

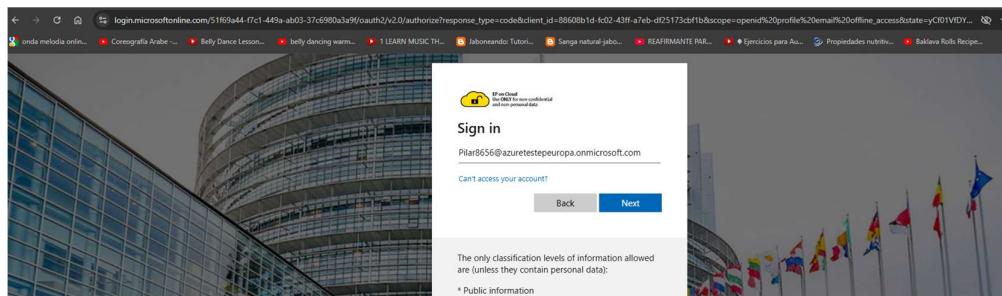
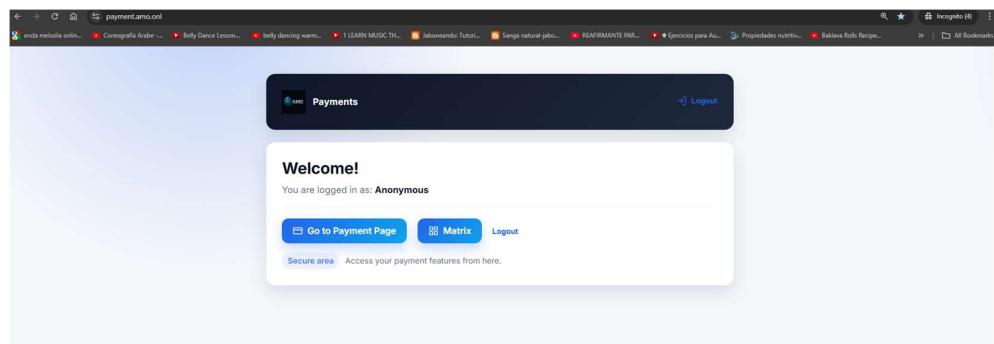


■ AMO PAYMENTS — USER MANUAL

■■ English Version

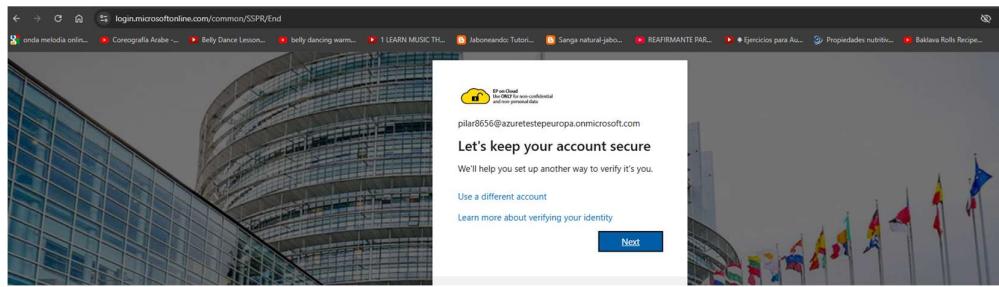
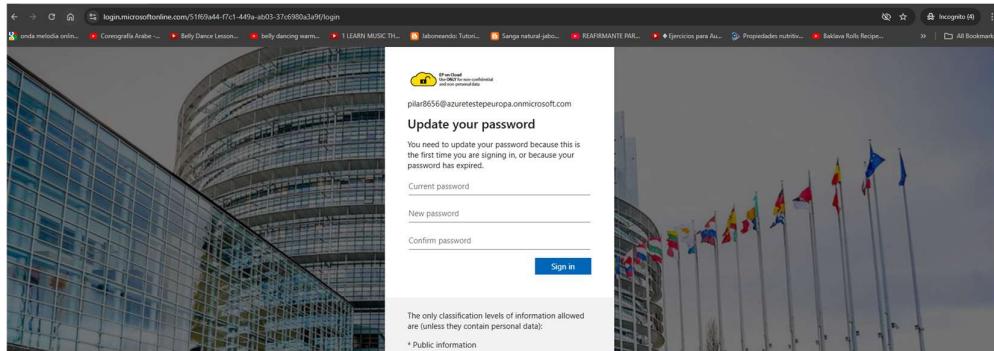
1. Accessing the Platform

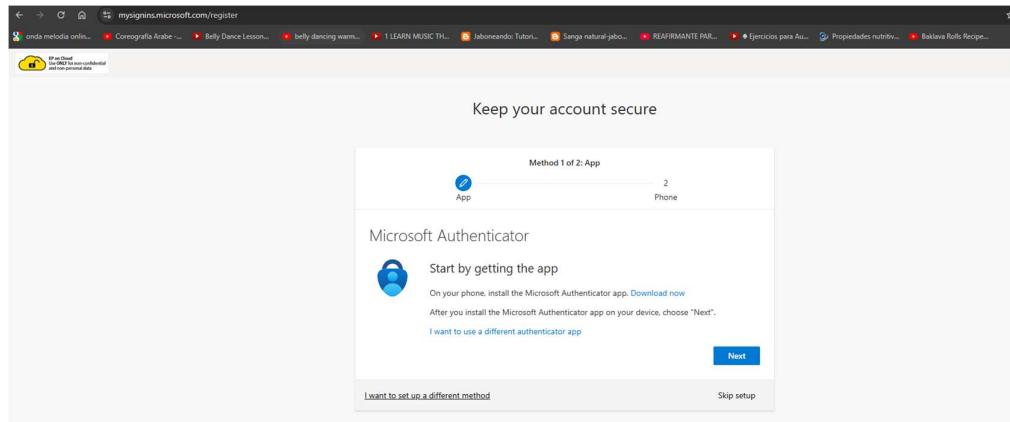
Click on “Go to Payment Page.” Enter your Username and Password. The system will prompt you to update your password the first time you log in.



2. Setting Up Verification

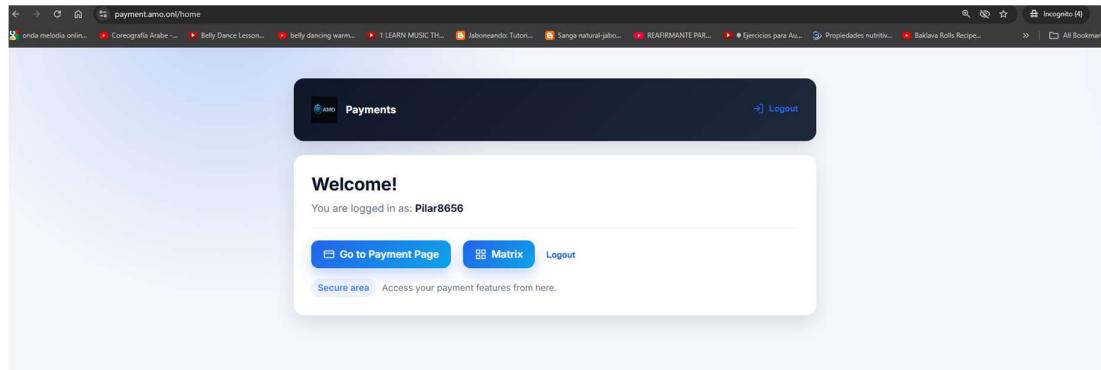
After updating your password, proceed to set up your verification method (this may involve a security question, email, or two-step verification).





3. Payment Operations

Once verified, click again on “Go to Payment Page.” From here, you can manage your payments, transactions, and user settings.



Payment x

payment.amo.on/payment

Incognito (4)

Logout

Payments

Make a Payment

Apply a payment from A to B on the matrix (server-to-server).

Blob name * initial-matrix-20251024-080516.b64

Container * matrices

Node A * Pilar8656

Node B * Enter recipient node

Amount * (integer > 0) 100

Out base (always equals blob name) initial-matrix

Submit Payment **Cancel**

Payment x

payment.amo.on/payment

Incognito (4)

Logout

Payments

Confirm Payment

Please review the details before submitting.

Blob initial-matrix-20251024-080516.b64

Container matrices

From (Node A) Pilar8656

To (Node B) amo

Amount 100

Out base initial-matrix

Cancel **Yes, Submit**

The screenshot shows a web browser window titled "Payment" at payment.amo.onl/payment. The page has a dark header with the AMO logo and a "Logout" button. The main content area is titled "Make a Payment" and contains the following fields:

- Blob name ***: initial-matrix-20251024-080516.b64
- Container ***: matrices
- Node A ***: Pilar9956
- Node B ***: amo
- Amount * (integer > 0)**: 100
- Out base (always equals blob name)**: initial-matrix

At the bottom are "Submit Payment" and "Cancel" buttons. Below this is a "Result" section containing the JSON response:

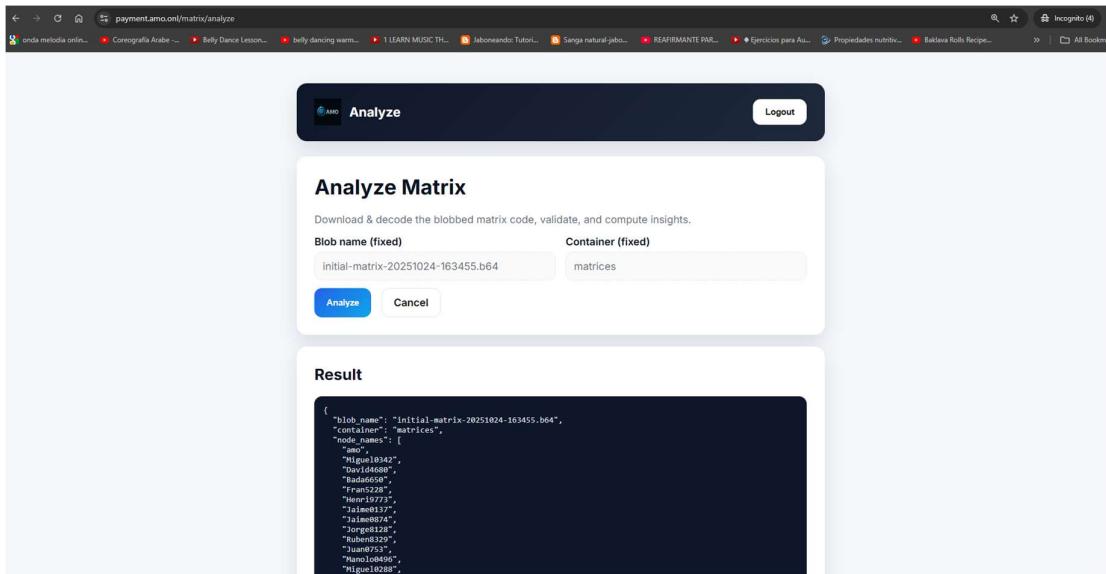
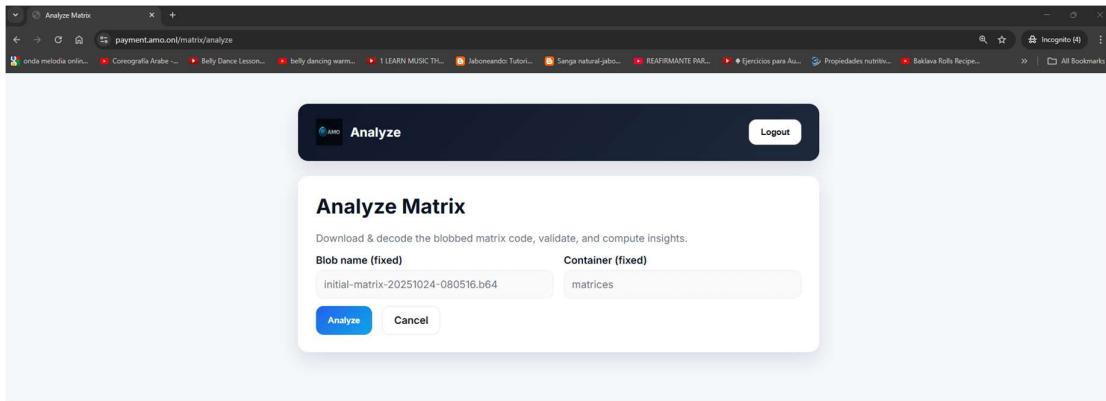
```
{"status": "ok", "written_blob": "\u0022initial-matrix-20251024-163455.b64\u0022"}
```

4. Working with the Matrix

As an alternative, you can go to the Matrix Page. Then select “Analyze Matrix.” Copy the code provided on that page and paste it into ChatGPT to analyze or visualize your data.

The screenshot shows a web browser window titled "Matrix" at payment.amo.onl/matrix. The page has a dark header with the AMO logo and a "Logout" button. The main content area is titled "Matrix" and contains the instruction "Select an operation." Below are three buttons:

- Analyze Matrix Blob**
- Find Cycle**
- Back to Home**



Concepts Explained:

- **Adjacency Matrix** — How the system represents relationships or transactions between nodes (users).
- **Cycle** — How a path A → B → C → A is detected and its meaning for circular debt or mutual settlements.
- **Settlement** — How the system suggests payment simplifications to balance transactions efficiently.

```
        "Andrea1633": -10,
        "tIlen7713": 15
    },
    "insights": {
        "most_owed_to": {
            "person": "am0",
            "amount": 130
        }
    },
    "owes_the_most": {
        "person": "Pilar8656",
        "amount": 100
    },
    "top_creditor": {
        "person": "am0",
        "net": 85
    },
    "top_debtor": {
        "person": "Pilar8656",
        "net": -100
    }
},
"cycles": [
    {
        "cycles": [
            {
                "net": 0,
                "tIlen7713": 1
            },
            {
                "min_cancelable": 25
            }
        ],
        "settlement_suggestions": [
            {
                "from": "Pilar8656",
                "to": "am0",
                "amount": 85
            },
            {
                "from": "Pilar8656",
                "to": "tIlen7713",
                "amount": 15
            },
            {
                "from": "Bada6658",
                "to": "Higuel6288",
                "amount": 10
            },
            {
                "from": "Andrea1633",
                "to": "Moles3477",
                "amount": 10
            }
        ]
    }
]
```

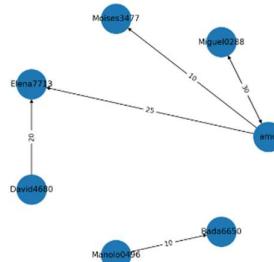
```
        ],
    "encoded_base64_code": "eyJub2RlcjI6IHsiMCi6ICJhbW8iLCAiMSI6ICJNaWd1ZWwnMzQyIiwgIjIiOiaiRGF2aWQ0NjgwIiwgIgraph_python_code": "import matplotlib.pyplot as plt\nimport networkx as nx\n# Embedded data from the file\ngraph_python_code_b64": "aW1wb3J0IGihdBsb3RsaWIucHlwbg90IGFzIHBsdAppbXvvnQgbmV0d29ya3ggYXNbngKCiMgR\ngraph_python_prompt": "[decodifica en base64 y ejecuta en Python : aW1wb3J0IG1hdHBsb3RsaWIucHlwbg90IGFzIHBsdAppbXvvnQgbmV0d29ya3ggYXNbngKCiMgR]"}\n}\n
```


ChatGPT 5

Grafo Dirigido A Partir De La Matriz De Adyacencia

⋮ ⌂ ⌄ ↻

Grafo dirigido a partir de la matriz de adyacencia



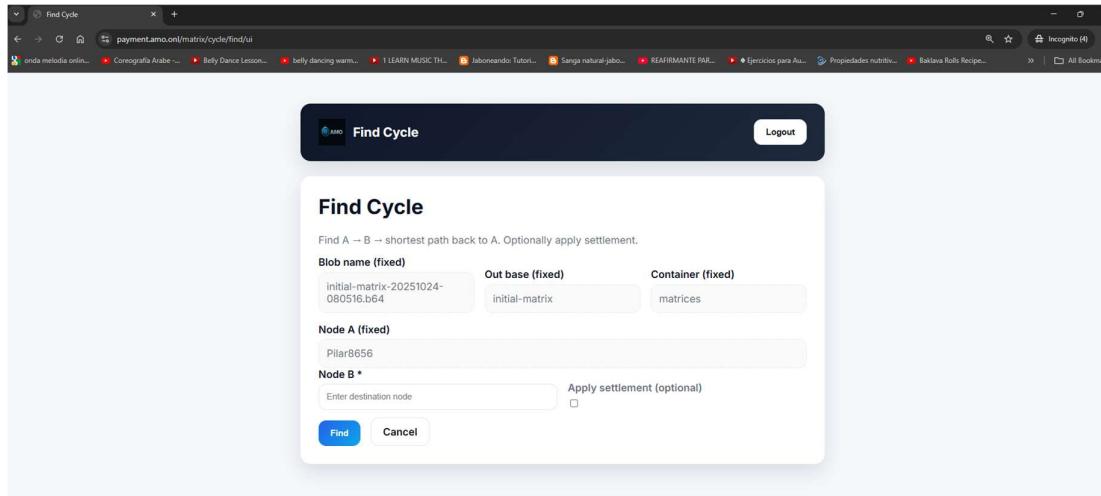
¡Listo! He ejecutado tu script y generado la visualización del grafo.

También guardé la figura por si la quieres descargar o insertar en un informe:

[Descargar la imagen del grafo \(PNG\)](#)

5. Advanced Tools

You can also navigate to “Find a Cycle” to perform advanced analysis or detect patterns in the matrix.



GB Concepts Explained

Cycle — How a path $A \rightarrow B \rightarrow C \rightarrow A$ is detected and what it means for circular debt or mutual settlements.

In the example below, user A owes B, B owes C, and C owes A.

This situation forms a cycle that can be automatically balanced by the system to simplify transactions.

Adjacency Matrix representation:

From / To	A	B	C
A	0	10	0
B	0	0	15
C	5	0	0

This matrix shows that A pays B (10), B pays C (15), and C pays A (5), forming a closed transaction loop.

(Below this table, the cycle graph image ‘ $A \rightarrow B \rightarrow C \rightarrow A$ ’ will appear.)

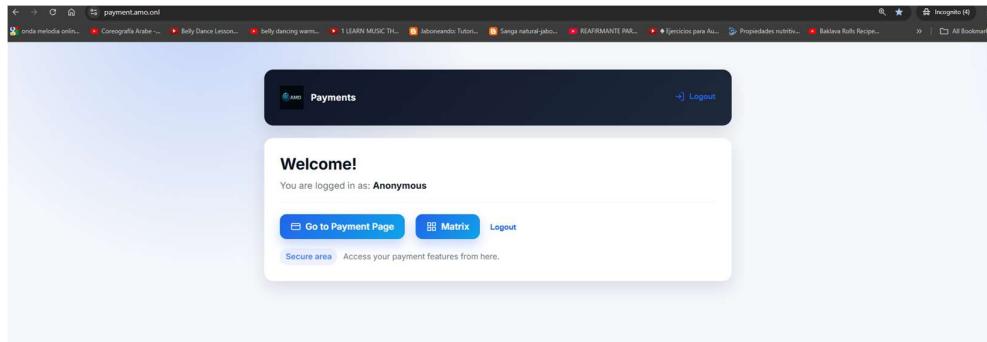


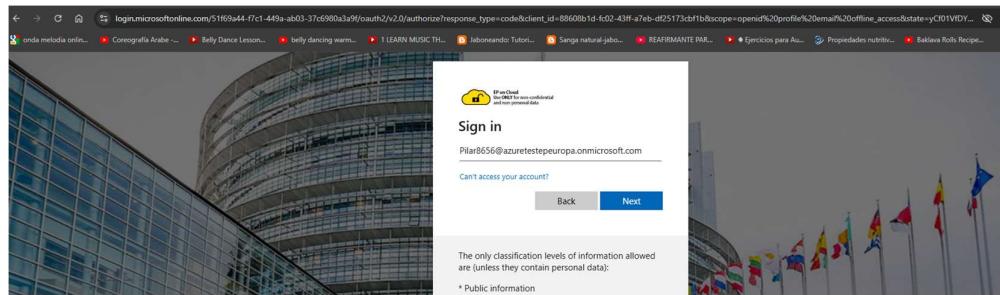
■ AMO PAYMENTS — MANUAL DE USUARIO

■■ Versión en Español

1. Acceso a la Plataforma

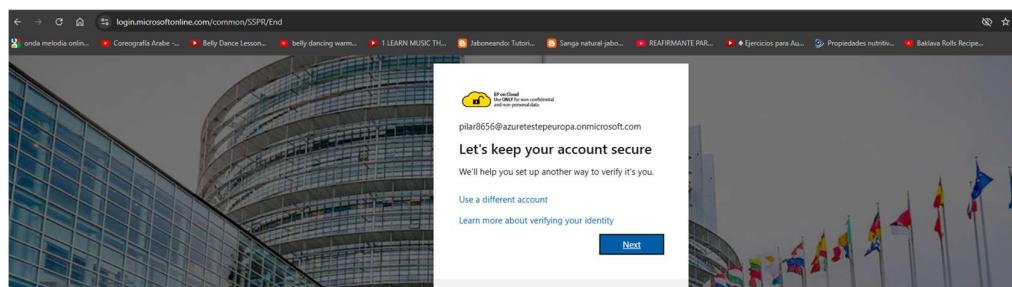
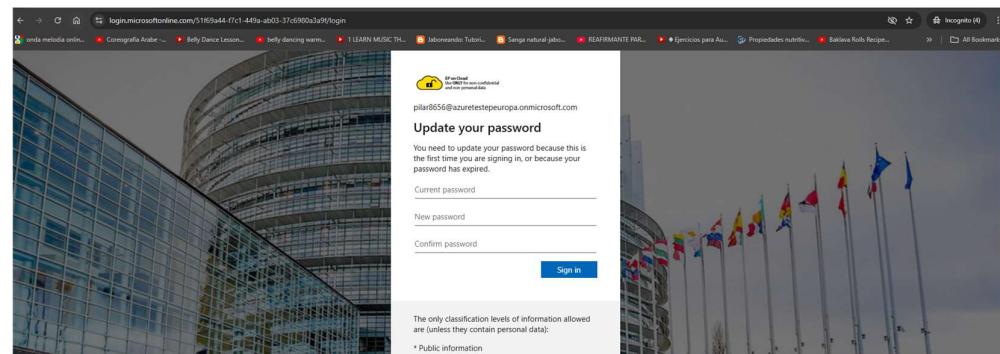
Haz clic en "Ir a la página de pagos." Ingresa tu nombre de usuario y contraseña. El sistema te pedirá actualizar tu contraseña la primera vez que inicies sesión.





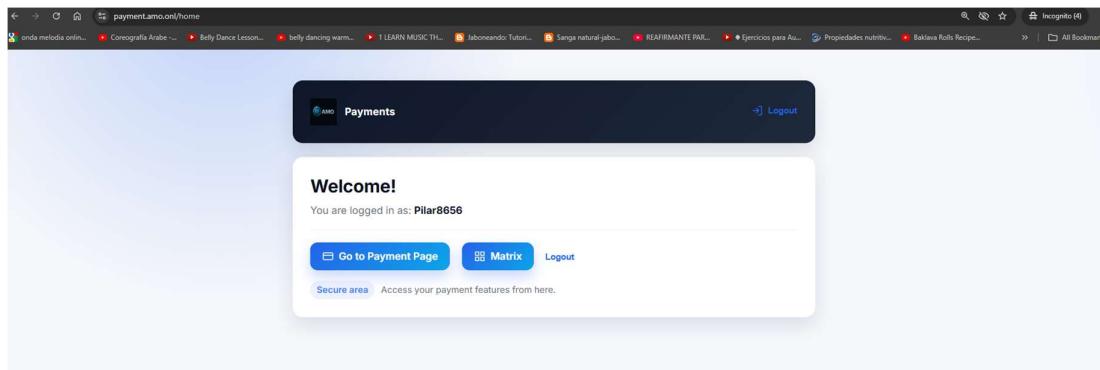
2. Configuración de Verificación

Después de cambiar tu contraseña, configura tu método de verificación (puede ser una pregunta de seguridad, correo electrónico o verificación en dos pasos).



3. Operaciones de Pago

Una vez verificado, vuelve a hacer clic en “Ir a la página de pagos.” Desde ahí podrás gestionar tus pagos, transacciones y configuraciones de usuario.



Payment +

payment.amo.on/payment

Incognito (4)

Logout

Payments

Make a Payment

Apply a payment from A to B on the matrix (server-to-server).

Blob name * initial-matrix-20251024-080516.b64

Container * matrices

Node A * Pilar8656

Node B * Enter recipient node

Amount * (integer > 0) 100

Out base (always equals blob name) initial-matrix

Submit Payment **Cancel**

Payment +

payment.amo.on/payment

Incognito (4)

Logout

Payments

Confirm Payment

Please review the details before submitting.

Blob initial-matrix-20251024-080516.b64

Container matrices

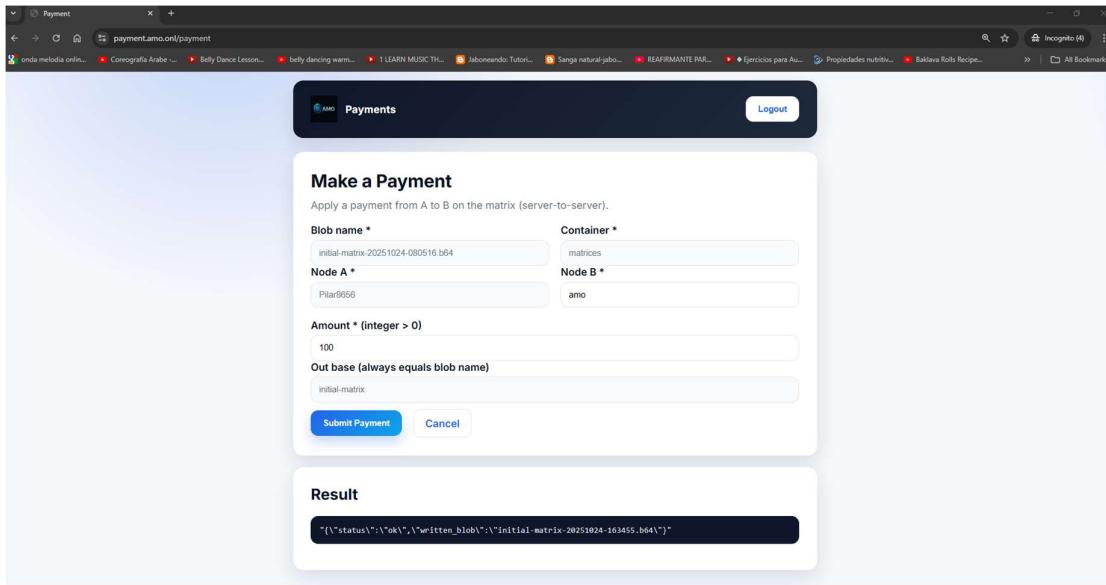
From (Node A) Pilar8656

To (Node B) amo

Amount 100

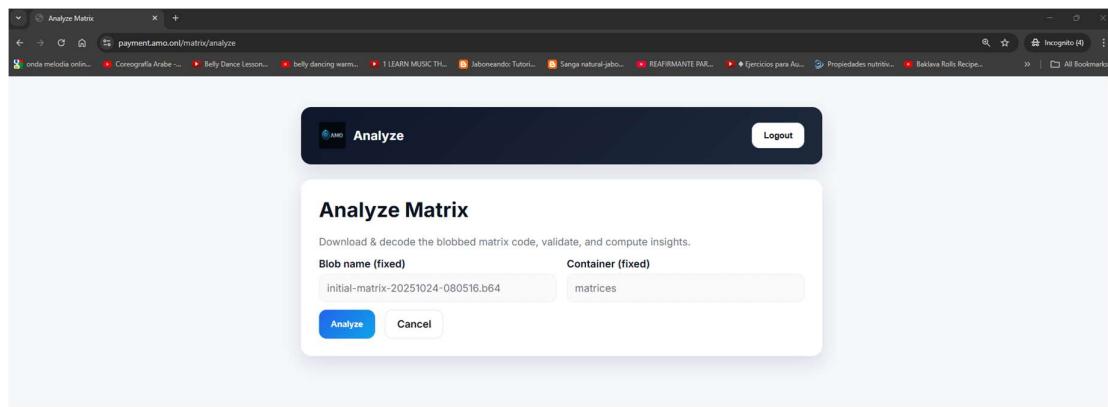
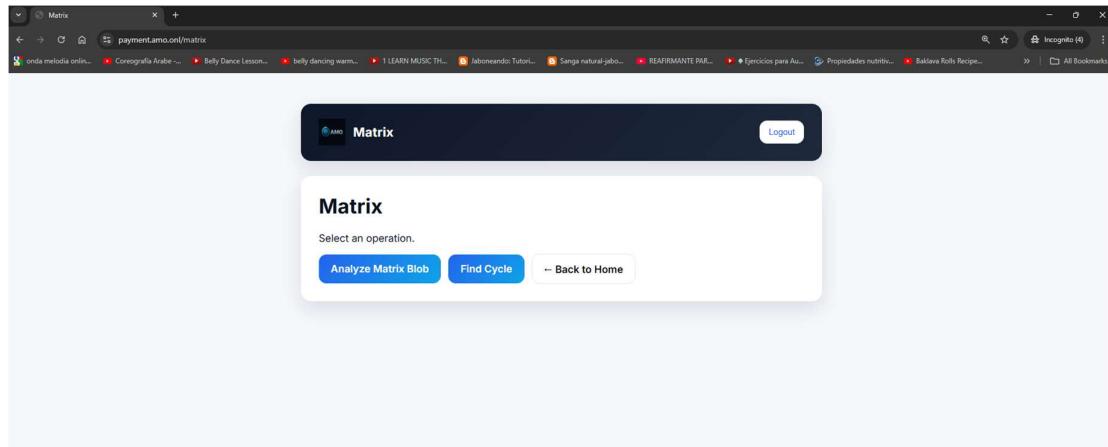
Out base initial-matrix

Cancel **Yes, Submit**



4. Trabajo con la Matriz

Como alternativa, puedes ir a la página de la matriz. Luego selecciona “Analizar matriz.” Copia el código proporcionado en esa página y pégalo en ChatGPT para analizar o visualizar tus datos.



The screenshot shows a web application window titled "payment.amo.on/matrix/analyze". At the top, there's a navigation bar with various links like "Coreografía Árabe", "Belly Dance Lesson", "1 LEARN MUSIC TH...", "Jabonando: Tutor...", "Salsa natural: jiboo...", "REFIRMANTE PAR...", "Ejercicios para Au...", "Propiedades nutritiv...", and "Baklava Rolls Recipe...". Below the navigation is a dark header bar with the "Analyze" logo and a "Logout" button.

The main content area has a title "Analyze Matrix" and a subtitle "Download & decode the blobbed matrix code, validate, and compute insights." It contains two input fields: "Blob name (fixed)" with the value "initial-matrix-20251024-163455.b64" and "Container (fixed)" with the value "matrices". Below these fields are "Analyze" and "Cancel" buttons.

Under the "Result" heading, there is a JSON object displayed in a dark box:

```
{
  "blob_name": "initial-matrix-20251024-163455.b64",
  "container": "matrices",
  "node_names": [
    "amo",
    "Miguel1842",
    "David14680",
    "Bades6550",
    "Francisco228",
    "Tomas1537",
    "Jaime0137",
    "Jaime0874",
    "Jorge1059",
    "Ruben8320",
    "Juan1751",
    "Mano1e496",
    "Miguel16988"
  ]
}
```

❖ Conceptos Explicados:

- Matriz de Adyacencia — Explica cómo el sistema representa las relaciones o transacciones entre los nodos (usuarios).
- Ciclo — Describe cómo se detecta una ruta A → B → C → A y su significado en relación con la deuda circular o las liquidaciones mutuas.
- Liquidación — Muestra cómo el sistema sugiere simplificaciones de pago para equilibrar las transacciones de manera eficiente.

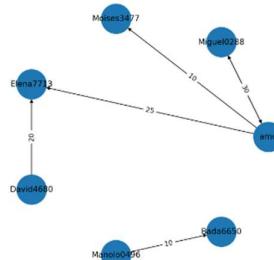
```
        "Andrea1633": -10,
        "tIlen7713": 15
    },
    "insights": {
        "most_owed_to": {
            "person": "am0",
            "amount": 130
        }
    },
    "owes_the_most": {
        "person": "Pilar8656",
        "amount": 100
    },
    "top_creditor": {
        "person": "am0",
        "net": 85
    },
    "top_debtor": {
        "person": "Pilar8656",
        "net": 100
    }
},
"cycles": [
    {
        "cycles": [
            {
                "net": 0,
                "tIlen7713": 1
            },
            {
                "min_cancelable": 25
            }
        ],
        "settlement_suggestions": [
            {
                "from": "Pilar8656",
                "to": "am0",
                "amount": 85
            },
            {
                "from": "Pilar8656",
                "to": "tIlen7713",
                "amount": 15
            },
            {
                "from": "Bada6658",
                "to": "Higuel6288",
                "amount": 10
            },
            {
                "from": "Andrea1633",
                "to": "Moles3477",
                "amount": 10
            }
        ]
    }
]
```

```
        ],
    "encoded_base64_code": "eyJub2RlcjI6IHsiMCi6ICJhbW8iLCAiMSI6ICJNaWd1ZWwnMzQyIiwgIjIiOiaiRGF2aWQ0NjgwIiwgIgraph_python_code": "import matplotlib.pyplot as plt\nimport networkx as nx\n# Embedded data from the file\ngraph_python_code_b64": "aW1wb3J0IGihdBsb3RsaWIucHlwbg90IGFzIHBsdAppbXvbnQgbmV0d29ya3ggYXNbngKCiMgR\ngraph_python_prompt": "[decodifica en base64 y ejecuta en Python : aW1wb3J0IG1hdHBsb3RsaWIucHlwbg90IGFzIHBsdAppbXvbnQgbmV0d29ya3ggYXNbngKCiMgR]"}\n}\n
```


Grafo Dirigido A Partir De La Matriz De Adyacencia

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Grafo dirigido a partir de la matriz de adyacencia



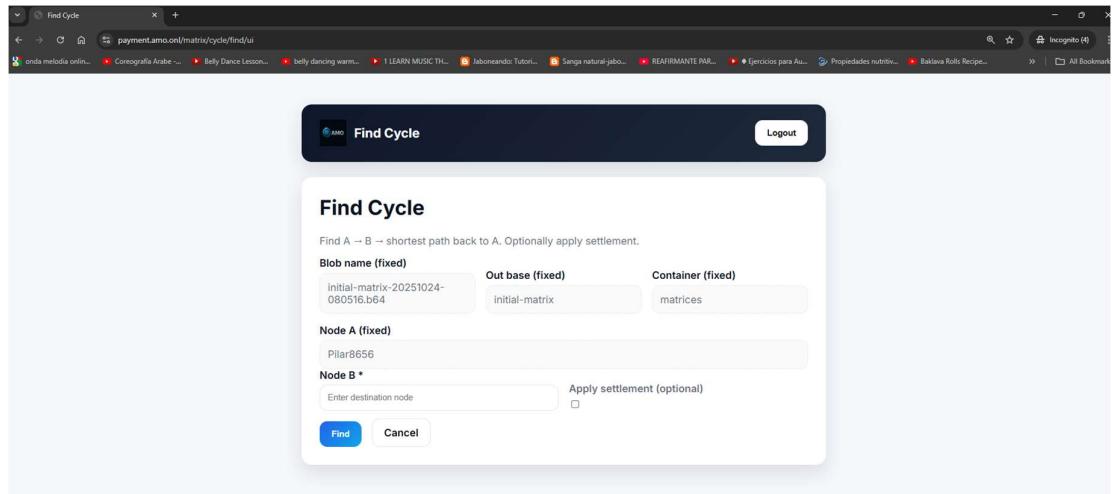
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[Descargar la imagen del grafo \(PNG\)](#)

5. Herramientas Avanzadas

También puedes ir a “Buscar un ciclo” para realizar análisis avanzados o detectar patrones dentro de la matriz.



Es Conceptos Explicados

Ciclo — Describe cómo se detecta una ruta $A \rightarrow B \rightarrow C \rightarrow A$ y su significado en relación con la deuda circular o las liquidaciones mutuas.

En el ejemplo, el usuario A debe a B, B debe a C y C debe a A.

Esta situación forma un **ciclo**, que el sistema puede equilibrar automáticamente para simplificar las transacciones.

Representación mediante Matriz de Adyacencia:

De / A	A	B	C
A	0	10	0
B	0	0	15
C	5	0	0

Esta matriz muestra que A paga a B (10), B paga a C (15) y C paga a A (5), formando un bucle cerrado de transacciones.

(Debajo de esta tabla se incluirá el gráfico del ciclo " $A \rightarrow B \rightarrow C \rightarrow A$ ").