0.0->prefect)  
Downloading MarkupSafe-3.0.2-cp313-cp313-win\_amd64.whl.metadata (4.1 kB)  
Collecting jsonpointer>=1.9 (from jsonpatch<2.0,>=1.32->prefect)  
Downloading jsonpointer-3.0.0-py2.py3-none-any.whl.metadata (2.3 kB)  
Collecting attrs>=22.2.0 (from jsonschema<5.0.0,>=4.0.0->prefect)  
Downloading attrs-25.3.0-py3-none-any.whl.metadata (10 kB)  
Collecting jsonschema-specifications>=2023.03.6 (from  
jsonschema<5.0.0,>=4.0.0->prefect)  
Downloading jsonschema\_specifications-2024.10.1-py3-none-any.whl.metadata  
(3.0 kB)  
Collecting referencing>=0.28.4 (from jsonschema<5.0.0,>=4.0.0->prefect)  
Downloading referencing-0.36.2-py3-none-any.whl.metadata (2.8 kB)  
Collecting rpds-py>=0.7.1 (from jsonschema<5.0.0,>=4.0.0->prefect)  
Downloading rpds\_py-0.23.1-cp313-cp313-win\_amd64.whl.metadata (4.2 kB)  
Collecting deprecated>=1.2.6 (from opentelemetry-api<2.0.0,>=1.27.0->prefect)  
Downloading Deprecated-1.2.18-py2.py3-none-any.whl.metadata (5.7 kB)  
Collecting importlib-metadata<8.7.0,>=6.0 (from opentelemetry-  
api<2.0.0,>=1.27.0->prefect)  
Downloading importlib\_metadata-8.6.1-py3-none-any.whl.metadata (4.7 kB)  
Collecting tzdata>=2020.1 (from pendulum<4,>=3.0.0->prefect)  
Downloading tzdata-2025.1-py2.py3-none-any.whl.metadata (1.4 kB)  
Collecting time-machine>=2.6.0 (from pendulum<4,>=3.0.0->prefect)

Downloading time\_machine-2.16.0-cp313-cp313-win\_amd64.whl.metadata (21 kB)

Collecting annotated-types>=0.6.0 (from pydantic!=2.10.0,<3.0.0,>=2.9->prefect)

Downloading annotated\_types-0.7.0-py3-none-any.whl.metadata (15 kB)

Collecting pydantic-core<3.0.0,>=2.12.0 (from prefect)

Downloading pydantic\_core-2.27.2-cp313-cp313-win\_amd64.whl.metadata (6.7 kB)

Collecting python-dotenv>=0.21.0 (from pydantic-settings>2.2.1->prefect)

Downloading python\_dotenv-1.0.1-py3-none-any.whl.metadata (23 kB)

Collecting six>=1.5 (from python-dateutil<3.0.0,>=2.8.2->prefect)

Downloading six-1.17.0-py2.py3-none-any.whl.metadata (1.7 kB)

Collecting text-unidecode>=1.3 (from python-slugify<9.0,>=5.0->prefect)

Downloading text\_unidecode-1.3-py2.py3-none-any.whl.metadata (2.4 kB)

Collecting markdown-it-py>=2.2.0 (from rich<14.0,>=11.0->prefect)

Downloading markdown\_it\_py-3.0.0-py3-none-any.whl.metadata (6.9 kB)

Collecting pygments<3.0.0,>=2.13.0 (from rich<14.0,>=11.0->prefect)

Downloading pygments-2.19.1-py3-none-any.whl.metadata (2.5 kB)

Collecting greenlet!=0.4.17 (from sqlalchemy<3.0.0,>=2.0->sqlalchemy[asyncio]<3.0.0,>=2.0->prefect)

Downloading greenlet-3.1.1-cp313-cp313-win\_amd64.whl.metadata (3.9 kB)

Collecting shellingham>=1.3.0 (from typer!=0.12.2,<0.16.0,>=0.12.0->prefect)

Downloading shellingham-1.5.4-py2.py3-none-any.whl.metadata (3.5 kB)

Collecting pycparser (from cffi>=1.12-> cryptography>=36.0.1->prefect)

Downloading pycparser-2.22-py3-none-any.whl.metadata (943 bytes)

Collecting wrapt<2,>=1.10 (from deprecated>=1.2.6->opentelemetry-api<2.0.0,>=1.27.0->prefect)

Downloading wrapt-1.17.2-cp313-cp313-win\_amd64.whl.metadata (6.5 kB)

Collecting hyperframe<7,>=6.1 (from h2<5,>=3->httpx[http2]!=0.23.2,>=0.23->prefect)

Downloading hyperframe-6.1.0-py3-none-any.whl.metadata (4.3 kB)

Collecting hpack<5,>=4.1 (from h2<5,>=3->httpx[http2]!=0.23.2,>=0.23->prefect)

Downloading hpack-4.1.0-py3-none-any.whl.metadata (4.6 kB)

Collecting zipp>=3.20 (from importlib-metadata<8.7.0,>=6.0->opentelemetry-api<2.0.0,>=1.27.0->prefect)

Downloading zipp-3.21.0-py3-none-any.whl.metadata (3.7 kB)

Collecting mdurl~=0.1 (from markdown-it-py>=2.2.0->rich<14.0,>=11.0->prefect)

Downloading mdurl-0.1.2-py3-none-any.whl.metadata (1.6 kB)

Collecting oauthlib>=3.0.0 (from requests-oauthlib->apprise<2.0.0,>=1.1.0->prefect)

Downloading oauthlib-3.2.2-py3-none-any.whl.metadata (7.5 kB)

Downloading prefect-3.2.13-py3-none-any.whl (6.0 MB)

----- 6.0/6.0 MB 9.9 MB/s eta 0:00:00

Downloading requests-2.32.3-py3-none-any.whl (64 kB)

Downloading aiosqlite-0.21.0-py3-none-any.whl (15 kB)

Downloading alembic-1.15.1-py3-none-any.whl (231 kB)

Downloading anyio-4.9.0-py3-none-any.whl (100 kB)

Downloading apprise-1.9.2-py3-none-any.whl (1.3 MB)

----- 1.3/1.3 MB 9.8 MB/s eta 0:00:00

Downloading asgi\_lifespan-2.1.0-py3-none-any.whl (10 kB)

Downloading asyncpg-0.30.0-cp313-cp313-win\_amd64.whl (621 kB)

----- 621.6/621.6 kB 9.3 MB/s eta 0:00:00

Downloading cachetools-5.5.2-py3-none-any.whl (10 kB)

Downloading certifi-2025.1.31-py3-none-any.whl (166 kB)

Downloading charset\_normalizer-3.4.1-cp313-cp313-win\_amd64.whl (102 kB)

Downloading click-8.1.8-py3-none-any.whl (98 kB)

Downloading cloudpickle-3.1.1-py3-none-any.whl (20 kB)

Downloading coolname-2.2.0-py2.py3-none-any.whl (37 kB)

Downloading cryptography-44.0.2-cp39-abi3-win\_amd64.whl (3.2 MB)

----- 3.2/3.2 MB 8.9 MB/s eta 0:00:00

Downloading dateparser-1.2.1-py3-none-any.whl (295 kB)

Downloading docker-7.1.0-py3-none-any.whl (147 kB)

Downloading exceptiongroup-1.2.2-py3-none-any.whl (16 kB)

Downloading fastapi-0.115.11-py3-none-any.whl (94 kB)

Downloading fsspec-2025.3.0-py3-none-any.whl (193 kB)

Downloading graphviz-0.20.3-py3-none-any.whl (47 kB)

Downloading griffe-1.6.0-py3-none-any.whl (128 kB)

Downloading httpcore-1.0.7-py3-none-any.whl (78 kB)

Downloading httpx-0.28.1-py3-none-any.whl (73 kB)

Downloading humanize-4.12.1-py3-none-any.whl (127 kB)

Downloading idna-3.10-py3-none-any.whl (70 kB)

Downloading jinja2-3.1.6-py3-none-any.whl (134 kB)

Downloading jinja2\_humanize\_extension-0.4.0-py3-none-any.whl (4.8 kB)

Downloading jsonpatch-1.33-py2.py3-none-any.whl (12 kB)

Downloading jsonschema-4.23.0-py3-none-any.whl (88 kB)

Downloading opentelemetry\_api-1.31.0-py3-none-any.whl (65 kB)

Downloading orjson-3.10.15-cp313-cp313-win\_amd64.whl (133 kB)

Downloading packaging-24.2-py3-none-any.whl (65 kB)

Downloading pathspec-0.12.1-py3-none-any.whl (31 kB)

Downloading prometheus\_client-0.21.1-py3-none-any.whl (54 kB)

Downloading pydantic-2.10.6-py3-none-any.whl (431 kB)

Downloading pydantic\_core-2.27.2-cp313-cp313-win\_amd64.whl (2.0 MB)

----- 2.0/2.0 MB 11.0 MB/s eta 0:00:00

Downloading pydantic\_extra\_types-2.10.3-py3-none-any.whl (37 kB)

Downloading pydantic\_settings-2.8.1-py3-none-any.whl (30 kB)

Downloading python\_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)

Downloading python\_slugify-8.0.4-py2.py3-none-any.whl (10 kB)

Downloading python\_socks-2.7.1-py3-none-any.whl (54 kB)

Downloading pytz-2025.1-py2.py3-none-any.whl (507 kB)

Downloading PyYAML-6.0.2-cp313-cp313-win\_amd64.whl (156 kB)

Downloading readchar-4.2.1-py3-none-any.whl (9.3 kB)

Downloading rfc3339\_validator-0.1.4-py2.py3-none-any.whl (3.5 kB)

Downloading rich-13.9.4-py3-none-any.whl (242 kB)

Downloading ruamel.yaml-0.18.10-py3-none-any.whl (117 kB)

Downloading sniffio-1.3.1-py3-none-any.whl (10 kB)

Downloading sqlalchemy-2.0.39-cp313-cp313-win\_amd64.whl (2.1 MB)

----- 2.1/2.1 MB 10.3 MB/s eta 0:00:00

Downloading toml-0.10.2-py2.py3-none-any.whl (16 kB)

Downloading typer-0.15.2-py3-none-any.whl (45 kB)

Downloading typing\_extensions-4.12.2-py3-none-any.whl (37 kB)

Downloading ujson-5.10.0-cp313-cp313-win\_amd64.whl (42 kB)

Downloading urllib3-2.3.0-py3-none-any.whl (128 kB)

Downloading uv-0.6.6-py3-none-win\_amd64.whl (17.1 MB)

----- 17.1/17.1 MB 10.3 MB/s eta 0:00:00

Downloading uvicorn-0.34.0-py3-none-any.whl (62 kB)

Downloading websockets-15.0.1-cp313-cp313-win\_amd64.whl (176 kB)

Downloading annotated\_types-0.7.0-py3-none-any.whl (13 kB)

Downloading attrs-25.3.0-py3-none-any.whl (63 kB)

Downloading cffi-1.17.1-cp313-cp313-win\_amd64.whl (182 kB)

Downloading colorama-0.4.6-py2.py3-none-any.whl (25 kB)

Downloading Deprecated-1.2.18-py2.py3-none-any.whl (10.0 kB)

Downloading greenlet-3.1.1-cp313-cp313-win\_amd64.whl (299 kB)

Downloading h11-0.14.0-py3-none-any.whl (58 kB)

Downloading h2-4.2.0-py3-none-any.whl (60 kB)

Downloading importlib\_metadata-8.6.1-py3-none-any.whl (26 kB)

Downloading jsonpointer-3.0.0-py2.py3-none-any.whl (7.6 kB)

Downloading jsonschema\_specifications-2024.10.1-py3-none-any.whl (18 kB)

Downloading markdown\_it\_py-3.0.0-py3-none-any.whl (87 kB)

Downloading MarkupSafe-3.0.2-cp313-cp313-win\_amd64.whl (15 kB)

Downloading pygments-2.19.1-py3-none-any.whl (1.2 MB)

----- 1.2/1.2 MB 10.7 MB/s eta 0:00:00

Downloading python\_dotenv-1.0.1-py3-none-any.whl (19 kB)

Downloading pywin32-310-cp313-cp313-win\_amd64.whl (9.5 MB)

----- 9.5/9.5 MB 10.4 MB/s eta 0:00:00

Downloading referencing-0.36.2-py3-none-any.whl (26 kB)

Downloading regex-2024.11.6-cp313-cp313-win\_amd64.whl (273 kB)

Downloading rpds\_py-0.23.1-cp313-cp313-win\_amd64.whl (237 kB)

Downloading shellingham-1.5.4-py2.py3-none-any.whl (9.8 kB)

Downloading six-1.17.0-py2.py3-none-any.whl (11 kB)

Downloading starlette-0.46.1-py3-none-any.whl (71 kB)

Downloading text\_unidecode-1.3-py2.py3-none-any.whl (78 kB)

Downloading time\_machine-2.16.0-cp313-cp313-win\_amd64.whl (19 kB)

Downloading tzdata-2025.1-py2.py3-none-any.whl (346 kB)

Downloading tzlocal-5.3.1-py3-none-any.whl (18 kB)

Downloading Mako-1.3.9-py3-none-any.whl (78 kB)

Downloading Markdown-3.7-py3-none-any.whl (106 kB)

Downloading requests\_oauthlib-2.0.0-py2.py3-none-any.whl (24 kB)

Downloading hpack-4.1.0-py3-none-any.whl (34 kB)

Downloading hyperframe-6.1.0-py3-none-any.whl (13 kB)

Downloading mdurl-0.1.2-py3-none-any.whl (10.0 kB)

Downloading oauthlib-3.2.2-py3-none-any.whl (151 kB)

Downloading wrapt-1.17.2-cp313-cp313-win\_amd64.whl (38 kB)

Downloading zipp-3.21.0-py3-none-any.whl (9.6 kB)

Downloading pycparser-2.22-py3-none-any.whl (117 kB)

Building wheels for collected packages: pendulum

Building wheel for pendulum (pyproject.toml) ... done

Created wheel for pendulum: filename=pendulum-3.0.0-cp313-cp313-win\_amd64.whl size=291404  
sha256=0033f16cfd1f3aeb358707364bc5c6b3c5770730512085b2c3bb4f64b3d41121

Stored in directory:

c:\users\jusue\appdata\local\pip\cache\wheels\1c\22\db\484e3a29f4de855955536bfaf64d8b319bc48296e56463b6c7

Successfully built pendulum

Installing collected packages: text-unidecode, pywin32, pytz, coolname, zipp, wrapt, websockets, uv, urllib3, ujson, tzdata, typing-extensions, toml, sniffio, six, shellingham, ruamel-yaml, rpds-py, regex, readchar, pyyaml, python-socks, python-slugify, python-dotenv, pygments, pycparser, prometheus-client, pathspec, packaging, orjson, oauthlib, mdurl, MarkupSafe, markdown, jsonpointer, idna, hyperframe, humanize, hpack, h11, greenlet, graphviz, fsspec, exceptiongroup, colorama, cloudpickle, charset-normalizer, certifi, cachetools, attrs, asyncpg, annotated-types, tzlocal, sqlalchemy, rfc3339-validator, requests, referencing, python-dateutil, pydantic-core, markdown-it-py, Mako, jsonpatch, jinja2, importlib-metadata, httpcore, h2, griffe, deprecated, click, cffi, asgi-lifespan, anyio, aiosqlite, uvicorn, time-machine, starlette, rich, requests-oauthlib, pydantic, opentelemetry-api, jsonschema-specifications, jinja2-humanize-extension, httpx, docker, dateparser, cryptography, alembic, typer, pydantic-settings, pydantic-extra-types, pendulum, jsonschema, fastapi, apprise, prefect

Successfully installed Mako-1.3.9 MarkupSafe-3.0.2 aiosqlite-0.21.0 alembic-1.15.1 annotated-types-0.7.0 anyio-4.9.0 apprise-1.9.2 asgi-lifespan-2.1.0 asyncpg-0.30.0 attrs-25.3.0 cachetools-5.5.2 certifi-2025.1.31 cffi-1.17.1 charset-normalizer-3.4.1 click-8.1.8 cloudpickle-3.1.1 colorama-0.4.6 coolname-2.2.0 cryptography-44.0.2 dateparser-1.2.1 deprecated-1.2.18 docker-7.1.0 exceptiongroup-1.2.2 fastapi-0.115.11 fsspec-2025.3.0 graphviz-0.20.3 greenlet-

3.1.1 griffe-1.6.0 h11-0.14.0 h2-4.2.0 hpack-4.1.0 httpcore-1.0.7 httpx-0.28.1  
 humanize-4.12.1 hyperframe-6.1.0 idna-3.10 importlib-metadata-8.6.1 jinja2-3.1.6  
 jinja2-humanize-extension-0.4.0 jsonpatch-1.33 jsonpointer-3.0.0 jsonschema-  
 4.23.0 jsonschema-specifications-2024.10.1 markdown-3.7 markdown-it-py-3.0.0  
 mdurl-0.1.2 oauthlib-3.2.2 opentelemetry-api-1.31.0 orjson-3.10.15 packaging-24.2  
 pathspec-0.12.1 pendulum-3.0.0 prefect-3.2.13 prometheus-client-0.21.1  
 pycparser-2.22 pydantic-2.10.6 pydantic-core-2.27.2 pydantic-extra-types-2.10.3  
 pydantic-settings-2.8.1 pygments-2.19.1 python-dateutil-2.9.0.post0 python-  
 dotenv-1.0.1 python-slugify-8.0.4 python-socks-2.7.1 pytz-2025.1 pywin32-310  
 pyyaml-6.0.2 readchar-4.2.1 referencing-0.36.2 regex-2024.11.6 requests-2.32.3  
 requests-oauthlib-2.0.0 rfc3339-validator-0.1.4 rich-13.9.4 rpds-py-0.23.1 ruamel-  
 yaml-0.18.10 shellingham-1.5.4 six-1.17.0 sniffio-1.3.1 sqlalchemy-2.0.39 starlette-  
 0.46.1 text-unidecode-1.3 time-machine-2.16.0 toml-0.10.2 typer-0.15.2 typing-  
 extensions-4.12.2 tzdata-2025.1 tzlocal-5.3.1 ujson-5.10.0 urllib3-2.3.0 uv-0.6.6  
 uvicorn-0.34.0 websockets-15.0.1 wrapt-1.17.2 zipp-3.21.0

[notice] A new release of pip is available: 24.3.1 -> 25.0.1

[notice] To update, run: python.exe -m pip install --upgrade pip

C:\Users\jusue>python Workflow\_manager.py

python: can't open file 'C:\\Users\\jusue\\Workflow\_manager.py': [Errno 2] No such  
 file or directory

C:\Users\jusue>cd /d "D:\Septimo Semeste\COMPUTACION TOLERANTE A  
 FALLAS\Epython Workflow\_managers.py

17:24:32.891 | INFO | prefect - Starting temporary server on http://127.0.0.1:8094

See <https://docs.prefect.io/3.0/manage/self-host#self-host-a-prefect-server> for  
 more information on running a dedicated Prefect server.

17:24:45.753 | INFO | Flow run 'truthful-mouse' - Beginning flow run 'truthful-  
 mouse' for flow 'Análisis de Posts'

17:24:47.262 | INFO | Task run 'obtener\_datos-d3f' - Finished in state  
 Completed()

17:24:47.946 | INFO | Task run 'procesar\_datos-146' - Finished in state  
 Completed()



17:24:48.868 | INFO | Task run 'guardar\_resultados-56e' - Finished in state Completed()

✅ Flujo completado exitosamente

📊 Total de usuarios: 10

📝 Total de posts: 100

17:24:48.952 | INFO | Flow run 'truthful-mouse' - Finished in state Completed()

17:24:48.967 | INFO | prefect - Stopping temporary server on http://127.0.0.1:8094

D:\Septimo Semeste\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7>python Workflow\_managers.py

17:25:35.695 | INFO | prefect - Starting temporary server on http://127.0.0.1:8298

See <https://docs.prefect.io/3.0/manage/self-host#self-host-a-prefect-server> for more information on running a dedicated Prefect server.

17:25:47.189 | INFO | Flow run 'dancing-grasshopper' - Beginning flow run 'dancing-grasshopper' for flow 'Análisis de Posts'

17:25:48.365 | INFO | Task run 'obtener\_datos-73d' - Finished in state Completed()

17:25:48.976 | INFO | Task run 'procesar\_datos-900' - Finished in state Completed()

17:25:49.892 | INFO | Task run 'guardar\_resultados-e6f' - Finished in state Completed()

✅ Flujo completado exitosamente

📊 Total de usuarios: 10

📝 Total de posts: 100

17:25:49.969 | INFO | Flow run 'dancing-grasshopper' - Finished in state Completed()

17:25:50.013 | INFO | prefect - Stopping temporary server on http://127.0.0.1:8298

D:\Septimo Semeste\COMPUTACION TOLERANTE A FALLAS\Ejercicios\Ejercicio 7>pip install prefect requests

Requirement already satisfied: prefect in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (3.2.13)

Requirement already satisfied: requests in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (2.32.3)

Requirement already satisfied: aioredis<1.0.0,>=0.17.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (0.21.0)

Requirement already satisfied: alembic<2.0.0,>=1.7.5 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (1.15.1)

Requirement already satisfied: anyio<5.0.0,>=4.4.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (4.9.0)

Requirement already satisfied: apprise<2.0.0,>=1.1.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (1.9.2)

Requirement already satisfied: asgi-lifespan<3.0,>=1.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (2.1.0)

Requirement already satisfied: asyncpg<1.0.0,>=0.23 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (0.30.0)

Requirement already satisfied: cachetools<6.0,>=5.3 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (5.5.2)

Requirement already satisfied: click<8.2,>=8.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (8.1.8)

Requirement already satisfied: cloudpickle<4.0,>=2.0 in

c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from prefect) (3.1.1)

Requirement already satisfied: coolname<3.0.0,>=1.0.4 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.2.0)

Requirement already satisfied: cryptography>=36.0.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (44.0.2)

Requirement already satisfied: dateparser<2.0.0,>=1.1.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.2.1)

Requirement already satisfied: docker<8.0,>=4.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (7.1.0)

Requirement already satisfied: exceptiongroup>=1.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.2.2)

Requirement already satisfied: fastapi<1.0.0,>=0.111.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.115.11)

Requirement already satisfied: fsspec>=2022.5.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2025.3.0)

Requirement already satisfied: graphviz>=0.20.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.20.3)

Requirement already satisfied: griffe<2.0.0,>=0.49.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.6.0)

Requirement already satisfied: httpcore<2.0.0,>=1.0.5 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.0.7)

Requirement already satisfied: httpx!=0.23.2,>=0.23 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
httpx[http2]!=0.23.2,>=0.23->prefect) (0.28.1)

Requirement already satisfied: humanize<5.0.0,>=4.9.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (4.12.1)

Requirement already satisfied: jinja2-humanize-extension>=0.4.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.4.0)

Requirement already satisfied: jinja2<4.0.0,>=3.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (3.1.6)

Requirement already satisfied: jsonpatch<2.0,>=1.32 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.33)

Requirement already satisfied: jsonschema<5.0.0,>=4.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (4.23.0)

Requirement already satisfied: opentelemetry-api<2.0.0,>=1.27.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.31.0)

Requirement already satisfied: orjson<4.0,>=3.7 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (3.10.15)

Requirement already satisfied: packaging<24.3,>=21.3 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (24.2)

Requirement already satisfied: pathspec>=0.8.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.12.1)

Requirement already satisfied: pendulum<4,>=3.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (3.0.0)

Requirement already satisfied: prometheus-client>=0.20.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.21.1)

Requirement already satisfied: pydantic!=2.10.0,<3.0.0,>=2.9 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.10.6)

Requirement already satisfied: pydantic-core<3.0.0,>=2.12.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.27.2)

Requirement already satisfied: pydantic-extra-types<3.0.0,>=2.8.2 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.10.3)

Requirement already satisfied: pydantic-settings>2.2.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.8.1)

Requirement already satisfied: python-dateutil<3.0.0,>=2.8.2 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2.9.0.post0)

Requirement already satisfied: python-slugify<9.0,>=5.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (8.0.4)

Requirement already satisfied: python-socks<3.0,>=2.5.3 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
python-socks[asyncio]<3.0,>=2.5.3->prefect) (2.7.1)

Requirement already satisfied: pytz<2026,>=2021.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (2025.1)

Requirement already satisfied: pyyaml<7.0.0,>=5.4.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (6.0.2)

Requirement already satisfied: readchar<5.0.0,>=4.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (4.2.1)

Requirement already satisfied: rfc3339-validator<0.2.0,>=0.1.4 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.1.4)

Requirement already satisfied: rich<14.0,>=11.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (13.9.4)

Requirement already satisfied: ruamel-yaml>=0.17.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.18.10)

Requirement already satisfied: sniffio<2.0.0,>=1.3.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (1.3.1)

Requirement already satisfied: sqlalchemy<3.0.0,>=2.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
sqlalchemy[asyncio]<3.0.0,>=2.0->prefect) (2.0.39)

Requirement already satisfied: toml>=0.10.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.10.2)

Requirement already satisfied: typer!=0.12.2,<0.16.0,>=0.12.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.15.2)

Requirement already satisfied: typing-extensions<5.0.0,>=4.5.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (4.12.2)

Requirement already satisfied: ujson<6.0.0,>=5.8.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (5.10.0)

Requirement already satisfied: uv>=0.6.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.6.6)

Requirement already satisfied: uvicorn!=0.29.0,>=0.14.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (0.34.0)

Requirement already satisfied: websockets<16.0,>=13.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
prefect) (15.0.1)

Requirement already satisfied: charset-normalizer<4,>=2 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
requests) (3.4.1)

Requirement already satisfied: idna<4,>=2.5 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
requests) (3.10)

Requirement already satisfied: urllib3<3,>=1.21.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
requests) (2.3.0)

Requirement already satisfied: certifi>=2017.4.17 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
requests) (2025.1.31)

Requirement already satisfied: Mako in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
alembic<2.0.0,>=1.7.5->prefect) (1.3.9)

Requirement already satisfied: requests-oauthlib in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
apprise<2.0.0,>=1.1.0->prefect) (2.0.0)

Requirement already satisfied: markdown in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
apprise<2.0.0,>=1.1.0->prefect) (3.7)

Requirement already satisfied: colorama in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
click<8.2,>=8.0->prefect) (0.4.6)

Requirement already satisfied: cffi>=1.12 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
cryptography>=36.0.1->prefect) (1.17.1)

Requirement already satisfied: regex!=2019.02.19,!=2021.8.27,>=2015.06.24 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
dateparser<2.0.0,>=1.1.1->prefect) (2024.11.6)

Requirement already satisfied: tzlocal>=0.2 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
dateparser<2.0.0,>=1.1.1->prefect) (5.3.1)

Requirement already satisfied: pywin32>=304 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
docker<8.0,>=4.0->prefect) (310)

Requirement already satisfied: starlette<0.47.0,>=0.40.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
fastapi<1.0.0,>=0.111.0->prefect) (0.46.1)

Requirement already satisfied: h11<0.15,>=0.13 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
httpcore<2.0.0,>=1.0.5->prefect) (0.14.0)

Requirement already satisfied: h2<5,>=3 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
httpx[http2]!=0.23.2,>=0.23->prefect) (4.2.0)

Requirement already satisfied: MarkupSafe>=2.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jinja2<4.0.0,>=3.0.0->prefect) (3.0.2)

Requirement already satisfied: jsonpointer>=1.9 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jsonpatch<2.0,>=1.32->prefect) (3.0.0)

Requirement already satisfied: attrs>=22.2.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jsonschema<5.0.0,>=4.0.0->prefect) (25.3.0)

Requirement already satisfied: jsonschema-specifications>=2023.03.6 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jsonschema<5.0.0,>=4.0.0->prefect) (2024.10.1)

Requirement already satisfied: referencing>=0.28.4 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jsonschema<5.0.0,>=4.0.0->prefect) (0.36.2)

Requirement already satisfied: rpds-py>=0.7.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
jsonschema<5.0.0,>=4.0.0->prefect) (0.23.1)

Requirement already satisfied: deprecated>=1.2.6 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
opentelemetry-api<2.0.0,>=1.27.0->prefect) (1.2.18)



Requirement already satisfied: importlib-metadata<8.7.0,>=6.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
opentelemetry-api<2.0.0,>=1.27.0->prefect) (8.6.1)

Requirement already satisfied: tzdata>=2020.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
pendulum<4,>=3.0.0->prefect) (2025.1)

Requirement already satisfied: time-machine>=2.6.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
pendulum<4,>=3.0.0->prefect) (2.16.0)

Requirement already satisfied: annotated-types>=0.6.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
pydantic!=2.10.0,<3.0.0,>=2.9->prefect) (0.7.0)

Requirement already satisfied: python-dotenv>=0.21.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
pydantic-settings>2.2.1->prefect) (1.0.1)

Requirement already satisfied: six>=1.5 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
python-dateutil<3.0.0,>=2.8.2->prefect) (1.17.0)

Requirement already satisfied: text-unidecode>=1.3 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
python-slugify<9.0,>=5.0->prefect) (1.3)

Requirement already satisfied: markdown-it-py>=2.2.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
rich<14.0,>=11.0->prefect) (3.0.0)

Requirement already satisfied: pygments<3.0.0,>=2.13.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
rich<14.0,>=11.0->prefect) (2.19.1)

Requirement already satisfied: greenlet!=0.4.17 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
sqlalchemy<3.0.0,>=2.0->sqlalchemy[asyncio]<3.0.0,>=2.0->prefect) (3.1.1)

Requirement already satisfied: shellingham>=1.3.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
typer!=0.12.2,<0.16.0,>=0.12.0->prefect) (1.5.4)

Requirement already satisfied: pycparser in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
cffi>=1.12->cryptography>=36.0.1->prefect) (2.22)

Requirement already satisfied: wrapt<2,>=1.10 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
deprecated>=1.2.6->opentelemetry-api<2.0.0,>=1.27.0->prefect) (1.17.2)

Requirement already satisfied: hyperframe<7,>=6.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
h2<5,>=3->httpx[http2]!=0.23.2,>=0.23->prefect) (6.1.0)

Requirement already satisfied: hpack<5,>=4.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
h2<5,>=3->httpx[http2]!=0.23.2,>=0.23->prefect) (4.1.0)

Requirement already satisfied: zipp>=3.20 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
importlib-metadata<8.7.0,>=6.0->opentelemetry-api<2.0.0,>=1.27.0->prefect)  
(3.21.0)

Requirement already satisfied: mdurl~=0.1 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
markdown-it-py>=2.2.0->rich<14.0,>=11.0->prefect) (0.1.2)

Requirement already satisfied: oauthlib>=3.0.0 in  
c:\users\jusue\appdata\local\programs\python\python313\lib\site-packages (from  
requests-oauthlib->apprise<2.0.0,>=1.1.0->prefect) (3.2.2)

[notice] A new release of pip is available: 24.3.1 -> 25.0.1

[notice] To update, run: python.exe -m pip install --upgrade pip

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7>