

Blockchain

Create and Deploy an ERC1155 Token

2024

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What is an ERC-721 Token?

- 和前者ERC-20不同，ERC-721旨在創造具有**不可替代性**以及**不可分割性**的代幣(**Token**)，也就是大家所熟悉的**非同質化代幣—NFT (Non-Fungible Token)**。
 - **不可替代性**：每個NFT都具有它的獨特性，獨一無二且無法取代，同樣被儲存在鏈上後，也无法隨便刪除。
 - **不可分割性**：除非智能合約允許，否則NFT是沒辦法像加密貨幣一樣，被拆成更小的份數進行交易。
- 其實只要一個物件能**具有特殊價值**，就適合以**NFT**這種代幣標準被創造出，比如藝術創作、音樂，或者是目前最常見的個人頭像、PFP，一般來說是沒辦法找到另一個價值完全對等的ERC-721代幣。
- NFT也可以看做一個數位創作或資產的所有權，與以往的藝術作品不同，NFT作為獨特的數位代幣，**創作者可以透過版費(royalties)的方式**，在每一筆交易中持續獲得收入，就算買賣雙方沒有創作者參與也是如此。

What is an ERC-1155 Token?

- ERC-1155 則是多重代幣標準，全名為 Multi Token Standard。ERC-1155 的用途為再製、包裝或組合一個至多個 **Token Type** 或 **NFT Collection**，讓 **Token Type** 或 **NFT Collection** 有繼承、多型、封裝等功能。
- 比如小王想購買某遊戲的珠寶+衣服+裙子+步鞋，以往遊戲只能讓小王一個一個買，一筆交易一筆交易打，有了 ERC-1155 後，遊戲項目方開始可以賣小王一個全身套裝了，四種 NFT 也可以一次性傳給小王。
- 這個ERC-1155協議主要功能是因為**區塊鏈容量並非無上限**，因此要阻止開發者們無限量開發智能合約，藉由傳統物件導向概念降低智能合約發布數量、提升開發效率。附加效果則是增加使用者體驗，讓使用者擁有全身套裝、**多型態代幣**等豐富選擇。

What is the difference between ERC1155 and ERC721?

- ERC1155 在 ERC721 的基礎上，主要增加或改善了如下功能：
 - 同時支持可替換代幣(同質化代幣)和不可替換代幣(非同質化代幣)
 - 批量轉賬：僅需要一次智能合約調用，就可以轉賬多種代幣資產
 - 批量查詢餘額：一次智能合約調用可以查詢多種代幣餘額資料
 - 批量授權：一次智能合約調用可以向指定地址授權多種代幣的使用權
- 一張 ERC1155 智能合約，裡面可以同時包含類似 USDT 這種代幣，和類似 Nike，無聊猿和愛迪達等這種獨一無二的 NFT 代幣。再者，傳統的 ERC721 智能合約，如果要轉移 NFT，必須一個一個操作，沒有辦法做到批量轉賬。而 ERC1155，則宛如加入了類似「購物車」的概念，可以一次一堆代幣過轉移。不要無視這個「批量」功能，要知道每次和區塊鏈交易，都要消耗 gas，如果有某些應用場景需要大量，頻繁轉移資產，那 ERC1155 相對於 ERC721 則能節約大量的 gas 成本。

ERC-1155 - 6 Mandatory Functions

- **balanceOf** : Returns the value of tokens of token type id owned by account.
- **balanceOfBatch**: Batched version of balanceOf.
- **safeBatchTransferFrom**: Batched version of safeTransferFrom.
- **safeTransferFrom**: Transfers a value amount of tokens of type id from [from address] to [to address].
- **setApprovalForAll** : Grants or revokes permission to [operator address] to transfer the caller's tokens, according to approved. Emits an ApprovalForAll event.
- **isApprovalForAll** : Returns true if operator is approved to transfer account's tokens.

ERC-1155 - 4 Events

- **TransferSingle**: Emitted when value amount of tokens of type id are transferred from from to to by operator.
- **TransferBatch**: Equivalent to multiple TransferSingle events, where operator, from and to are the same for all transfers.
- **ApprovalForAll**: Emitted when account grants or revokes permission to operator to transfer their tokens, according to approved.
- **URI**: Emitted when the URI for token type id changes to value, if it is a non-programmatic URI. If an URI event was emitted for id, the standard guarantees that value will equal the value returned by IERC1155MetadataURI.uri.

NFT – Metadata Standards

Here's an example of metadata for one of the OpenSea creatures:

JSON

```
{  
  "description" : "Friendly OpenSea Creature that enjoys long swims in the ocean.",  
  "external_url" : "https://openseacreatures.io/3",  
  "image" : "https://storage.googleapis.com/opensea-prod.appspot.com/puffs/3.png",  
  "name" : "Dave Starbelly", "attributes": [ ... ]  
}
```

1. ERC-1155 smart contract 中，只儲存了「tokenID -> owner address」和「tokenID -> tokenURI」的 mapping，裡面並沒有放如 NFT 所代表的圖片、標題等等資訊，此時就需要透過外部的 Metadata 來實現，並透過 tokenURI 指向 Metadata 所在的位置。
2. Metadata 其實就是一份 JSON 檔，由 EIP-1155 所定義，記錄這multi Token的資訊。

NFT – Metadata Standards

properties	Description
image	This is the URL to the image of the item. Can be just about any type of image (including SVGs, which will be cached into PNGs by OpenSea), IPFS or Arweave URLs or paths. We recommend using a minimum 3000 x 3000 image.
image_data	Raw SVG image data, if you want to generate images on the fly (not recommended). Only use this if you're not including the image parameter.
external_url	This is the URL that will appear below the asset's image on OpenSea and will allow users to leave OpenSea and view the item on your site.
description	A human-readable description of the item. Markdown is supported.
name	Name of the item.
attributes	These are the attributes for the item, which will show up on the OpenSea page for the item. (see below)
background_color	Background color of the item on OpenSea. Must be a six-character hexadecimal <i>without</i> a pre-pended #.
animation_url	A URL to a multi-media attachment for the item. The file extensions GLTF, GLB, WEBM, MP4, M4V, OGV, and OGG are supported, along with the audio-only extensions MP3, WAV, and OGA. Animation_url also supports HTML pages, allowing you to build rich experiences and interactive NFTs using JavaScript canvas, WebGL, and more. Scripts and relative paths within the HTML page are now supported. However, access to browser extensions is not supported.
youtube_url	A URL to a YouTube video (only used if animation_url is not provided).

NFT – Metadata Standards



[View on OpenSea Creature](#)

PROPERTIES

Googley
98% has this property

Jelly
98% has this property

RANKING

Stamina
 3 of 13

Jelliness
 7 of 201

Generation
 3 of 13

BIRTHDAY

Wednesday, March 23, 2018

OpenSea Creatures

Herbie Starbelly

Owned by [583232](#)

A friendly OpenSea creature ready to adventure.

ERC721 Contract

```
pragma solidity ^0.5.0;
```

```
contract Creature is ERC721 {
    function ownerOf(tokenId) returns address;
    function tokenURI() returns string;
}
```

The **tokenURI** function in your ERC721 or the **uri** function in your ERC1155 contract should return an **HTTP or IPFS URL**.

Metadata

```
{
  "name": "Herbie Starbelly",
  "description": "A friendly OpenSea creature ready to adventure.",
  "external_link": "https://opensea creatures.com/1234"
  "traits": [
    {
      "trait_type": "Stamina",
      "value": 3
    },
    {
      "trait_type": "Jelliness",
      "value": 7
    },
    {
      "trait_type": "Generation",
      "value": 3
    }
  ]
}
```

NFT – Metadata Standards

PROPERTIES

PERSONALITY
Sad
29% have this property

MOUTH
Surprised
29% have this property

EYES
Big
20% have this property

BASE
Starfish
20% have this property

BOOSTS



Stamina Increase
10% boost



Puff Power
+40 boost

RANKINGS

Stamina 1.4 of 90.2

Level 5 of 8

STATS

2 Generation
Out of 2

NFT – Metadata Standards

```
...
{
  "attributes": [
    {
      "trait_type": "Base",
      "value": "Starfish"
    },
    {
      "trait_type": "Eyes",
      "value": "Big"
    },
    {
      "trait_type": "Mouth",
      "value": "Surprised"
    },
    {
      "trait_type": "Level",
      "value": 5
    },
    {
      "trait_type": "Stamina",
      "value": 1.4
    },
  ],
}
```



```
...
{
  "trait_type": "Personality",
  "value": "Sad"
},
{
  "display_type": "boost_number",
  "trait_type": "Aqua Power",
  "value": 40
},
{
  "display_type": "boost_percentage",
  "trait_type": "Stamina Increase",
  "value": 10
},
{
  "display_type": "number",
  "trait_type": "Generation",
  "value": 2
}
]
```

NFT – Freezing Metadata

- You can indicate to OpenSea that an NFT's metadata is **no longer changeable by anyone** (in other words, it is "**frozen**") by emitting this event from the smart contract:

```
event PermanentURI(string _value, uint256 indexed _id);
```

NFT – Metadata updates

- To refresh token metadata on OpenSea, you can emit on-chain events as defined in ERC-4906:
`event MetadataUpdate(uint256 _tokenId);`
`event BatchMetadataUpdate(uint256 _fromTokenId, uint256 _toTokenId);`
- To refresh a whole collection, `emit _toTokenId` with `type(uint256).max`
- For ERC1155, metadata updates are supported via the specification for the event URI:
`event URI(string _value, uint256 indexed _id);`

Refresh NFT Metadata

The screenshot shows a browser window displaying the OpenSea API documentation for the 'Refresh NFT Metadata' endpoint. The URL in the address bar is docs.opensea.io/reference/refresh_nft. The page title is 'Refresh NFT Metadata'. The main content area describes the POST method for refreshing metadata for a single NFT, with path parameters: address (required), chain (required), and identifier (required). The 'address' parameter is described as the public blockchain address. The 'chain' parameter is described as the blockchain on which to filter the results, with a dropdown currently set to 'amoy'. The 'identifier' parameter is described as the NFT token id. Below the path parameters, there is a section for 'RESPONSES' showing a successful 200 response where metadata has been successfully queued for refresh. On the left sidebar, under 'OpenSea API', there is a 'NFT Endpoints' section with several endpoints listed: Get Account, Get Collection, Get Collections, Get Contract, Get NFT, Get NFTs (by account), Get NFTs (by collection), Get NFTs (by contract), Get Payment Token, Get Traits, and Refresh NFT Metadata. The 'Refresh NFT Metadata' endpoint is highlighted with a blue background and a POST icon. The right sidebar contains sections for 'LANGUAGE' (Shell, Node, Ruby, PHP, Python), 'CREDENTIALS' (Header: x-api-key), 'URL' (Base URL: https://api.opensea.io/api/v2/chain/{chain}/contract/{address}/nfts/{identifier}/refresh), and a 'CURL REQUEST' block with a 'Try It!' button.

Refresh NFT Metadata

POST https://api.opensea.io/api/v2/chain/{chain}/contract/{address}/nfts/{identifier}/refresh

Refresh metadata for a single NFT.

PATH PARAMS

address string required
The public blockchain address.

chain string required
The blockchain on which to filter the results.

identifier string required
The NFT token id.

RESPONSES

200
Metadata has been successfully queued for refresh.

LANGUAGE

Shell Node Ruby PHP Python

CREDENTIALS

Header x-api-key

URL

Base URL https://api.opensea.io/api/v2/chain/{chain}/contract/{address}/nfts/{identifier}/refresh

CURL REQUEST

```
curl --request POST \
--url https://api.opensea.io/api/v2/chain/{chain}/contract/{address}/nfts/{identifier}/refresh
```

Try It!

RESPONSE

Contract-level metadata

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;

import "@openzeppelin/contracts/token/ERC1155/ERC1155.sol";
import "@openzeppelin/contracts/utils/Strings.sol";

contract MyTokens is ERC1155, Ownable {
    string public name;
    string public symbol;

    constructor() ERC1155("https://ipfs/ipfs/bafywtqtvjtel35gdenmkvwsfa5jm33lxsm/{id}.json") {
        name = "My First ERC1155";
        symbol = "LOVE";
        _mint(msg.sender, 1, "");
    }

    function contractURI() public pure returns (string memory) {
        return "https://ipfs/ywtqtvjtel35gdenmkvwsfa5jm33l888/my-collection.json";
    }
}
```

ERC1155 Collection name

ERC1155 Collection symbol

ERC1155 Token's json file with metadata

1. ERC1155 Collection's json file metadata
2. This metadata file is not about the NFT, its a seperate file about the collection.

```
{
    "name": "My First ERC1155 Project",
    "description": "Welcome to my collection about My ERC1155",
    "image": "https://external-link-url.com/image.png",
    "external_link": " https://external-link-url.com ",
    "banner_image": "https://external-link-url.com/banner-image.png",
    "featured_image": "https://external-link-url.com/featured-image.png",
    "collaborators": ["0x000000000000000000000000000000000000000000000000000000000000000"]
}
```



Create an ERC-1155 Token

前置準備事項

- 需先上傳IPFS的images or video檔案，或是上傳至一般的網站。
- 將metadata檔案內的image value指向至已上傳至IPFS的images or video檔案，或是上傳至一般的網站URL。
- 需先上傳pinata IPFS的metadata檔案(延伸檔名有.json或無)，或是上傳至一般的網站。
- 把前面上傳pinata的URL的BaseURI記錄下來，等一下提供給setBaseUri設定用，如下：



- 1. 延伸檔名有.json：(往下的smart contract 範例使用這一個當metadata的ipfs)
<https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/>
- 2. 延伸檔名.jpg：(smart contract 範例的contractURI使用這一個ipfs)
<https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavfns2cxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydjnki/>

NFT Metadata folder

The screenshot shows a web browser window for the IPFS browser. The address bar contains the URL <https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/>. A red box highlights this URL. A blue circle with the number '1' is positioned near the top right of the browser window. The main content area displays the 'Index of /ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm' page. It lists several files: 0.json, 1.json, 2.json, 3.json, and 4.json. The 0.json and 4.json files are highlighted with red boxes and labeled 'NFT#0 metadata' and 'NFT#4 metadata' respectively, followed by their respective URLs: <https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/0.json> and <https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/4.json>.

NFT #0 Metadata



The screenshot shows a browser window with the title "magenta-retired-roundworm". The address bar contains the URL: "magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/0.json". A red box highlights the URL, and a blue circle with the number "1" is placed over the address bar area.

NFT#0的metadata使用這一個當URI

```
{  
  "name": "SaluNFT #0",  
  "description": "My first ERC1155 project.",  
  "image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/QmYjCVxZarVZpQCLuZBtYJ9BZZ91GeuYGmokjpHf9AP9C7/0.png",  
  "attributes": [  
    {  
      "trait_type": "Background",  
      "value": "1"  
    },  
    {  
      "trait_type": "Body",  
      "value": "1"  
    },  
    {  
      "trait_type": "Flag",  
      "value": "1"  
    },  
    {  
      "trait_type": "Animal",  
      "value": "1"  
    }  
  ],  
  "compiler": "mintables.club"  
}
```

A red box highlights the "image" field value, and a blue circle with the number "2" is placed over the image URL area.

NFT#0的image

https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/0.json

ContractURI Image folder

The screenshot shows a web browser window displaying an IPFS directory. The address bar contains the URL: `magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavfn.../`. A red box highlights the URL, and a blue circle with the number '1' is positioned to the right of the address bar. The browser title bar says "IPFS". The main content area is titled "Index of /ipfs/bafybeifavfn...". It lists several files:

File	Hash	Size
..		0 B
0.png	bafy...smqq	4.32 MB
1.png	bafy...q5ai	4.34 MB
2.png	bafy...ulce	4.19 MB
3.png	bafy...tvja	3.97 MB
4.png	bafy...fb5q	4.35 MB
banner_image.jpg	bafy...6u6y	793.36 KB
featured_image.jpg	bafy...4dzm	434.7 KB
img03.jpg	bafy...wre4	2.34 MB
img05.jpg	bafy...rrj4	10.84 MB

A red box highlights the first five files: .., 0.png, 1.png, 2.png, and 3.png.

ContractURI metadata

The screenshot shows the OpenSea collection page for "Salu Office". The top navigation bar includes "OpenSea" (Testnets), "Drops", "Stats", "Create", a search bar, and "Login". The main header features a large image of a cruise ship, with the collection name "Salu Office" and a "Globe" icon highlighted by a red box and numbered 1. Below the header, a banner says "Welcome to My first ERC1155 Collection project". The stats show "Unique items 5 · Total items > 1B · Created Dec 2024 · Creator earnings 0% · Chain Sepolia". The interface includes tabs for "Items", "Offers", and "Activity", and a search bar.

A purple box highlights the contract URI code:

```
function contractURI() public pure returns (string memory) {
    string memory json = '{"name": "Salu Office", "1"
        "description": "Welcome to My first ERC1155 Collection project", "2"
        "image": "https://magenta-retired-roundworm-860.mypinata.cloud/pfs/bafybeifavfnscxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/img03.jpg", "3"
        "external_link": "https://www.google.com", "4"
        "banner_image": "https://magenta-retired-roundworm-860.mypinata.cloud/pfs/bafybeifavfnscxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/banner_image.jpg",
        "featured_image": "https://magenta-retired-roundworm-860.mypinata.cloud/pfs/bafybeifavfnscxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/featured_image.jpg",
        "collaborators": ["0x4CE135ab2eB8e482D16B8011ba9415D64E06ae71", "0x7BeeE5F42F617503730d9Fba6117E301EAad8f0C"]};
    return string.concat("data:application/json;utf8,", json);
}
```

The bottom section displays five NFT items, each featuring a character from the "Salu Office" collection. The items are labeled "SaluNFT #1" through "#5". A "Sweep" button is located at the bottom left, and a "Make collection offer" button is at the bottom right.

ERC-1155 Token

預設使用目前 最新版本v5.1.0

1. The string format of the substituted hexadecimal ID MUST be lowercase alphanumeric: [0-9a-f] with no 0x prefix.
 2. The string format of the substituted hexadecimal ID MUST be leading zero padded to 64 hex characters length if necessary. (目前測試前置不用補0也可以)
 3. Example of such a URI: <https://token-cdn-domain/{id}.json> would be replaced with <https://token-cdn-domain/0004cce0.json> if the client is referring to token ID 314592/0x4CCE0.

OpenZeppelin 中的 ERC1155 實現，其中的 _mint function 增加了 **amount** 參數，如果 **amount = 1**，則代表這個token總共只發行一個，那這個token就是類似 ERC721 的 NFT 了。

// OpenSea does not support the returned URI format. So we will need to overwrite the URI function to return the file name as a string:

測試時無法讀取json file，故改用此方式

ERC-1155 Token

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
import "@openzeppelin/contracts/token/ERC1155/ERC1155.sol";
import "@openzeppelin/contracts/utils/Strings.sol";
```

```
contract GameTokens is ERC1155 {
    uint256 public constant GOLD = 0;
    uint256 public constant SILVER = 1;
    uint256 public constant THORS_HAMMER = 2;
    uint256 public constant SWORD = 3;
    uint256 public constant SHIELD = 4;
    string public name;
    string public symbol;
```

```
constructor() ERC1155("https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/{id}.json") {
    name = "My First ERC1155 Token";
    symbol = "LOVE";
    _mint(msg.sender, GOLD, 10**18, "");
    _mint(msg.sender, SILVER, 10**21, "");
    _mint(msg.sender, THORS_HAMMER, 1, "");
    _mint(msg.sender, SWORD, 10**9, "");
    _mint(msg.sender, SHIELD, 10**7, "");
}
```

```
function uri(uint256 _tokenId) override public pure returns (string memory) {
    return string(
        abi.encodePacked(
            "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/",
            Strings.toString(_tokenId),
            ".json"
        )
    );
}
```

```
function contractURI() public pure returns (string memory) {
    string memory json = '{"name": "Salu Office",
        "description": "Welcome to My first ERC1155 Collection project",
        "image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavns2cxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/img03.jpg",
        "external_link": "https://www.google.com",
        "banner_image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavns2cxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/banner_image.jpg",
        "featured_image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavns2cxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/featured_image.jpg",
        "collaborators": ["0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71", "0x7BeeE5F42F617503730d9Fba6117E301EAad8f0C"]}';
    return string.concat("data:application/json;utf8,", json);
}
```

預設使用目前
最新版本v5.1.0

```
19  abstract contract ERC1155 is Context, ERC165, IERC1155, IERC1155MetadataURI, IERC1155Errors {
20     using Arrays for uint256[];
21     using Arrays for address[];
22
23     mapping(uint256 id => mapping(address account => uint256)) private _balances;
24
25     mapping(address account => mapping(address operator => bool)) private _operatorApprovals;
26
27     // Used as the URI for all token types by relying on ID substitution, e.g. https://token-cdn-domain/{id}.json
28     string private _uri;
29
30     /**
31      * @dev See {_setURI}.
32     */
33     constructor(string memory uri_) {
34         _setURI(uri_);
35     }
36 }
```

OpenZeppelin 中的 ERC1155 實現，其中的 _mint function 增加了 amount 參數，如果 amount = 1，則代表這個 token 總共只發行一個，那這個 token 就是類似 ERC721 的 NFT 了。

// OpenSea does not support the returned URI format. So we will need to overwrite the URI function to return the file name as a string:

測試時無法讀取json file，故改用此方式

Case 1

Create an ERC-1155 Token

The screenshot shows the Remix Ethereum IDE interface. On the left, the **FILE EXPLORER** panel displays a workspace named **Alchemy_dNFT**. A red box highlights the folder icon in the sidebar of the File Explorer. The central area features the **REMIX** logo and the tagline "The Native IDE for Web3 Development". Below the logo are buttons for **Start Coding**, **ZK Semaphore**, **ERC20**, **Uniswap V4 Hooks**, **NFT / ERC721**, and **MultiSig**. To the right, there's a **Featured** section with a cartoon character, **v0.54.0 RELEASE HIGHLIGHTS**, and a **What's New** button. At the bottom, there are sections for **Recent Workspaces**, **Featured Plugins**, and a footer with links for **RemixAI Copilot (enabled)** and **Scam Alert**.

Modify GameTokens.sol

The screenshot shows the Remix Ethereum IDE interface. The left sidebar contains a 'FILE EXPLORER' with a 'WORKSPACES' section showing 'Uniswap v4 Template' and a file named 'GameTokens.sol' which is highlighted with a red box. The main workspace displays the Solidity code for 'GameTokens.sol'. The code defines a contract that inherits from ERC1155 and includes functions for minting tokens and returning URIs. A red box also highlights the entire code editor area. At the bottom, there are status messages about cloning a repository and updating submodules.

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
import "@openzeppelin/contracts/token/ERC1155/ERC1155.sol";
import "@openzeppelin/contracts/utils/Strings.sol";

contract GameTokens is ERC1155 {
    uint256 public constant GOLD = 0;
    uint256 public constant SILVER = 1;
    uint256 public constant THORS_HAMMER = 2;
    uint256 public constant SWORD = 3;
    uint256 public constant SHIELD = 4;
    string public name;
    string public symbol;
    constructor() ERC1155("https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/{id}.json") {
        name = "My First ERC1155 Token";
        symbol = "LOVE";
        _mint(msg.sender, GOLD, 10**18, "");
        _mint(msg.sender, SILVER, 10**21, "");
        _mint(msg.sender, THORS_HAMMER, 1, "");
        _mint(msg.sender, SWORD, 10**9, "");
        _mint(msg.sender, SHIELD, 10**7, "");
    }
    function uri(uint256 _tokenId) override public pure returns (string memory) {   infinite gas
        return string(abi.encodePacked(
            "https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/",
            Strings.toString(_tokenId), ".json"
        ));
    }
    function contractURI() public pure returns (string memory) {   infinite gas
        string memory json = '{"name": "Salu Office",';
        json = '  "description": "Welcome to My first ERC1155 Collection project",';
    }
}
```

Type the library name to see available commands.
Cloning https://github.com/Breakthrough-Labs/v4-template... please wait...
This repository has submodules. Please update submodules to pull all the dependencies.

Copy SPDX-License

The screenshot shows the Remix Ethereum IDE interface. A blue circle labeled '1' highlights the 'FILE EXPLORER' sidebar where the file 'GameTokens.sol' is selected. A red box highlights the SPDX license identifier in the code editor:

```
// SPDX-License-Identifier: MIT
```

A blue circle labeled '2' highlights the 'Copy' button next to the highlighted text. The code editor displays the Solidity contract 'GameTokens.sol' with various functions and variables defined.

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
import "@openzeppelin/contracts/token/ERC1155/ERC1155.sol";
import "@openzeppelin/contracts/utils/Strings.sol";

contract GameTokens {
    uint256 public constant GOLD = 0;
    uint256 public constant SILVER = 1;
    uint256 public constant THORS_HAMMER = 2;
    uint256 public constant SWORD = 3;
    uint256 public constant SHIELD = 4;
    string public name;
    string public symbol;
    constructor() ERC1155("https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/{id}.json") {
        name = "My First ERC1155 Token";
        symbol = "LOVE";
        _mint(msg.sender, GOLD, 10**18, "");
        _mint(msg.sender, SILVER, 10**21, "");
        _mint(msg.sender, THORS_HAMMER, 1, "");
        _mint(msg.sender, SWORD, 10**9, "");
        _mint(msg.sender, SHIELD, 10**7, "");
    }
    function uri(uint256 _tokenId) override public pure returns (string memory) {   infinite gas
        return string(abi.encodePacked(
            "https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/",
            Strings.toString(_tokenId), ".json"
        ));
    }
    function contractURI() public pure returns (string memory) {   infinite gas
        string memory json = '{"name": "Salu Office",
            "description": "Welcome to My first ERC1155 Collection project",
```

At the bottom of the interface, there is a note about cloning a repository and a message about submodule updates.

Flatten GameTokens.sol

The screenshot shows the Remix Ethereum IDE interface. On the left, the FILE EXPLORER panel displays a workspace named "Uniswap v4 Template". A file named "GameTokens.sol" is selected, indicated by a red box labeled "1". A context menu is open over this file, with the "Flatten" option highlighted by a red box labeled "2". The main code editor window contains the Solidity source code for "GameTokens.sol". The code defines an ERC1155 token with four mintable items: GOLD, SILVER, THORS_HAMMER, and SWORD, along with their respective symbols and names.

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
import "@openzeppelin/contracts/token/ERC1155/ERC1155.sol";
import "@openzeppelin/contracts/utils/Strings.sol";

contract GameTokens is ERC1155 {
    uint256 public constant GOLD = 0;
    uint256 public constant SILVER = 1;
    uint256 public constant THORS_HAMMER = 2;
    uint256 public constant SWORD = 3;
    string public name;
    string public symbol;
    constructor() ERC1155("https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/{id}.json") {
        name = "My First ERC1155 Token";
        symbol = "LOVE";
        _mint(msg.sender, GOLD, 10**18, "");
        _mint(msg.sender, SILVER, 10**21, "");
        _mint(msg.sender, THORS_HAMMER, 1, "");
        _mint(msg.sender, SWORD, 10**9, "");
        _mint(msg.sender, SHIELD, 10**7, "");
    }
    function uri(uint256 _tokenId) override public pure returns (string memory) {
        return string(abi.encodePacked("https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/", _tokenId.toString(), ".json"));
    }
}
```

The bottom status bar includes a "Scam Alert" icon, a "Initialize as git repo" button, a "Did you know?" section, and a "RemixAI Copilot (enabled)" indicator.

GameTokens_flattened.sol

FILE EXPLORER

WORKSPACES

Uniswap v4 Template

GameTokens_flattened.sol 1

2

```
1 // SPDX-License-Identifier: MIT
2 // Copyright 2021-2022 Japppelin Contracts (last updated v5.1.0) (utils/introspection/IERC165.sol)
3 // SPDX-License-Identifier: MIT
4 // Solidity ^0.8.20;
5 /**
6 * @dev Interface of the ERC-165 standard, as defined in the
7 * https://eips.ethereum.org/EIPS/eip-165[ERC].
8 *
9 * Implementers can declare support of contract interfaces, which can then be
10 * queried by others ({ERC165Checker}).
11 *
12 * For an implementation, see {ERC165}.
13 */
14 interface IERC165 {
15     /**
16      * @dev Returns true if this contract implements the interface defined by
17      * `interfaceId`. See the corresponding
18      * https://eips.ethereum.org/EIPS/eip-165#how-interfaces-are-identified[ERC section]
19      * to learn more about how these ids are created.
20 }
```

Missing SPDX-License

Import 使用v5.1.0

Scam Alert Initialize as git repo Did you know? You can use 'Generate documentation' in the right-click menu to get AI-generated documentation.

RemixAI Copilot (enabled)

GameTokens_flattened.sol

The screenshot shows the Remix Ethereum IDE interface. A red box highlights the 'FILE EXPLORER' sidebar on the left, which contains a list of workspaces. A blue circle labeled '1' is positioned over the 'Uniswap v4 Template' workspace. Another blue circle labeled '2' is positioned over the 'GameTokens_flattened.sol' file in the list. A red box highlights the 'GameTokens_flattened.sol' file in the list. A red arrow points from a 'Paste' button (inside a red box) to the code editor area, where a block of Solidity code is being pasted.

```
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.20;
/**
 * @dev Interface of the ERC-165 standard, as defined in the
 * https://eips.ethereum.org/EIPS/eip-165[ERC].
 *
 * Implementers can declare support of contract interfaces, which can then be
 * queried by others ({ERC165Checker}).
 *
 * For an implementation, see {ERC165}.
 */
interface IERC165 {
    /**
     * @dev Returns true if this contract implements the interface defined by
     * `interfaceId`. See the corresponding
     * https://eips.ethereum.org/EIPS/eip-165#how-interfaces-are-identified[ERC section]
     * to learn more about how these ids are created.
    
```

FILE EXPLORER
WORKSPACES
Uniswap v4 Template
GameTokens_flattened.sol

1 // SPDX-License-Identifier: MIT

2 // OpenZeppelin Contracts (last updated v5.1.0) (utils/introspection/IERC165.sol)

7 pragma solidity ^0.8.20;

8

9 /**

10 * @dev Interface of the ERC-165 standard, as defined in the

11 * https://eips.ethereum.org/EIPS/eip-165[ERC].

12 *

13 * Implementers can declare support of contract interfaces, which can then be

14 * queried by others ({ERC165Checker}).

15 *

16 * For an implementation, see {ERC165}.

17 */

18 interface IERC165 {

19 /**

20 * @dev Returns true if this contract implements the interface defined by

21 * `interfaceId`. See the corresponding

22 * https://eips.ethereum.org/EIPS/eip-165#how-interfaces-are-identified[ERC section]

23 * to learn more about how these ids are created.

0 Listen on all transactions Filter with transaction hash or address

- Select a Javascript file in the file explorer and then run `remix.execute()` or `remix.exeCurrent()` in the command Line interface

- Right-click on a JavaScript file in the file explorer and then click 'Run'

The following libraries are accessible:

- [web3.js](#)
- [ethers.js](#)
- [sol-gpt <your Solidity question here>](#)

Type the library name to see available commands.

Cloning <https://github.com/Breakthrough-Labs/v4-template>... please wait...

This repository has submodules. Please update submodules to pull all the dependencies.

Scam Alert Initialize as git repo Did you know? You can use 'Generate documentation' in the right-click menu to get AI-generated documentation. RemixAI Copilot (enabled)

Compile Smart Contract

The screenshot shows the Remix Ethereum IDE interface with several numbered steps indicating the process of compiling a smart contract:

- 1** In the bottom-left sidebar, click the **GameTokens** icon.
- 2** In the **SOLIDITY COMPILER** section, ensure the compiler version is set to **0.8.26+commit.8a97fa7a**.
- 3** In the **GameTokens** file, click the **GameTokens_flattened** tab.
- 4** Click the **Compile GameTokens_flatt...** button.

The code editor displays the `GameTokens.sol` file, which includes the `GameTokens` contract and the `IERC165` interface implementation. The interface definition is as follows:

```
// SPDX-License-Identifier: MIT
// File: @openzeppelin/contracts/utils/introspection/IERC165.sol

pragma solidity ^0.8.20;

/**
 * @dev Interface of the ERC-165 standard, as defined in the
 * https://eips.ethereum.org/EIPS/eip-165[ERC].
 *
 * Implementers can declare support of contract interfaces, which can then be
 * queried by others ({{ERC165Checker}}).
 *
 * For an implementation, see {ERC165}.
 */
interface IERC165 {
    /**
     * @dev Returns true if this contract implements the interface defined by
     * `interfaceId`. See the corresponding
     * https://eips.ethereum.org/EIPS/eip-165#how-interfaces-are-identified[ERC section]
     * to learn more about how these ids are created.
     */
    function supportsInterface(bytes4 interfaceId) external view returns (bool);
}
```

At the bottom of the interface, there is a note about accessible libraries and a warning about repository submodules.

Deploy an ERC-1155 Token

The screenshot illustrates the process of deploying an ERC-1155 token using the Remix Ethereum IDE and MetaMask.

Remix Ethereum IDE (Left):

- 1** Click the gear icon to open settings.
- 2** Select "Injected Provider - MetaMask" from the environment dropdown.
- 3** Set the account to "0x4CE..6ae71 (1.37369686040929)".
- 4** Click the "Deploy" button.

A message at the bottom indicates: "creation of GameTokens pending..."

MetaMask (Right):

- 5** Click the "建立新合約" (Create New Contract) button.

The MetaMask interface shows the following details:

- Account:** Salu1
- Network:** Sepolia
- Estimated changes:** No changes predicted for your wallet
- Estimated fee:** 0.65 SepoliaETH (Market price: 0.00640509 SepoliaETH, Max fee: 0.01545066 SepoliaETH)
- Nonce:** 25
- Buttons:** 拒絕 (Reject) and 確認 (Confirm)

Deploy an ERC-1155 Token

The screenshot illustrates the process of deploying an ERC-1155 token using the Ethereum IDE (Remix) and MetaMask.

Remix - Ethereum IDE:

- Injected Provider - MetaMask:** Set to "Sepolia (11155111) network".
- ACCOUNT:** Address: 0x4CE13...6ae71 (1.36638651537634)
- DEPLOY & RUN TRANSACTIONS:** GAS LIMIT: Estimated Gas (Custom: 3000000), CONTRACT: GameTokens - GameTokens_flattened, Deploy button.

MetaMask Wallet Interface:

- Account:** Salu1 (0x4CE13...6ae71)
- Balances:** 1.1124 SepoliaETH (\$4,194.02 USD)
- Transactions:** Dec 10, 2024, 部署合約已確認 (Deployment confirmed), 1 transaction, -0 SepoliaETH -\$0.00 USD.
- Buttons:** Buy & Sell, 發送 (Send), Swap, Bridge, Portfolio.

A red arrow points from the "Injected Provider - MetaMask" dropdown in the Remix interface to the "Salu1" account in the MetaMask interface, indicating the connection between the two environments.

Deploy an ERC-721 Token

The screenshot shows the Remix Ethereum IDE interface. On the left, the sidebar includes sections for 'DEPLOY & RUN TRANSACTIONS' (with environment set to 'Injected Provider - MetaMask' and account '0x4CE...6ae71'), 'GAS LIMIT' (set to 'Estimated Gas'), 'VALUE' (set to 0 Wei), and 'CONTRACT' (selected 'GameTokens - GameTokens_flatten'). Below these are buttons for 'Deploy' and 'Publish to IPFS'. The main workspace displays two tabs: 'GameTokens.sol' and 'GameTokens_flattened.sol'. The code in 'GameTokens.sol' is a standard ERC-721 implementation. A red box highlights the 'view_on_etherescan' button at the bottom of the code area. To the right, a modal window titled '部署合約' (Deployment Status) provides details about the transaction. A red box highlights the 'View on block explorer' button in this window. Below the modal, the status is shown as '已確認' (Confirmed). The transaction details include: 来源帳戶 (From: 0x4CE13...6ae71), 目的帳戶 (To:), 交易 (Transaction),Nonce (18), 數量 (-0 SepoliaETH), Gas 上限 (單位) (2200249), Gas 用量 (單位) (2181766), Base fee (GWEI) (16.909617886), Priority fee (GWEI) (1.5), Total gas fee (0.040165 SepoliaETH / 4.73 ETC), and Max fee per gas (0.000000026 SepoliaETH / 0 ETC). At the bottom of the page, a red arrow points from the 'view_on_etherescan' button to the URL <https://sepolia.etherscan.io/tx/0x7e36810198619cdd6e9321b1f7d44a851074e3c351252ecc3454ea303c1011fd>.

View Transaction on Sepolia

The screenshot shows a browser window displaying the Sepolia Testnet transaction details for the URL <https://sepolia.etherscan.io/tx/0x7e36810198619cdd6e9321b1f7d44a851074e3c351252ecc3454ea303c1011fd>.

Key details from the transaction:

- Transaction Hash: 0x7e36810198619cdd6e9321b1f7d44a851074e3c351252ecc3454ea303c1011fd
- Status: Success (highlighted with a red box)
- Block: 7248244 (20 Block Confirmations)
- Timestamp: 4 mins ago (Dec-10-2024 05:22:00 AM UTC)
- Transaction Action: Call 0x60806040 Method by 0x4CE135aB...64E06ae71
- From: 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71
- Interacted With (To): 0x3850a7397ae84ab9d15e69be0f03934347429cd6 (Created)
- ERC-1155 Tokens Transferred: 5

A blue box with the text "Click contract address" has an arrow pointing to the "To" field in the "Interacted With (To)" section.

A red box highlights the list of ERC-1155 tokens transferred, which all show the same details:

- ERC-1155 For 10000000000000000000 of Token ID [0] My First ERC... (LOVE)
From 0x00000000...00000000 To 0x4CE135aB...64E06ae71
- ERC-1155 For 10000000000000000000 of Token ID [1] My First ERC... (LOVE)
From 0x00000000...00000000 To 0x4CE135aB...64E06ae71
- ERC-1155 For 1 of Token ID [2] My First ERC... (LOVE)
From 0x00000000...00000000 To 0x4CE135aB...64E06ae71
- ERC-1155 For 100000000 of Token ID [3] My First ERC... (LOVE)
From 0x00000000...00000000 To 0x4CE135aB...64E06ae71
- ERC-1155 For 1000000 of Token ID [4] My First ERC... (LOVE)
From 0x00000000...00000000 To 0x4CE135aB...64E06ae71

Smart Contract Information

The screenshot shows the Etherscan interface for a Sepolia Testnet contract at address `0x3850a7397ae84ab9d15e69be0f03934347429cd6`. A red box highlights the main header information. Another red box highlights the 'CONTRACT CREATOR' section, which lists the address `0x4CE135aB...64E06ae71` and a link to the transaction `0x7e36810198...`. A third red box highlights the 'TOKEN TRACKER' section, which shows a token named 'My First ERC1155 Token (LOVE)'. A blue box labeled 'click' with an arrow points to this section. A large red box at the bottom covers the transaction table.

Contract Address `0x3850a7397ae84ab9d15e69be0f03934347429cd6`

sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6

Etherscan

Contract `0x3850A7397ae84Ab9d15E69BE0F03934347429CD6`

Overview

ETH BALANCE
0 ETH

More Info

CONTRACT CREATOR
`0x4CE135aB...64E06ae71` [Get txns](#) `0x7e36810198...`

TOKEN TRACKER
[My First ERC1155 Token \(LOVE\)](#)

Multichain Info
N/A

Transactions Token Transfers (ERC-20) Contract Events

Transaction Hash	Method	Block	Age	From	To	Amount	Txn Fee
[Redacted]							

Smart Contract Information

View & Publish

The screenshot shows a web browser displaying the Etherscan interface for a contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The 'Contract' tab is selected. A red box highlights the 'Verify and Publish' button, which is located below the 'Contract' tab and above the footer. Another red box highlights the text 'Are you the contract creator? Verify and Publish your contract source code today!'. The page includes sections for Overview, More Info, and Multichain Info, along with tabs for Transactions, Token Transfers (ERC-20), Contract, and Events.

Contract Address 0x3850a7397ae84ab9d15e69be0f03934347429cd6#code

Sepolia Testnet

Etherscan

Contract 0x3850A7397ae84Ab9d15E69BE0F03934347429CD6

Overview

ETH BALANCE 0 ETH

More Info

CONTRACT CREATOR 0x4CE135aB...64E06ae71 at txn 0x7e36810198...

TOKEN TRACKER My First ERC1155 Token (LOVE)

Multichain Info N/A

Transactions Token Transfers (ERC-20) **Contract** Events

Are you the contract creator? [Verify and Publish](#) your contract source code today!

Decompile Bytecode Switch to Opcodes View Similar Contracts

View & Publish Contract Source Code

The screenshot shows a web browser window titled "Verify & Publish Contract Sou". The URL in the address bar is <https://sepolia.etherscan.io/verifyContract?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6>. The page is titled "Verify & Publish Contract Source Code". It provides instructions for source code verification and links to "Read more". The process is divided into two steps: "Enter Contract Details" (Step 1) and "Verify & Publish" (Step 2). Step 1 is currently active. The user has entered the contract address "0x3850a7397ae84ab9d15e69be0f03934347429cd6" into the first input field, which is highlighted with a red border. The second input field, "Compiler Type", contains "Solidity (Single file)" and is also highlighted with a red border. The third input field, "Compiler Version", contains "v0.8.26+commit.8a97fa7a" and is highlighted with a red border. A checkbox labeled "Uncheck to show all nightly commits" is checked. The fourth input field, "Open Source License Type", contains "3) MIT License (MIT)" and is highlighted with a red border. A checkbox labeled "I agree to the terms of service" is checked. At the bottom of the form are "Continue" and "Reset" buttons, with "Continue" being highlighted with a red border.

Verify & Publish Contract Source Code

Source code verification provides transparency for users interacting with smart contracts. By uploading the source code, Etherscan will match the compiled code with that on the blockchain. [Read more](#).

1 Enter Contract Details — 2 Verify & Publish

Please enter the Contract Address you would like to verify
0x3850a7397ae84ab9d15e69be0f03934347429cd6

Please select Compiler Type
Solidity (Single file)

Please select Compiler Version
v0.8.26+commit.8a97fa7a

Uncheck to show all nightly commits

Please select Open Source License Type i
3) MIT License (MIT)

I agree to the [terms of service](#)

Continue Reset

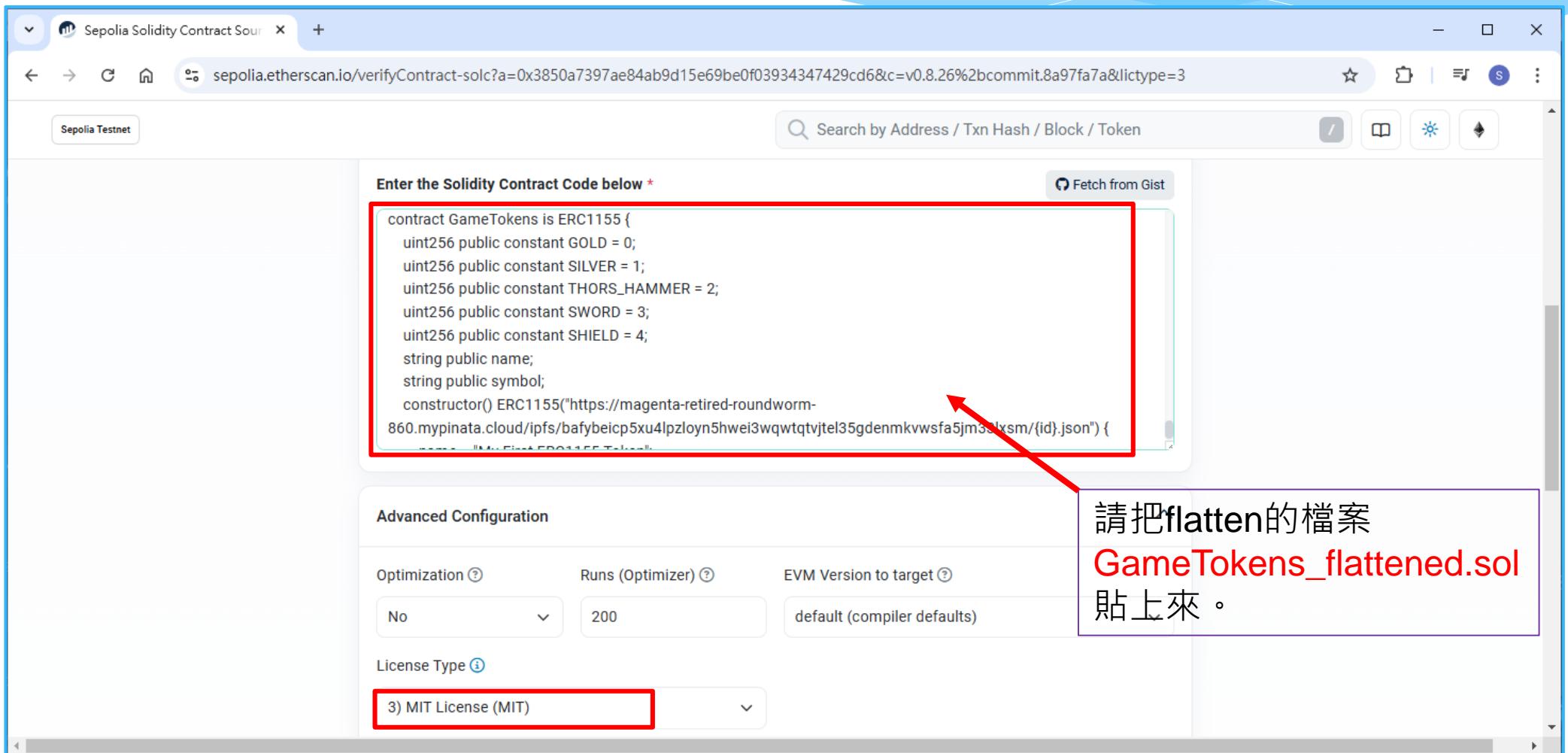
View & Publish Contract Source Code

The screenshot shows a web browser window for the Sepolia Testnet on Etherscan. The URL in the address bar is `sepolia.etherscan.io/verifyContract-solc?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6&c=v0.8.26%2bcommit.8a97fa7a&lctytype=3`. The page title is "Sepolia Solidity Contract Sour". The main content is titled "Verify & Publish Contract Source Code". It explains that source code verification provides transparency by matching uploaded code with the blockchain. It's a simple interface for contracts in a single file. A progress bar indicates step 1 (Enter Contract Details) is complete and step 2 (Verify & Publish) is active. Below the progress bar is a section titled "Upload Contract Source Code" with a file input field. A list of instructions follows:

1. If the contract compiles correctly at REMIX, it should also compile correctly here.
2. We have limited support for verifying contracts created by another contract and there is a timeout of up to 45 seconds for each contract compiled.
3. For programmatic contract verification, check out the [Contract API Endpoint](#).

At the bottom, a red box highlights the "Contract Address" field, which contains the value `0x3850a7397ae84ab9d15e69be0f03934347429cd6`. Other fields shown are "Compiler Type: SINGLE FILE / CONCATENATED METHOD" and "Compiler Version: v0.8.26+commit.8a97fa7a".

View & Publish Contract Source Code



The screenshot shows a web browser window for Sepolia Solidity Contract Source Code. The URL is sepolia.etherscan.io/verifyContract-solc?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6&c=v0.8.26%2bcommit.8a97fa7a&lctype=3. The page displays a Solidity contract code for GameTokens:

```
contract GameTokens is ERC1155 {
    uint256 public constant GOLD = 0;
    uint256 public constant SILVER = 1;
    uint256 public constant THORS_HAMMER = 2;
    uint256 public constant SWORD = 3;
    uint256 public constant SHIELD = 4;
    string public name;
    string public symbol;
    constructor() ERC1155("https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm3jxsm/{id}.json") {
```

A red box highlights the constructor's URI parameter. A red arrow points from this highlighted area to a purple callout box containing the text: "請把flatten的檔案 GameTokens_flattened.sol 貼上來。".

The "Advanced Configuration" section includes:

- Optimization: No
- Runs (Optimizer): 200
- EVM Version to target: default (compiler defaults)

The "License Type" dropdown is set to "3) MIT License (MIT)".

View & Publish Contract Source Code

The screenshot shows a browser window titled "Sepolia Solidity Contract Sour" with the URL "sepolia.etherscan.io/verifyContract-solc?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6&c=v0.8.26%2bcommit.8a97fa7a&lctype=3". The page displays a form for verifying a contract source code. A red box highlights the "Contract Library Address" input field, which is currently empty. A blue box highlights the "Verify and Publish" button at the bottom, which is also currently empty. A red arrow points from the text "清除為空白" (Clear to empty) to the "Contract Library Address" input field.

Contract Library Address (for contracts that use libraries, supports up to 10 libraries)

成功!

Verify and Publish

Reset

清除為空白

View & Publish Contract Source Code

The screenshot shows a web browser window for the Sepolia Testnet on Etherscan. The URL in the address bar is `sepolia.etherscan.io/verifyContract-solc?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6&c=v0.8.26%2bcommit.8a97fa7a&lctype=3`. The page title is "Sepolia Solidity Contract Sour". The main content is titled "Verify & Publish Contract Source Code". It explains that source code verification provides transparency by matching uploaded code with the blockchain. A red box highlights a success message: "Successfully generated Bytecode and ABI for Contract Address [0x3850a7397ae84ab9d15e69be0f03934347429cd6]". A red arrow points from the word "click" to the "Verify & Publish" button.

Sepolia Solidity Contract Sour

sepolia.etherscan.io/verifyContract-solc?a=0x3850a7397ae84ab9d15e69be0f03934347429cd6&c=v0.8.26%2bcommit.8a97fa7a&lctype=3

Sepolia Testnet

Etherscan

Search by Address / Txn Hash / Block / Token

Home Blockchain Tokens NFTs More

Verify & Publish Contract Source Code

Source code verification provides transparency for users interacting with smart contracts. By uploading the source code, Etherscan will match the compiled code with that on the blockchain. [Read more](#).

A simple and structured interface for verifying smart contracts that fit in a single file.

1 Enter Contract Details — 2 Verify & Publish

Successfully generated Bytecode and ABI for Contract Address
[0x3850a7397ae84ab9d15e69be0f03934347429cd6]

Learn how to verify your contract on multiple blockchains with a single API key [here](#).

Code Reader

click

View Contract Source Code

The screenshot shows the Etherscan interface for the contract `GameTokens` at address `0x3850a7397ae84ab9d15e69be0f03934347429cd6`. The browser URL is `sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#code`. The page displays the following information:

- Contract Source Code Verified (Exact Match)**
- Contract Name:** GameTokens
- Compiler Version:** v0.8.26+commit.8a97fa7a
- Optimization Enabled:** No with 200 runs
- Other Settings:** default evmVersion, MIT license

The **Contract Source Code (Solidity)** section contains the following Solidity code, which is highlighted with a red box:

```
1 /**
2  *Submitted for verification at Etherscan.io on 2024-12-10
3 */
4
5 // SPDX-License-Identifier: MIT
6 // File: @openzeppelin/contracts/utils/introspection/IERC165.sol
7
8
9 // OpenZeppelin Contracts (last updated v5.1.0) (utils/introspection/IERC165.sol)
10
11 pragma solidity ^0.8.20;
12
13 /**
14  * @dev Interface of the ERC-165 standard, as defined in the
15  * https://eips.ethereum.org/EIPS/eip-165[ERC].
16  *
17  * Implementers can declare support of contract interfaces, which can then be
18  * queried by others ({ERC165Checker}).
19  *
20  * For an implementation, see {ERC165}.
21 */
```

View & Publish Contract Source Code

The screenshot shows the Etherscan interface for a contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The 'Source Code' tab is selected. A red box highlights the 'Contract' button in the navigation bar and the 'Code' button in the footer navigation bar. Another red box highlights the 'Contract Source Code Verified (Exact Match)' message at the bottom.

GameTokens | Address 0x3850a7397ae84ab9d15e69be0f03934347429cd6

sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#code

Sepolia Testnet

Search by Address / Txn Hash / Block / Token

Contract 0x3850A7397ae84Ab9d15E69BE0F03934347429CD6

Source Code

Overview

ETH BALANCE
0 ETH

More Info

CONTRACT CREATOR
0x4CE135aB...64E06ae71 at txn 0x7e36810198...

TOKEN TRACKER
My First ERC1155 Token (LOVE)

Multichain Info
N/A

Transactions Token Transfers (ERC-20) Contract Events

Code Read Contract Write Contract

Contract Source Code Verified (Exact Match)

Search Source Code

Connect to Web3

The screenshot shows a web browser window displaying the etherscan.io interface for a contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The 'Contract' tab is selected. A red box highlights the 'Read Contract' button in the bottom left, and another red box highlights the 'Connect to Web3' button below it. A large red box encloses a modal dialog in the center-right. The dialog contains the text: 'sepolia.etherscan.io 顯示' and 'Please take note that this is a beta version feature and is provided on an "as is" and "as available" basis. Etherscan does not give any warranties and will not be liable for any loss, direct or indirect through continued use of this feature.' It features two buttons: a blue '確定' (Confirm) button and a light blue '取消' (Cancel) button.

sepolia.etherscan.io 顯示

Please take note that this is a beta version feature and is provided on an "as is" and "as available" basis. Etherscan does not give any warranties and will not be liable for any loss, direct or indirect through continued use of this feature.

確定 取消

Connect a Wallet-MetaMask

The screenshot shows a web browser window displaying the Etherscan interface for a contract on the Sepolia Testnet. The URL in the address bar is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract>. A modal window titled "Connect a Wallet" is overlaid on the page. The modal contains an informational message: "Connecting wallet for read function is optional, useful if you want to call certain functions or simply use your wallet's node." Below this message, three wallet connection options are listed: "MetaMask" (selected and highlighted with a red border), "WalletConnect", and "Coinbase Wallet". The background of the Etherscan interface shows the contract details, including its address (0x3850A7397ae84Ab9d15E69BE0F03934347429cd6), source code, overview (ETH BALANCE: 0 ETH), and transaction history.

Connected Web3 using account

The image shows two screenshots illustrating the connection of a Web3 wallet to a blockchain application.

Screenshot 1: Etherscan Contract Overview

This screenshot shows the Etherscan interface for a contract at address `0x3850a7397ae84ab9d15e69be0f03934347429cd6`. The "Contract" tab is selected. A red box highlights the "Connected - Web3 [0x4ce1...ae71]" status message in the bottom left corner. Another red box highlights the account address `0x4CE13...6ae71` in the top right corner of the page.

Screenshot 2: Metamask Extension UI

This screenshot shows the Metamask extension UI. It displays the account balance **1.3664 SepoliaETH**. Below it are buttons for "Buy & Sell", "Swap", "Bridge", and "Send/Receive". The "Transactions" tab is selected, showing a history of transactions:

- Dec 4, 2024:** 部署合約 已確認 -0 SepoliaETH -0 ETC
- Nov 29, 2024:** 接收 已確認 0.01 SepoliaETH 1.03 ETC
- Nov 28, 2024:** (no visible transaction details)

A red box highlights the account address `0x4CE13...6ae71` in the top right corner of the extension UI.

Read Contract

The screenshot shows a web browser window displaying the Sepolia Testnet version of Etherscan. The URL in the address bar is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract>. The page title is "GameTokens | Address 0x3850...". The main content area displays the storage of the smart contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The storage is organized into slots:

- Slot 1 (GOLD): Value 0 uint256
- Slot 2 (SHIELD): Value 4 uint256
- Slot 3 (SILVER): Value 1 uint256
- Slot 4 (SWORD): Value 3 uint256
- Slot 5 (THORS_HAMMER): Value 2 uint256

Each value is displayed in a red-bordered box. The top right of the page includes a search bar and various navigation icons.

Read Contract-balanceOf

The screenshot shows the Sepolia Testnet interface for the GameTokens contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The URL is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract>.

Method 6. balanceOf

- account (address): 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71 (highlighted by red box)
- id (uint256): 0 (highlighted by red box)
- Query button

[balanceOf(id: uint256) method Response]
» uint256 : 10000000000000000000

Method 7. balanceOfBatch

- accounts (address[]): [0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71, 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71, 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71] (highlighted by red box)
- ids (uint256[]): [0,2,3] (highlighted by red box)
- Query button

[balanceOfBatch(address[],uint256[]) method Response]
» uint256[] : 10000000000000000000, 1,1000000000

Annotations:

- For Method 6: A blue speech bubble points to the account input field with the text "輸入 account address 查詢它的balance餘額".
- For Method 6: A blue speech bubble points to the id input field with the text "輸入指定的token id".
- For Method 7: A blue speech bubble points to the accounts input field with the text "輸入 [account#1, account#2, account#3, ...] 查詢它指定的Token balance餘額".
- For Method 7: A blue speech bubble points to the ids input field with the text "輸入指定的token id [token#1, token#2, token#3, ...]".

Read Contract-contractURI

GameTokens | Address 0x3850a7397ae84ab9d15e69be0f03934347429cd6 #readContract

Search by Address / Txn Hash / Block / Token

1. 8. contractURI

```
data:application/json;utf8, {"name": "Salu Office", "description": "Welcome to My first ERC1155 Collection project", "image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeifavfnscxr7dyzx55xj6alg5avjaez33hrzo3jkjnsnlevydnki/img0... string
```

2. 10. name

```
My First ERC1155 Token string
```

3. 12. symbol

```
LOVE string
```

4. 13. uri

_tokenid (uint256)

```
0
```

Query

L string

[uri(uint256) method Response]

```
» string https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvitel35gdenmkwwsfa5jm33lxsm/0.json
```

Connected Web3 using account

The screenshot illustrates the integration of a Web3 account across different platforms. On the left, a browser window displays the Etherscan interface for a contract at address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. A red arrow points from the 'Connected - Web3 [0x4ce1...ae71]' status bar in the browser to the corresponding account information in a wallet interface on the right. The wallet interface shows a balance of 1.5522 SepoliaETH and transaction history for Nov 19, 2024, and Oct 30, 2024.

Etherscan Contract Overview:

- Contract Address: 0x3850a7397ae84Ab9d15E69BE0F03934347429CD6
- ETH BALANCE: 0 ETH
- More Info:
 - CONTRACT CREATOR: 0x4CE135aB...64E06ae71 at txn 0x7e36810198...
 - TOKEN TRACKER: My First ERC1155 Token (LOVE)
- Transactions: 1. safeBatchTransferFrom (0x2eb2c2d6), 2. safeTransferFrom (0xf242432a), 3. setApprovalForAll (0xa22cb465)

Wallet Interface (Salu 1):

- Balance: 1.5522 SepoliaETH
- Portfolio Buttons: Buy & Sell, Swap, Bridge, 發送 (Send), 接收 (Receive)
- Transactions:
 - Nov 19, 2024: 部署合約 已確認 (-0 SepoliaETH, -0 ETC)
 - Oct 30, 2024: 接收 已確認 (0.01 SepoliaETH, 1.19 ETC)
 - Oct 30, 2024: 接收 已確認 (0.05 SepoliaETH, 5.93 ETC)

Write Contract- List

The screenshot shows the etherscan.io interface for the address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The 'Contract' tab is selected. Below it, the 'Write Contract' tab is active. A red box highlights the first three functions listed: 1. safeBatchTransferFrom (0x2eb2c2d6), 2. safeTransferFrom (0xf242432a), and 3. setApprovalForAll (0xa22cb465). A blue circle with the number 1 is positioned next to the first function.

Contract 0x3850A7397ae84Ab9d15E69BE0F03934347429CD6

Source Code

Overview

ETH BALANCE
0 ETH

More Info

CONTRACT CREATOR
0x4CE135aB...64E06ae71 at txn 0x7e36810198...

TOKEN TRACKER
My First ERC1155 Token (LOVE)

Multichain Info
N/A

Transactions Token Transfers (ERC-20) Contract Events

Code Read Contract Write Contract

Connected - Web3 [0x4ce1...ae71]

[Expand all] [Reset]

1. safeBatchTransferFrom (0x2eb2c2d6)
2. safeTransferFrom (0xf242432a)
3. setApprovalForAll (0xa22cb465)

Write Contract - safeTransferFrom

The screenshot shows two windows: a browser window and the MetaMask wallet interface.

Browser Window: The URL is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#writeContract>. The transaction details are as follows:

- 1. safeBatchTransferFrom (0x2eb2c2d6)
- 2. safeTransferFrom (0xf242432a)

Inputs for the second transaction (highlighted with red boxes):

- from (address): 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71
- to (address): 0x7BeeE5F42F617503730d9Fba6117E301EAad8f0C
- id (uint256): 0
- value (uint256): 2500
- data (bytes): 0x0

MetaMask Wallet Interface: The transaction hash is 0x3850A...29CD6. The transaction details are:

- Estimated changes:** You send - 2,500 #0 to 0x3850A...29CD6 (Not Available)
- Estimated fee:** 0.17 SepoliaETH (Market, ~60 sec) Max fee: 0.00556099 SepoliaETH
- Nonce:** 45

Buttons at the bottom right of the MetaMask interface are highlighted with blue circles and numbered 1 and 2:

1. Write button (highlighted with a red border)
2. Confirmation button (highlighted with a red border)

View Transaction-1

The screenshot shows a web browser window for the Sepolia Testnet on etherscan.io. The URL in the address bar is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#writeContract>. The page displays a transaction builder for the GameTokens contract. The transaction details are as follows:

- Connected - Web3 [0x4ce1...ae71]
- 1. safeBatchTransferFrom (0x2eb2c2d6)
- 2. safeTransferFrom (0xf242432a)

Inputs for the first transaction (safeBatchTransferFrom):

- from (address): 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71
- to (address): 0x7BeeE5F42F617503730d9Fba6117E301EAad8f0C
- id (uint256): 0
- value (uint256): 2500
- data (bytes): 0x0

At the bottom left, there are two buttons: "Write" and "View your transaction". The "View your transaction" button is highlighted with a red border and a blue circle containing the number 1.

View Transaction-2

The screenshot shows the Etherscan interface for a Sepolia Testnet transaction. The transaction hash is `0xacb8d6e0bc48dab7d9db984d34f1c1008b958f1050705a048d8c8e5404f9f0b6`. The status is marked as "Success". The transaction was included in block `7248965` with 14 confirmations. It occurred 3 minutes ago at `Dec-10-2024 07:56:24 AM UTC`. The transaction action involved a `Safe Transfer From` call to `0x4CE135aB...64E06ae71` on contract `0x3850A739...347429CD6`. The transfer was from `0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71` to `0x3850A7397ae84Ab9d15E69BE0F03934347429CD6`. An NFT was transferred, specifically ERC-1155 tokens for 2500 of Token ID [0] `My First ERC... (LOVE)`, from `0x4CE135aB...64E06ae71` to `0x7BeeE5F4...1EAad8f0C`.

1

Transaction Details

Overview Logs (1) State

[This is a Sepolia Testnet transaction only]

② Transaction Hash: `0xacb8d6e0bc48dab7d9db984d34f1c1008b958f1050705a048d8c8e5404f9f0b6`

② Status: Success

② Block: `7248965` 14 Block Confirmations

② Timestamp: 3 mins ago (Dec-10-2024 07:56:24 AM UTC)

④ Transaction Action: Call `Safe Transfer From` Function by `0x4CE135aB...64E06ae71` on `0x3850A739...347429CD6`

② From: `0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71`

② Interacted With (To): `0x3850A7397ae84Ab9d15E69BE0F03934347429CD6` ✓

② ERC-1155 Tokens Transferred: ERC-1155 For 2500 of Token ID [0] `My First ERC... (LOVE)`
From `0x4CE135aB...64E06ae71` To `0x7BeeE5F4...1EAad8f0C`

View Transaction-3

View Token#0 NFT

The screenshot shows the Etherscan interface for an ERC-1155 NFT. The token ID is 0, and it is identified as "My First ERC1155 Token". The token standard is ERC-1155, and the quantity is 1E+18.

Details:

- Owners: 2
- Contract Address: 0x3850a7397ae84ab9d15e69be0f03934347429cd6
- Creator: 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71
- Token ID: 0
- Token Standard: ERC-1155
- Quantity: 1E+18

Item Activity:

Transaction Hash	Action	From	To
0xacb8d6e0bc...	Transfer >99	0x4CE135aB...64E06ae71	0x7BeeE5F4...1EAad8f0C
0x7e36810198...	Mint >99	0x00000000...00000000	0x4CE135aB...64E06ae71

Query token #0 URI

The screenshot shows the etherscan.io interface for the address 0x3850a7397ae84ab9d15e69be0f03934347429cd6. The URL in the browser is <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract>. The page displays the contract's functions, with the 'uri' function expanded. The '_tokenId' parameter is set to 0. The 'Query' result is shown as a string: "string : https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqltvjtel35gdennmkvwsfa5jm33lxsm/0.json". A blue callout box labeled 'copy' points to this string.

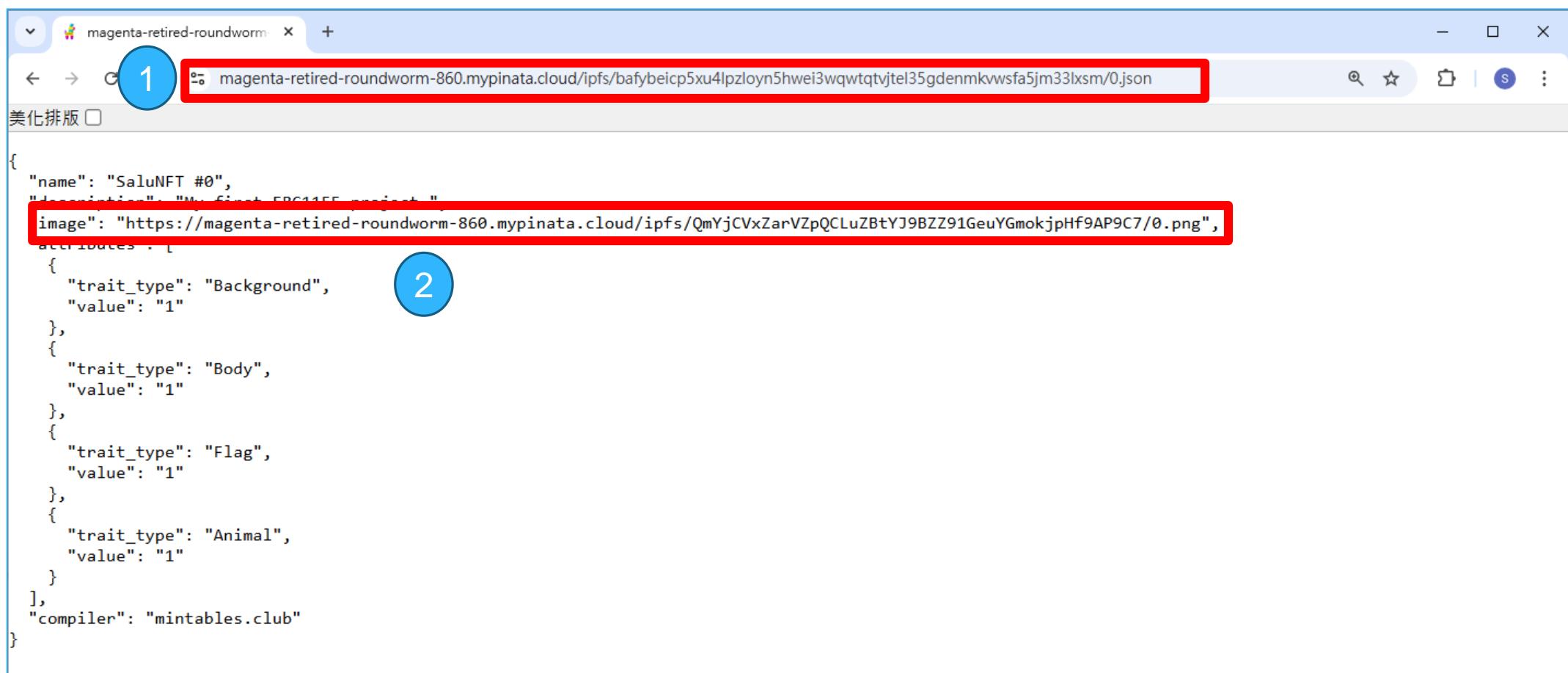
1. _tokenId (uint256)
0

2. Query
└ string

3. string : https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqltvjtel35gdennmkvwsfa5jm33lxsm/0.json

copy

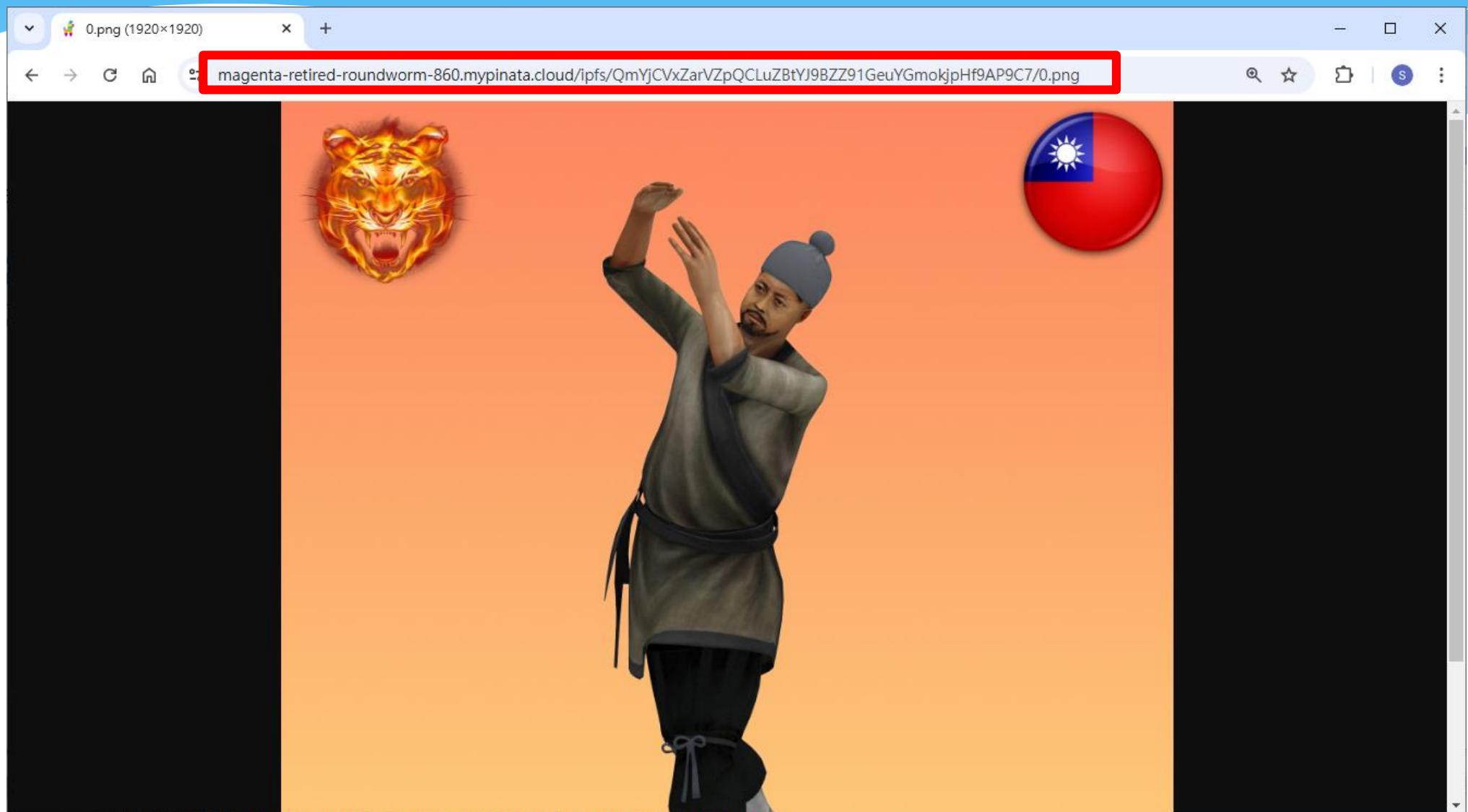
Query tokenURI #0 metadata



1 2

```
{  
  "name": "SaluNFT #0",  
  "description": "My first ERC1155 project.",  
  "image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/QmYjCVxZarVZpQCLuZBtYJ9BZZ91GeuYGmokjpHf9AP9C7/0.png",  
  "attributes": [  
    {  
      "trait_type": "Background",  
      "value": "1"  
    },  
    {  
      "trait_type": "Body",  
      "value": "1"  
    },  
    {  
      "trait_type": "Flag",  
      "value": "1"  
    },  
    {  
      "trait_type": "Animal",  
      "value": "1"  
    }  
  ],  
  "compiler": "mintables.club"  
}
```

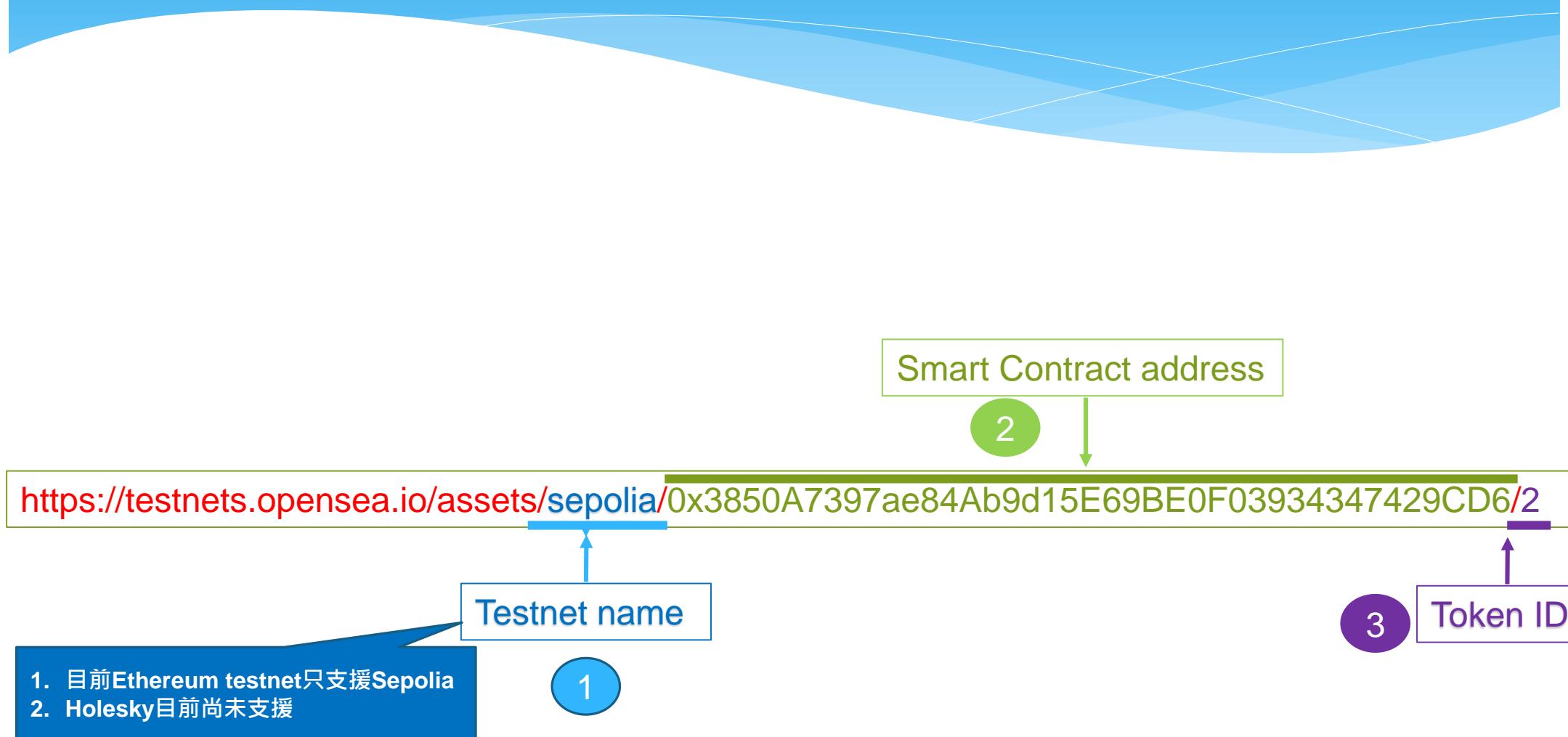
Token #0 Image





OpenSea testnet

OpenSea URL



Salu Office Collection

The screenshot shows a web browser displaying the OpenSea testnet interface for the 'Salu Office' collection. The URL in the address bar is highlighted with a red box and contains the number '1' in a blue circle. A blue speech bubble points to the URL with the text: 'Collection name 有相同時，會自動加上編號' (When the collection name is the same, it will automatically add a number). The page features a large background image of a cruise ship. At the top, there are navigation links for 'OpenSea', 'Drops', 'Stats', and 'Create'. On the right side, there are buttons for 'Login', a profile icon, and a shopping cart. Below the header, the collection name 'Salu Office' is displayed along with a globe icon. The main content area shows a grid of five NFT items, each featuring a character in traditional attire. The items are labeled 'SaluNFT #1' through '#5'. Each NFT has a small badge indicating its status or value. To the left of the grid, there is a sidebar with filters for 'Status', 'Price', 'Currency', 'Traits', 'Animal', 'Background', and a 'Sweep' button. At the bottom right of the grid, there is a blue button labeled 'Make collection offer'. The overall theme of the collection appears to be related to the Salu Office project.

<https://testnets.opensea.io/collection/salu-office-6> (name相同時會自動加上編號)

65

<https://testnets.opensea.io/assets/sepolia/0x3850A7397ae84Ab9d15E69BE0F03934347429CD6>

Token # 0 - NFT

The screenshot shows an OpenSea listing page for an NFT titled "SaluNFT #0". The URL in the browser address bar is highlighted with a red box and contains the string "testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0". A blue callout bubble points to the "Owned by" section, which displays two entries: "Unnamed" with address 0x4ce1...ae71 and balance 99999999999997400 items, and another "Unnamed" entry with address 0x7bee...8f0c and balance 2500 items. A red box highlights the "2 owners" text. A purple arrow points from the "2 owners" text to the "Owned by" section. A blue callout bubble contains the text "前面做的Write Contract – safeTransferFrom ,移轉2500". The NFT image features a character in traditional Chinese attire performing a martial arts move, with a golden tiger head and a Taiwan flag icon.

SaluNFT #0 - Salu Office | OpenSea

testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0

OpenSea

Drops Stats Create

Search

1

Salu Office

SaluNFT #0

2 owners > 1 billion items 1 view

Make offer

Price History

Listings

No events have been recorded. Check back later.

Owned by

這balance不對

99999999999997400 items

2500 items

前面做的Write Contract –
safeTransferFrom ,移轉2500

No listings yet

Token # 0 - NFT

1

The diagram illustrates the relationship between an NFT's JSON metadata and its representation on a marketplace like OpenSea. It consists of two main parts:

- Left Side (Browser View):** A screenshot of a browser window showing the JSON metadata for "SaluNFT #0".
 - The URL in the address bar is highlighted with a red box and labeled "1".
 - The JSON code is displayed, with several fields highlighted by red boxes:
 - "name": "SaluNFT #0",
 - "description": "My first ERC1155 project.",
 - "image": "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/0.png",
 - "attributes": [...]
 - A large red bracket connects the "image" field to the thumbnail image on the right.
 - The bottom URL "https://magenta-retired-roundworm-860.mypinata.cloud/ipfs/bafybeicp5xu4lpzloyn5hwei3wqwtqtvjtel35gdenmkvwsfa5jm33lxsm/0.json" is highlighted with a green box.
- Right Side (OpenSea Listing):** A screenshot of the OpenSea Testnets interface showing the listing for "SaluNFT #0".
 - The title "SaluNFT #0 - Salu Office | OpenSea" is at the top.
 - The image thumbnail is shown, connected by a red arrow from the browser's image URL.
 - The "Description" field contains "My first ERC1155 project." (highlighted with a red box).
 - The "Traits" section shows the following attributes:

ANIMAL	BACKGROUND	BODY
1	1	1
Floor: --	Floor: --	Floor: --
 - The bottom URL "https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0" is highlighted with a green box.

NFT Contract address

The screenshot shows an NFT listing on the OpenSea platform. The URL in the browser's address bar is <https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/2>.

The page displays the following information:

- Creator:** 4CE135
My first ERC1155 project.
- Traits:**
 - ANIMAL: 1 80%
Floor: --
 - BACKGROUND: 2 20%
Floor: --
 - BODY: 2 40%
Floor: --
 - FLAG: 2 40%
Floor: --
- About Salu Office**
- Details:**
 - Contract Address: **0x3850...9cd6**
 - Token ID: 2
 - Token Standard: **ERC-1155**
 - Chain: Sepolia
 - Last Updated: 1 day ago
 - Creator Earnings: 0%

A red box highlights the URL in the address bar and the entire left sidebar area (Creator info, Traits, and About section). A red arrow points from the "Contract Address" field in the Details section to a green callout box containing the text: "metadata內的其他資料".



Import NFT in MetaMask

Find the NFT's address

The screenshot shows a web browser displaying an OpenSea NFT listing. The URL in the address bar is highlighted with a red box and labeled '1'. A blue circle with the number '2' points to the 'Contract Address' field, which contains the value '0x3850...9cd6'. A red box highlights the 'ERC-1155' token standard. A green box with the text 'Click on this' and a red arrow points to the 'Sepolia' chain name. The page also lists the Token ID (2), Last Updated (1 day ago), and Creator Earnings (0%).

1

2

Click on this

Contract Address
0x3850...9cd6

Token ID
2

Token Standard
ERC-1155

Chain
Sepolia

Last Updated
1 day ago

Creator Earnings
0%

Find the NFT's address

The screenshot shows a browser window displaying the Etherscan interface for a contract on the Sepolia Testnet. The URL in the address bar is highlighted with a red box and labeled '1'. The contract address, '0x3850A7397ae84Ab9d15E69BE0F03934347429CD6', is also highlighted with a red box and labeled '2'. A red arrow points from the 'Copy Contract Address' button to the highlighted address. The Etherscan logo is circled in blue.

1

2

Contract 0x3850A7397ae84Ab9d15E69BE0F03934347429CD6

Copy Contract Address

Etherscan

GameTokens | Address 0x3850a7397ae84ab9d15e69be0f03934347429cd6

sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6

Search by Address / Txn Hash / Block / Token

Sepolia Testnet

Home Blockchain Tokens NFTs More

Source Code

Overview

ETH BALANCE 0 ETH

More Info

CONTRACT CREATOR 0x4CE135aB...64E06ae71 at txn 0x7e36810198...

TOKEN TRACKER My First ERC1155 Token (LOVE)

Multichain Info N/A

Transactions Token Transfers (ERC-20) Contract Events

Latest 1 from a total of 1 transactions

Download Page Data

Transaction Hash Method Block Age From To Amount Txn Fee

<https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6>

Import NFT in MetaMask

The image displays a composite view of two web applications: OpenSea (Testnets) and MetaMask.

OpenSea Testnets Interface:

- The URL in the browser is <https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0>.
- The search bar contains the text "Sepolia".
- The page shows details for "SaluNFT #0 - Salu Office".
- Key details:
 - Contract Address: 0x3850...9cd6
 - Token ID: 0
 - Token Standard: ERC-1155
 - Chain: Sepolia
 - Last Updated: 1 day ago
 - Creator Earnings: 0%

MetaMask Wallet Interface:

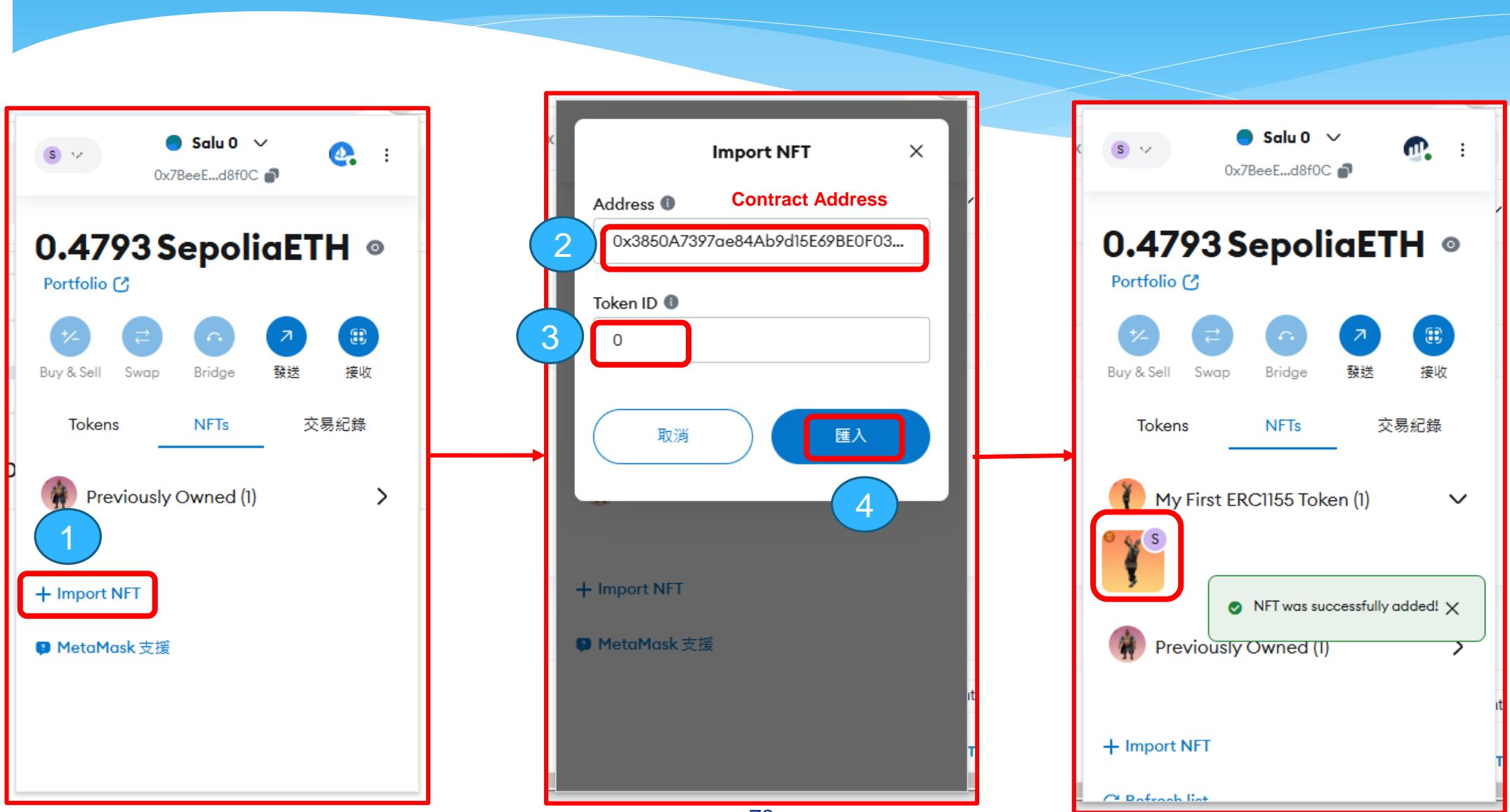
- The wallet is connected to the Sepolia network, indicated by the "connected" status in the top right.
- The owner address is 0x7BeeE...d8f0C.
- The balance is 0.4793 SepoliaETH.
- The "NFTs" tab is selected in the portfolio.
- A red box highlights the "+ Import NFT" button.
- A red box highlights the "MetaMask 支援" (MetaMask Support) link.

Bottom Navigation Bar:

72

<https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0>

Import NFT in MetaMask



Check NFT

The image consists of three screenshots of a MetaMask wallet interface, each enclosed in a red box and connected by arrows indicating a flow from left to right.

Screenshot 1 (Left): Shows the main wallet dashboard with 0.4793 SepoliaETH. It has tabs for Tokens, NFTs (which is selected), and Transaction History. Under NFTs, there's a section for "My First ERC1155 Token (1)" which is highlighted with a red box and a blue circle containing the number 1. Other sections include "Previously Owned (1)" and "+ Import NFT".

Screenshot 2 (Middle): A detailed view of the selected NFT ("SaluNFT #0"). It shows the NFT image (a person dancing), its name "SaluNFT #0", the subtitle "My first ERC1155 project.", Contract address (0x3850A...29CD6), Token ID (0), and Token standard (ERC1155). A red box highlights the three-dot menu icon next to the image, and a blue circle containing the number 2 points to the "View on Opensea" button.

Screenshot 3 (Right): The same NFT details page, but the "View on Opensea" button is now highlighted with a red box. A blue circle containing the number 3 points to the "Remove NFT" button.

View NFT on Opensea

The screenshot shows a web browser displaying an NFT listing on the OpenSea platform. The URL in the address bar is <https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0>. The page title is "SaluNFT #0 - Salu Office | OpenSea". The main content features a large image of a character in traditional Chinese attire performing a dynamic pose, with a golden tiger head icon and a red and blue circular icon (resembling the Taiwan flag) positioned above the character. The listing details include the title "SaluNFT #0", the creator "Salu Office", and statistics showing 2 owners, over 1 billion items, and 3 views. There are buttons for "Make offer" and a quantity selector set to 1. A "Price History" section is visible at the bottom.

Check account 1 - balanceOf

My First ERC1155 Token (LOV) | sepolia.etherscan.io/token/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract

Sepolia Testnet | Search by Address / Txn Hash / Block / Token

Code | **Read Contract** | Write Contract

Connect to Web3 | Read Contract Information | [Expand all] [Reset]

1. GOLD | 2. SHIELD | 3. SILVER | 4. SWORD | 5. THORS_HAMMER | 6. balanceOf

針對此smart contract, 輸入欲查詢餘額的account(Salu 0)

account (address)
0x7BeeE5F42F617503730d9Fba6117E301EAad8f0C

id (uint256)
0

Query

目前account的token id 餘額
balanceOf(address, uint256)
» uint256 2500

Check account 2 - balanceOf

My First ERC1155 Token (LOVI)

sepolia.etherscan.io/token/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract

Sepolia Testnet

Code Read Contract Write Contract

Connect to Web3

Read Contract Information [Expand all] [Reset]

1. GOLD

2. SHIELD

3. SILVER

4. SWORD

5. THORS_HAMMER

6. balanceOf

account (address)
0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71

id (uint256)
0

Query

[balanceOf(address,uint256) method Response
» uint256 99999999999997500]

針對此smart contract,輸入欲查詢餘額的account(Salu 1)

輸入欲查詢的token id

目前account的token id 餘額

Check account 3 - balanceOf

My First ERC1155 Token (LOVI)

sepolia.etherscan.io/token/0x3850a7397ae84ab9d15e69be0f03934347429cd6#readContract

Code Read Contract Write Contract

Connect to Web3

Read Contract Information [Expand all] [Reset]

1. GOLD

2. SHIELD

3. SILVER

4. SWORD

5. THORS_HAMMER

6. balanceOf

account (address)
0x0C95bf187eEbbf350ad886c993Fd50C047ED297a

id (uint256)
0

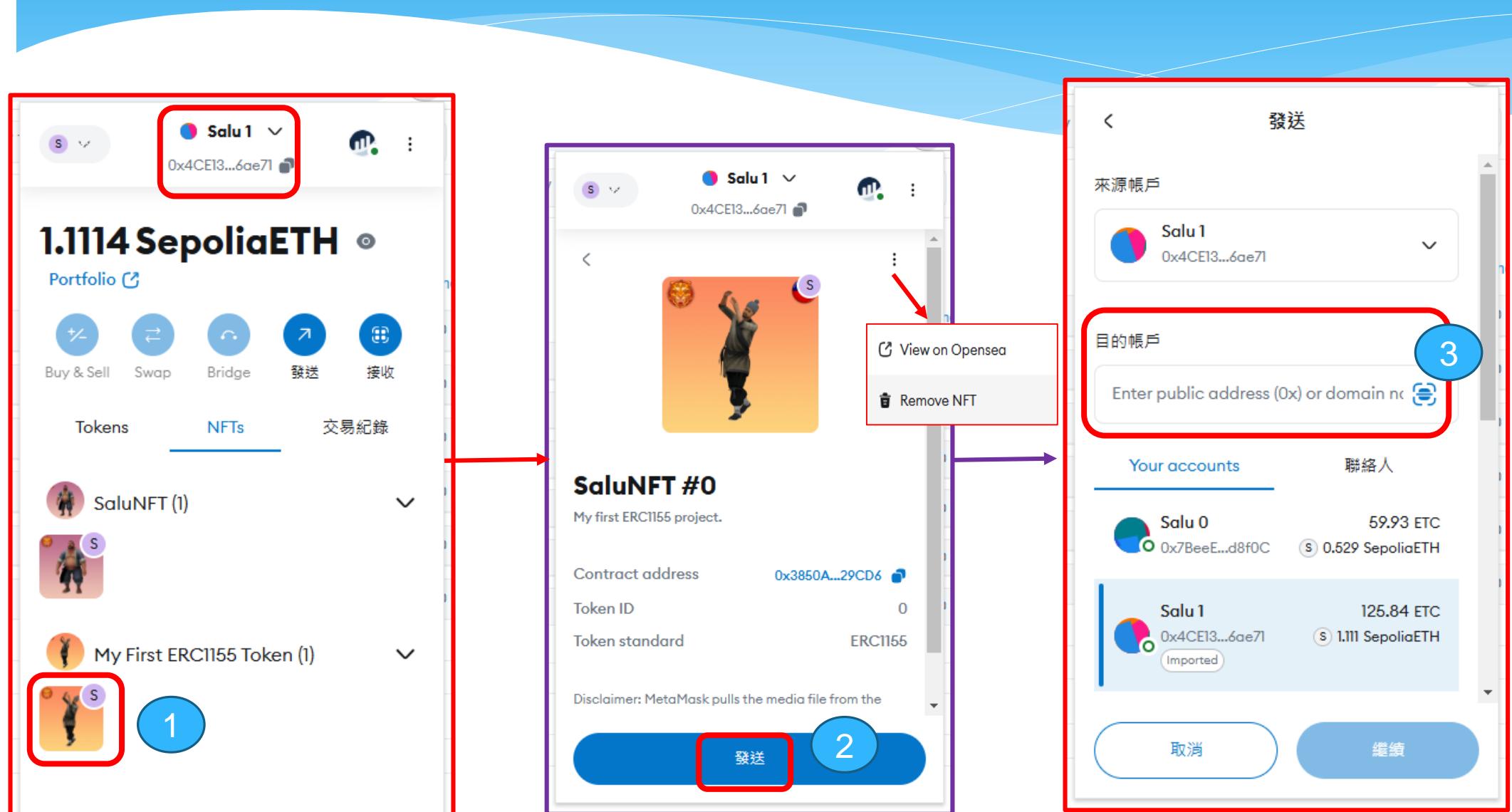
Query

[balanceOf(address, uint256);
» uint256 0]

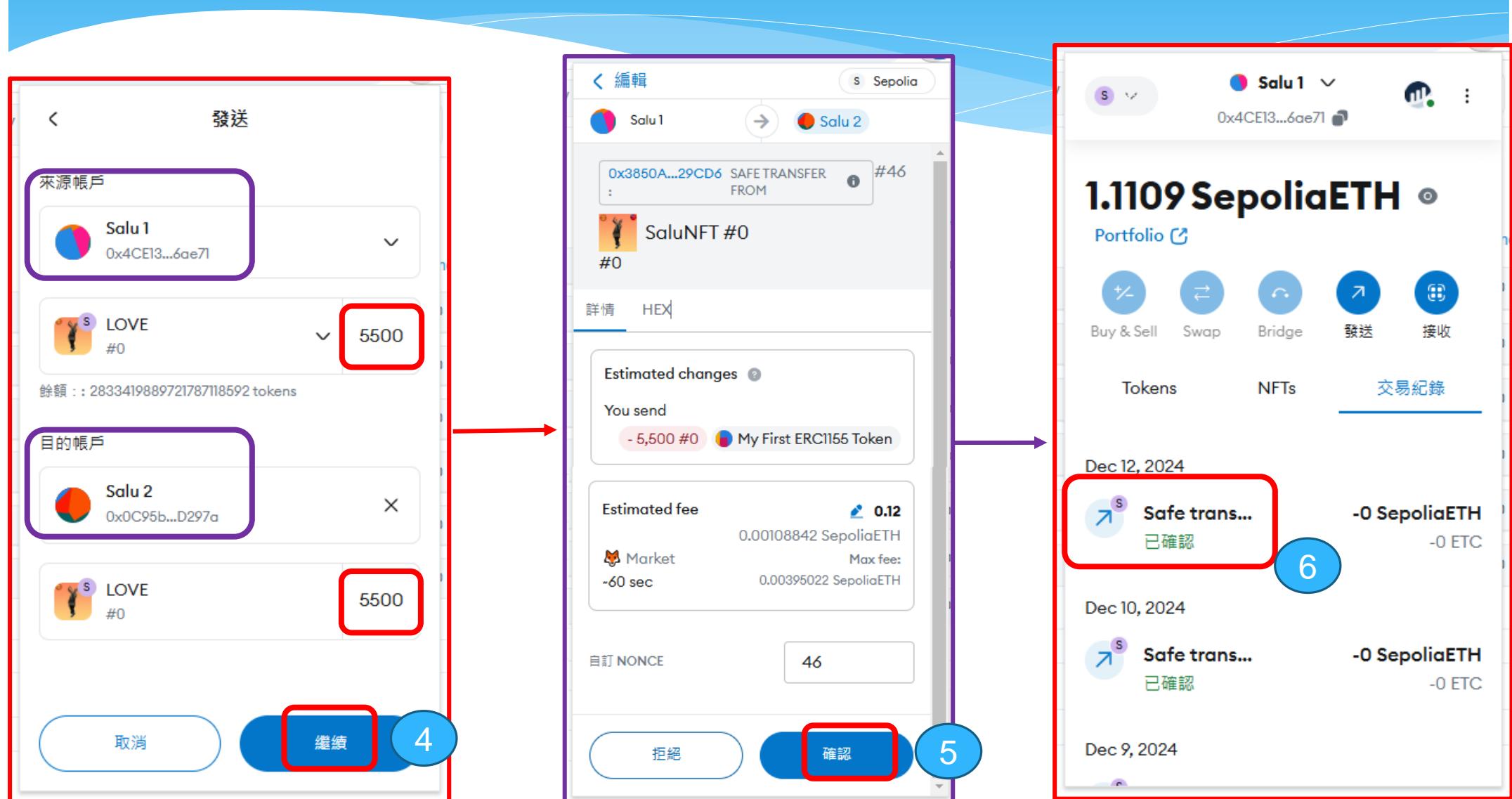


Transfer NFT in MetaMask

Transfer NFT in MetaMask



Transfer NFT in MetaMask



Transfer NFT in MetaMask

Safe transfer from

Status: 已確認

來源帳戶: 0x4CE135aB...64E06ae71

目的帳戶: Salu 2

交易

Nonce	46
數量	-0 SepoliaETH
Gas 上限 (單位)	89662
Gas 用量 (單位)	58970
Base fee (GWEI)	6.689397888
Priority fee (GWEI)	1.5
Total gas fee	0.000483 SepoliaETH 0.05 ETC
Max fee per gas	0.00000003 SepoliaETH 0 ETC

View on block explorer

Sepolia Transaction Hash (Txh: 0xc3524b304a162d4b7fad...)

Transaction Details

Overview Logs (1) State

[This is a Sepolia Testnet transaction only]

Transaction Hash: 0xc3524b304a162d4b7fad...
Status: Success
Block: 7261926 [20 Block Confirmations]
Timestamp: 4 mins ago (Dec-12-2024 05:45:00 AM UTC)

Transaction Action: Call Safe Transfer From Function by 0x4CE135aB...64E06ae71 on 0x3850A739...347429CD6

From: 0x4CE135aB2eB8e482D16B8011ba9415D64E06ae71
Interacted With (To): 0x3850A7397ae84Ab9d15E69BE0F03934347429CD6

ERC-1155 Tokens Transferred:

ERC-1155 For 5500 of Token ID [0] My First ERC... (LOVE)
From 0x4CE135aB...64E06ae71 To 0x0C95bf18...047ED297a

Transfer NFT Transaction

The screenshot shows the Etherscan.io interface for the Sepolia Testnet. A red box highlights the URL in the browser's address bar: <https://sepolia.etherscan.io/address/0x3850a7397ae84ab9d15e69be0f03934347429cd6>. A blue circle labeled '1' is positioned over the browser window title. A red box highlights the 'Contract' section, which displays the address **0x3850A7397ae84Ab9d15E69BE0F03934347429CD6**. A blue circle labeled '2' is over the 'Transactions' tab. A red box highlights the first transaction in the list, which has a timestamp of **7261926** and was made **7 mins ago**. A blue circle labeled '3' is over the token name **'My First ERC1155 Token (LOVE)'** in the 'TOKEN TRACKER' section. A red box highlights the 'To' field, which contains the address **0x3850A739...347429CD6**. A purple box with the text **Send NFT Address** and a red arrow points to the 'To' field.

Transaction Hash	Method	Age	From	To	Amount	Txn Fee
0xc3524b304a...	Safe Transfer ...	7261926	7 mins ago	0x4CE135aB...64E06ae71	IN 0x3850A739...347429CD6	0 ETH 0.00048292
0xacb8d6e0bc...	Safe Transfer ...	7248965	45 hrs ago	0x4CE135aB...64E06ae71	IN 0x3850A739...347429CD6	0 ETH 0.00096526

Transfer NFT Transaction

The screenshot shows the Etherscan.io interface for an ERC-1155 token named "My First ERC1155 Token (LOVE)".

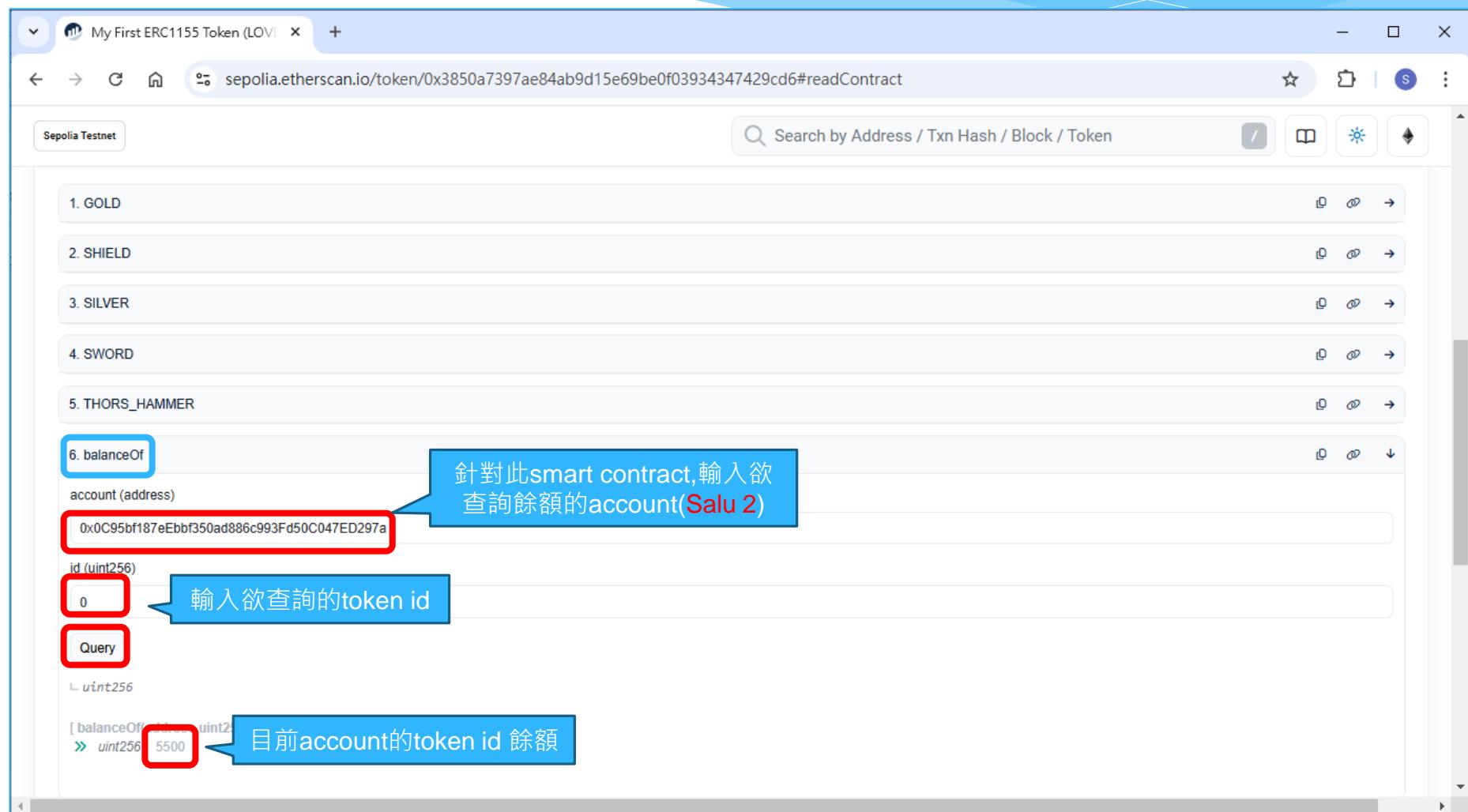
1. URL Bar: The URL <https://sepolia.etherscan.io/token/0x3850a7397ae84ab9d15e69be0f03934347429cd6> is highlighted with a red box.

2. Total Transfers: The "TOTAL TRANSFERS" value of 7 is highlighted with a red box.

Table Headers: The table columns are Transaction Hash, Method, Block, From, To, TokenID, and Value.

Transaction Hash	Method	Block	From	To	TokenID	Value
0xc3524b304a...	Safe Transfer ...	7261926	7 mins ago	0x4CE135aB...64E06ae71	0x0C95bf18...047ED297a	5500
0xacb8d6e0bc...	Safe Transfer ...	7248965	45 hrs ago	0x4CE135aB...64E06ae71	0x7BeeE5F4...1EAad8f0C	2500

Check account 3 - balanceOf



Check Token#0 Event

The screenshot shows the OpenSea testnet interface for an NFT named "SaluNFT #0 - Salu Office". The URL in the browser is <https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/0>.

Traits:

- ANIMAL: 1 (Floor: --)
- BACKGROUND: 1 (Floor: --)
- BODY: 1 (Floor: --)
- FLAG: 1 (Floor: --)

About Salu Office

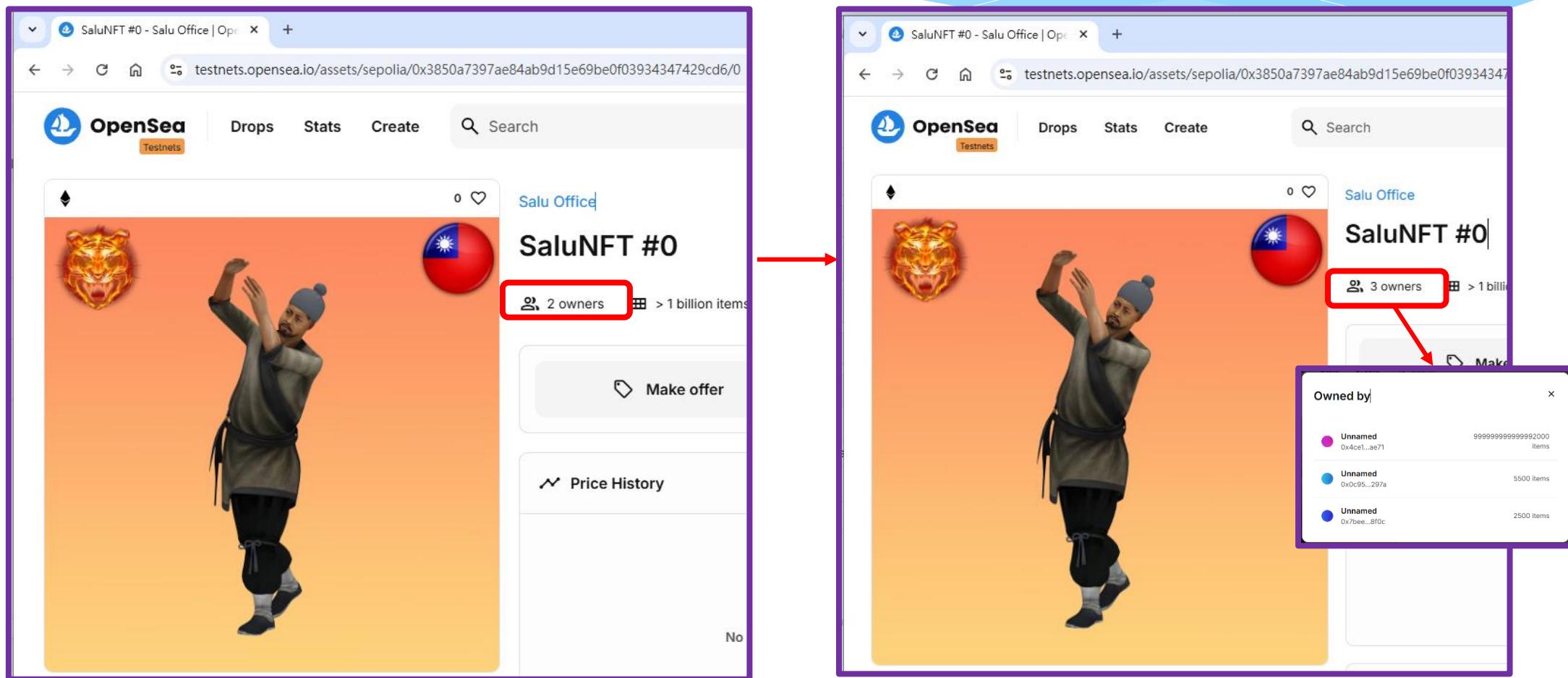
Details

Item Activity:

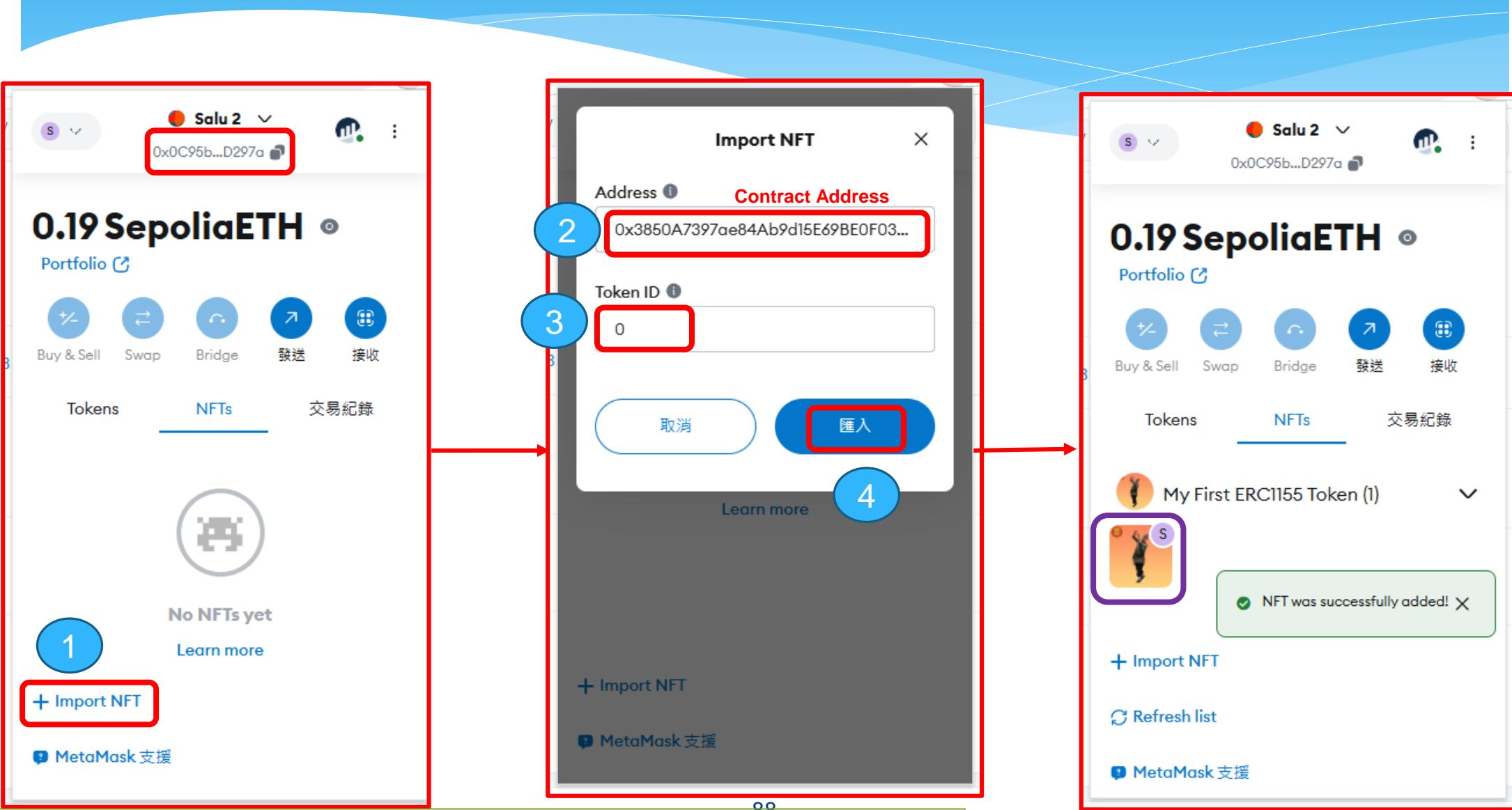
針對此Token#0的Transaction List

Event	Unit Price	Quantity	From	To	Date
Transfer	5,500	1	4CE135	0C95BF	3h ago
Transfer	2,500	1	4CE135	7BEEE5	2d ago
Mint	1,000,000,000,000,000	1	000000	4CE135	2d ago

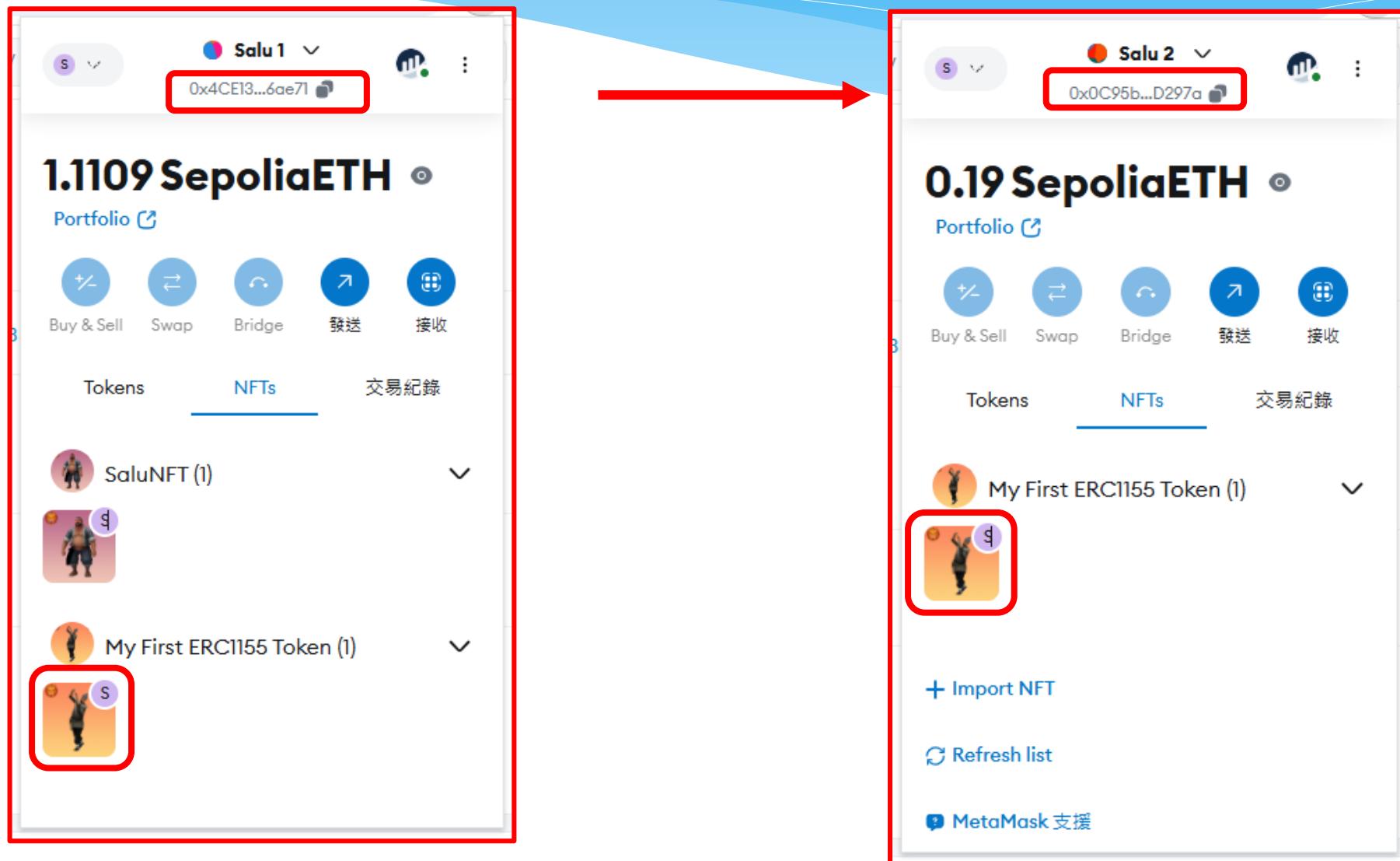
SaluNFT #0 Owners



Import NFT in New Owner



Send NFT #0 to Owner



Case 1 -愛迪達

愛迪達-NFT

The screenshot shows the OpenSea website interface for the 'adidas Originals Into the Metaverse' collection. At the top, there's a header with the OpenSea logo, navigation links for 'Drops', 'Stats', and 'Create', a search bar, and user account options. Below the header, a dark banner displays the collection's name, creator ('adidas'), and key statistics: Total volume (49,307 ETH), Floor price (0.036 ETH), Best offer (0.026 WETH), Listed (100%), and Owners (Unique) (7,687 / 77%). A note below the banner states: 'Attention: Phase 1 & 2 NFTs are no longer supported by the 'ALTS b... See more'. Below this, it says Unique items 2 · Total items 9,936 · Created Dec 2021 · Creator earnings 10% · Chain Ethereum. The main content area features tabs for 'Items', 'Offers', 'Analytics', and 'Activity'. It includes a search bar, sorting options (Price low to high), and a grid view selector. On the left, there are filters for 'Status' (All, Listed, On auction, New, Has offers), 'Creator earnings' (Support creators, Show listings which pay the creator their requested earnings of 10%, toggle switch), and 'Price' (Sweep, toggle switch). Two NFT items are displayed in the grid: one for 'INDIGO HERZ' (x5573) and another for 'COURTNEY' (x4364). Each item card shows the name, phase, and price (0.036 ETH and 0.6667 ETH respectively). A 'Make collection offer' button is located at the bottom right.

愛迪達-Smart Contract

adidas Originals: Metaverse | +

etherscan.io/address/0x28472a58a490c5e09a238847f66a68a47cc76f0f

ETH Price: \$3,372.24 (-0.47%) Gas: 2 Gwei

Search by Address / Txn Hash / Block / Token / Domain

Etherscan Home Blockchain Tokens NFTs Resources Developers More Sign In

Contract 0x28472a58A490c5e09A238847F66A68a47cC76f0f

Sponsored: Stake: 200% Bonus, 75k Raffle, Best VIP Program, Instant Withdrawals - Provably Fair. [Claim Bonus](#)

adidas Originals: Metaverse Source Code # adidas Token Contract

Overview

ETH BALANCE 0 ETH

ETH VALUE \$0.00

TOKEN HOLDINGS \$80.28 (2 Tokens)

More Info

PRIVATE NAME TAGS + Add

CONTRACT CREATOR adidas Originals... at txn 0xee0c7dcdf5...

TOKEN TRACKER adidas Originals: Into the Metaver... (ADI)

Multichain Info

\$309.32 (Multichain Portfolio)

1 address found via Blockscan

BC.GAME NO.1 CRYPTO GAME PLAY NOW

92

<https://etherscan.io/address/0x28472a58a490c5e09a238847f66a68a47cc76f0f>

愛迪達-Phase 1

The screenshot shows a digital collectible from the 'adidas Originals: Into the Metaverse (Phase 1)' project. The item is a 3D model of a character named Courtney, who is a PUNKS comic character. Courtney is depicted in a white crop top, yellow pants, and white sneakers. The background is a dark, futuristic interface with glowing blue and purple elements. The listing information includes a maximum price of 40 ETH (\$134,512.80), a 'Buy 1 now' button, and a 'Make offer' button. Below the main listing, there is a 'Price History' chart showing the trading volume and average price over time, with a significant spike in activity around January 2024. The listing is associated with the brand 'adidas' and has 3.5K owners, 4.4K items, 922.7K views, and 23.4K favorites.

adidas Originals: Into the Metaverse

adidas Originals: Into the Metaverse (Phase 1)

3.5K owners | 4.4K items | 922.7K views | 23.4K favorites | Memberships

Max price: 40 ETH (\$134,512.80)

Substitute listings:

Max price per listing: 40 ETH

Buy 1 now | Make offer

Price History

Volume (ETH) | Average price (ETH)

Description

By adidas

Into the Metaverse is a collaborative NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic. An NFT co-created with the OG communities, creators and doers. The Phase 1 NFT was the

愛迪達-Token ID 0

The screenshot shows an OpenSea NFT listing page for the token ID 0 of the "adidas Originals: Into the Metaverse" collection. The URL in the browser is <https://opensea.io/assets/ethereum/0x28472a58a490c5e09a238847f66a68a47cc76f0f/0>.

Left sidebar (Details):

- By **adidas**
- Into the Metaverse is a collaborative NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic. An NFT co-created with the OG communities, creators and doers. The Phase 1 NFT was the first step of the Into the Metaverse. Phase 1 physical product claims have now closed. The Phase 1 token no longer grants the ability to claim collaborative physical merchandise.
- Traits**
 - PHASE 1
 - Floor: 0.6667 ETH
- About adidas Originals Into the Metaverse**
- Details**
 - Contract Address: 0x28472a58a490c5e09a238847f66a68a47cc76f0f
 - Token ID: 0 (highlighted with a red box)
 - Token Standard: ERC-1155
 - Chain: Ethereum
 - Last Updated: 12 hours ago
 - Creator Earnings: 10%

Right sidebar (Listings and Offers):

Listings:

Unit Price	USD Unit Price	Quantity	Expiration	From	Action
2 ETH	\$6,725.64	1	in 5 months	373D86	
2.1 ETH	\$7,061.92	1	in 2 months	iPhoenix	
3 ETH	\$10,088.46	3	in 2 months	HumaneSociety	
40 ETH	\$134,512.80	1	in 24 days	Automatic_Air	

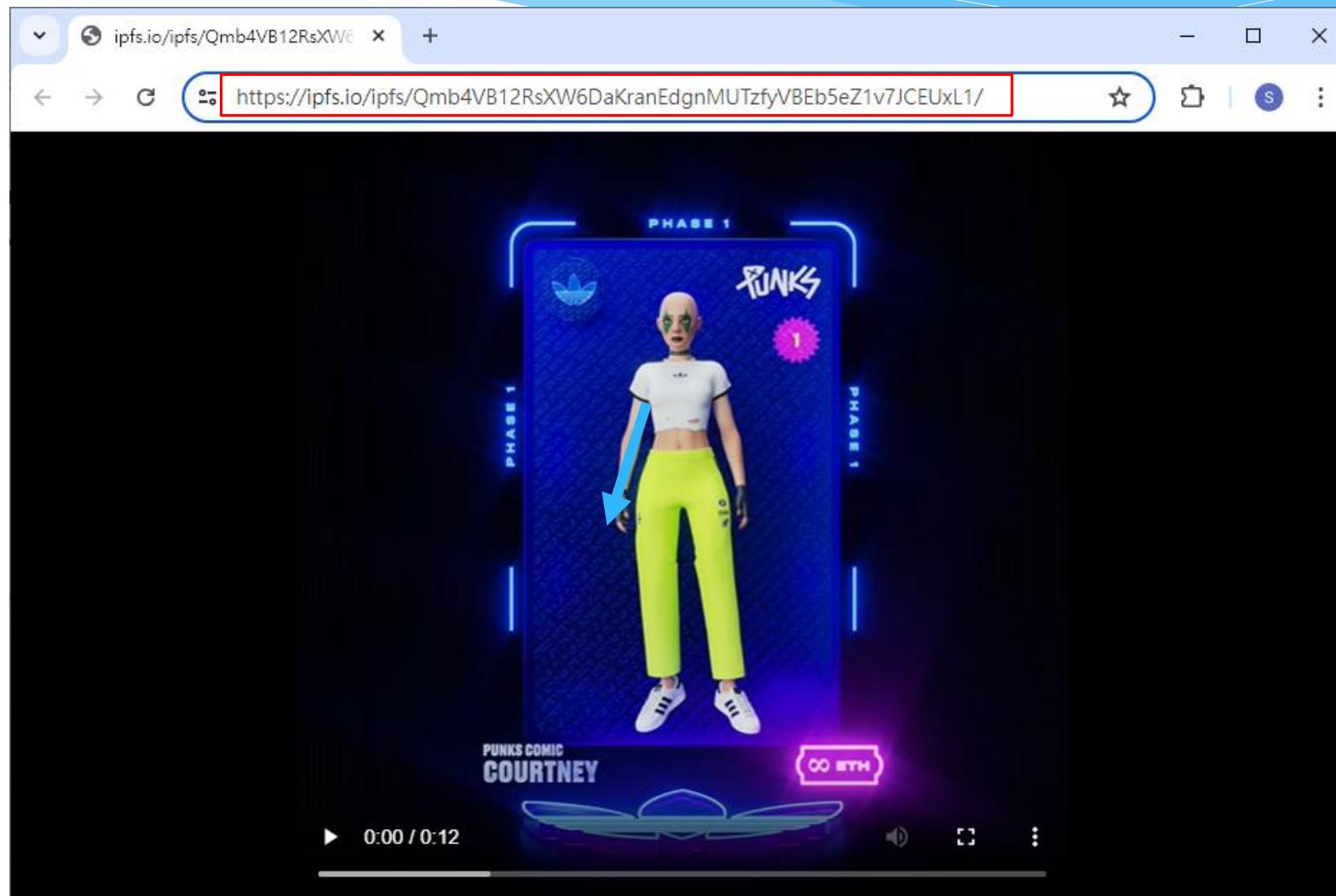
Offers:

Unit Price	USD Unit Price	Quantity	Floor Difference	Expiration	From	Action
0.036 WETH	\$121.89	1	At floor	in 8 hours	09DA9A	
0.0353 WETH	\$119.52	1	2% below	in 3 days	DE63C4	
0.026 WETH	\$88.04	1	28% below	in 7 days	NFTARTBTC	

愛迪達-Metadata(Token ID 0)

```
{  
  "description": "Into the Metaverse is a collaborative NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic. An NFT co-created with the OG communities, creators and doers. The Phase 1 NFT was the first step of the Into the Metaverse. Phase 1 physical product claims have now closed. The Phase 1 token no longer grants the ability to claim collaborative physical merchandise.\n\nTerms and conditions: https://a.did.as/into\_the\_metaverse\_tc\",  
  "external_url": "https://www.adidas.com/metaverse\",  
  "image": "ipfs://Qmb4VB12RsXW6DaKranEdgnMUTzfyVBEb5eZ1v7JCEUxL1/",  
  "name": "adidas Originals: Into the Metaverse (Phase 1)",  
  "attributes": [  
    {  
      "trait_type": "Phase",  
      "value": "1"  
    }  
  ]  
}
```

愛迪達-IPFS image(Token ID 0)



愛迪達-Phase 2

adidas Originals: Into the Metaverse

opensea.io/assets/ethereum/0x28472a58a490c5e09a238847f66a68a47cc76f0f/1

OpenSea

Drops Stats Create

Search

Login

adidas Originals Into the Metaverse

adidas Originals: Into the Metaverse (Phase 2)

4.4K owners 5.6K items 935.1K views 3.9K favorites Memberships

Max price **0.084 ETH** \$282.48

Substitute listings

Max price per listing 0.084 ETH

Buy 1 now Make offer

Price History

Volume (ETH) Average price (ETH)

May 22 Sep 22 Jan 23 May 23 Sep 23 Jan 24 May 24

Description

By adidas

Into the Metaverse is a collaborative, co-created NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic. Evolved to Phase 2.

Listings

Unit Price USD Unit Price Quantity Expiration From

97

<https://opensea.io/assets/ethereum/0x28472a58a490c5e09a238847f66a68a47cc76f0f/1>

愛迪達-Token ID 1

The screenshot shows an OpenSea NFT listing page for a specific item. The URL in the browser is <https://opensea.io/assets/ethereum/0x28472a58a490c5e09a238847f66a68a47cc76f0f/1>.

Left Panel (Item Details):

- By **adidas**
- Into the Metaverse is a collaborative, co-created NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic.
- Evolved to Phase 2.
- Terms and conditions: https://a.did.as/into_the_metaverse_tc
- Traits**: PHASE 2, Floor: 0.036 ETH
- About adidas Originals Into the Metaverse**
- Details**: Contract Address: 0x2847...6f0f, Token ID: 1 (highlighted with a red box), Token Standard: ERC-1155, Chain: Ethereum, Last Updated: 3 months ago, Creator Earnings: 10%

Right Panel (Listings and Offers):

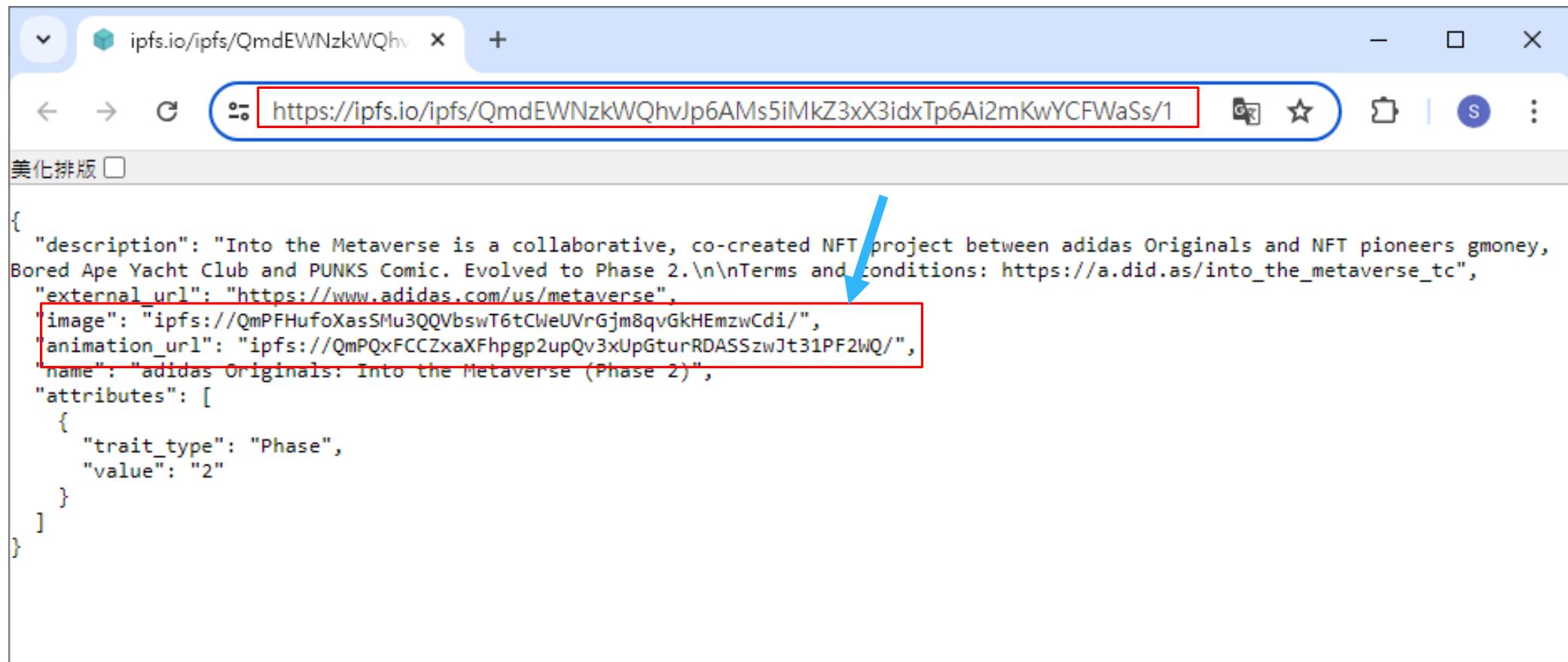
Listings:

Unit Price	USD Unit Price	Quantity	Expiration	From	Action
0.036 ETH	\$121.51	1	in 12 hours	coinhodlingman	
0.038 ETH	\$128.26	1	in 2 days	coinhodlingman	
0.038 ETH	\$128.26	1	in 3 months	coinhodlingman	
0.04 ETH	\$135.01	1	in 4 months	coinhodlingman	

Offers:

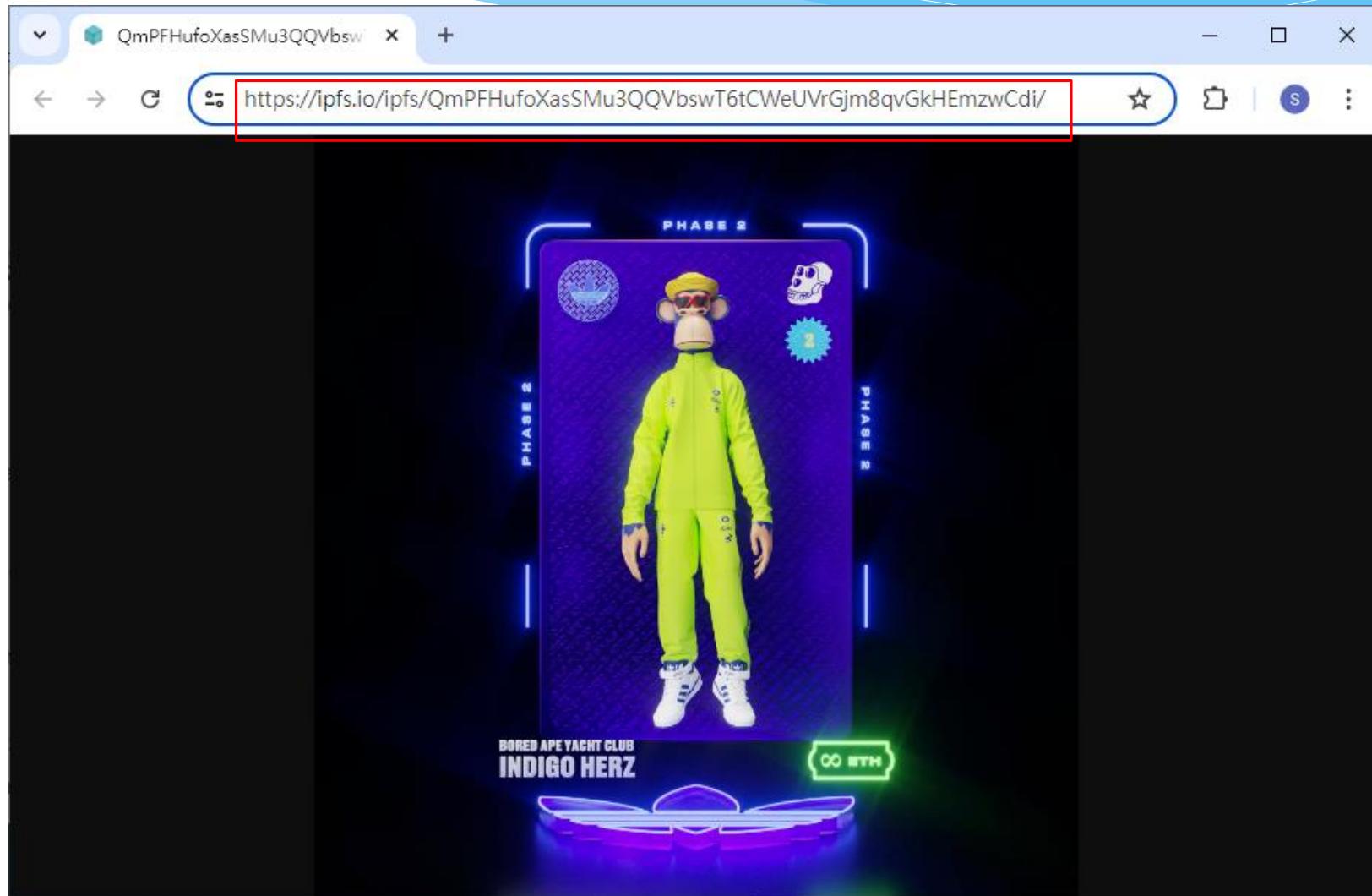
Unit Price	USD Unit Price	Quantity	Floor Difference	Expiration	From	Action
0.026 WETH	\$87.41	1	28% below	in 7 days	NFTARTBTC	
0.0253 WETH	\$85.06	1	30% below	in 3 hours	EE03F4	
0.0252 WETH	\$84.73	1	30% below	in 3 days	DE63C4	

愛迪達-Metadata (Token ID 1)



```
{  
  "description": "Into the Metaverse is a collaborative, co-created NFT project between adidas Originals and NFT pioneers gmoney, Bored Ape Yacht Club and PUNKS Comic. Evolved to Phase 2.\n\nTerms and conditions: https://a.did.as/into_the_metaverse_tc",  
  "external_url": "https://www.adidas.com/us/metaverse",  
  "image": "ipfs://QmPFHufoXasSMu3QQVbswT6tCWeUVrGjm8qvGkHEmzwCdi/",  
  "animation_url": "ipfs://QmPQxFCCZxaXFhpgp2upQv3xUpGturRDASSzwJt31PF2WQ/",  
  "name": "adidas Originals: Into the Metaverse (Phase 2)",  
  "attributes": [  
    {  
      "trait_type": "Phase",  
      "value": "2"  
    }  
  ]  
}
```

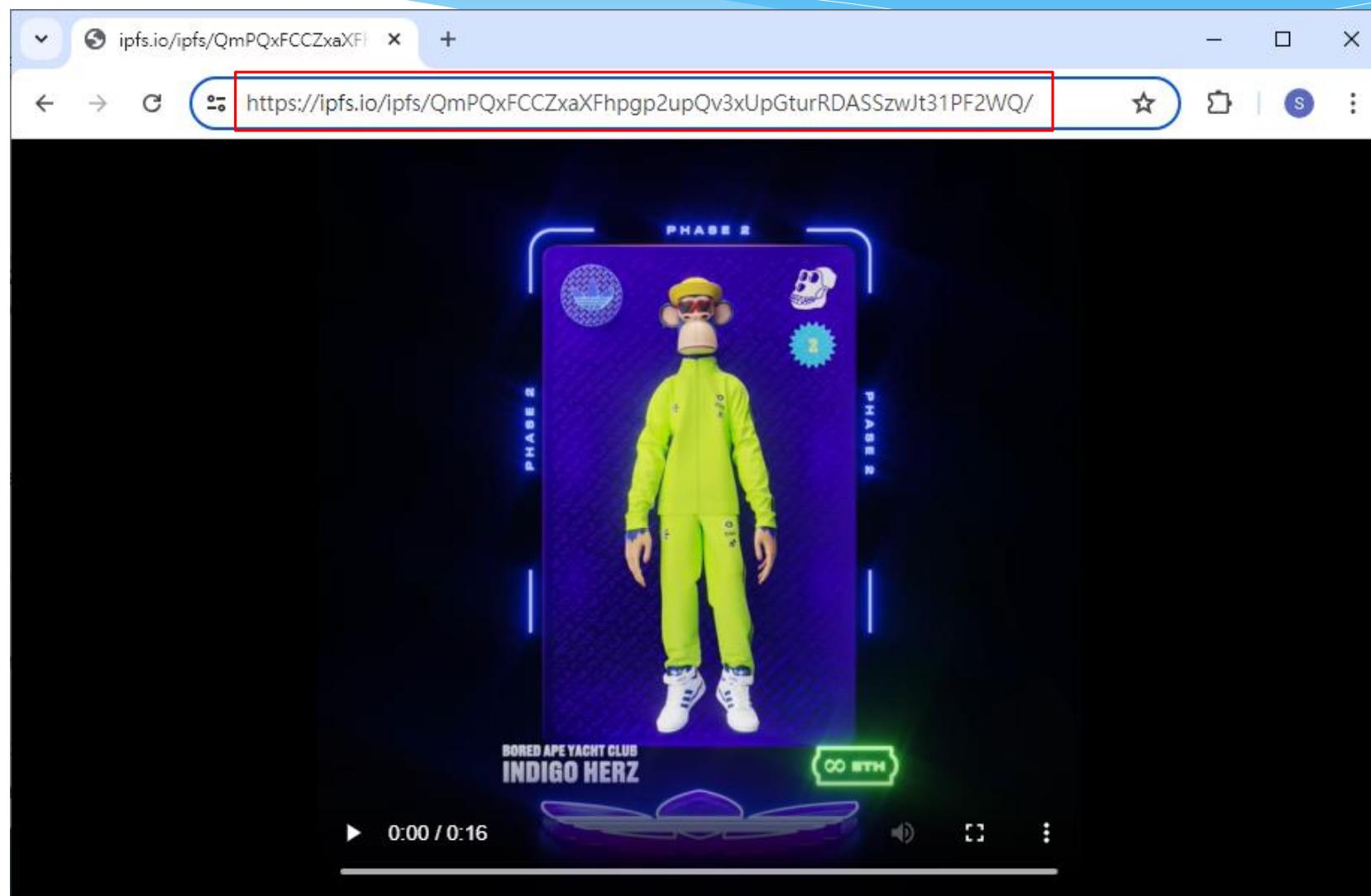
愛迪達-IPFS image (Token ID 1)



ipfs://QmPFHufoXasSMu3QQVbswT6tCWeUVrGjm8qvGkHEmzwCdi/

<https://ipfs.io/ipfs/QmPFHufoXasSMu3QQVbswT6tCWeUVrGjm8qvGkHEmzwCdi/>

愛迪達-IPFS animation (Token ID 1)



愛迪達-Burn & Mint

Ethereum Transaction Hash <https://etherscan.io/tx/0xfc495b3499736eafc8de30dbac86c77b52f143f1e3d72604365c6113d842b672>

ETH Price: \$3,378.98 (-0.46%) Gas: 6 Gwei

Search by Address / Txn Hash / Block / Token / Domain

Etherscan Home Blockchain Tokens NFTs Resources Developers More Sign In

Transaction Details Buy Exchange Play Gaming

Sponsored: MetaWin: Experience Winning in Web3 - Frictionless Signup, 30ETH Instant Withdrawals! [Join Now.](#)

Overview Internal Txns Logs (3) State

② Transaction Hash: 0xfc495b3499736eafc8de30dbac86c77b52f143f1e3d72604365c6113d842b672

② Status: Success

② Block: 17011851 3168601 Block Confirmations

② Timestamp: 444 days ago (Apr-09-2023 04:16:23 PM +UTC)

ERC-1155

④ Transaction Action:

- Burn 2 of  adidas Originals (ADI...)
- Mint 2 of  ALTS by adidas (ALT...)

<https://etherscan.io/token/0x28472a58a490c5e09a238847f66a68a47cc76f0f>

ERC-721

<https://etherscan.io/token/0x749f5ddf5ab4c1f26f74560a78300563c34b417d>

愛迪達-Burn & Mint

Ethereum Transaction Hash [0xfc495b3499736eafc8de30dbac86c77b52f143f1e3d72604365c6113d842b672](https://etherscan.io/tx/0xfc495b3499736eafc8de30dbac86c77b52f143f1e3d72604365c6113d842b672)

ETH Price: \$3,378.98 (-0.46%) Gas: 6 Gwei

Search by Address / Txn Hash / Block / Token / Domain

From: 0xE7e7cb488084Bb6bA9D65f6C8372d705c0485D13

Interacted With (To): 0x749f5Ddf5Ab4c1F26f74560A78300563C34B417d (adidas Originals: ALTS) ✓

ERC-721 Tokens Transferred:

- ERC-721 Token ID [12595] ALTS by adid... (ALT)
From Null: 0x000...000 To 0xE7e7cb48...5c0485D13
- ERC-721 Token ID [12596] ALTS by adid... (ALT)
From Null: 0x000...000 To 0xE7e7cb48...5c0485D13

ERC-1155 Tokens Transferred:

- ERC-1155 For 2 of Token ID [1] adidas Orig... (ADI)
From 0xE7e7cb48...5c0485D13 To Null: 0x000...000

Value: 0 ETH (\$0.00)

Transaction Fee: 0.00219111779026985 ETH \$7.40

Gas Price: 21.514873925 Gwei (0.000000021514873925 ETH)

<https://etherscan.io/token/0x749f5Ddf5Ab4c1F26f74560A78300563C34B417d>

<https://etherscan.io/token/0x28472a58a490c5e09a238847f66a68a47cc76f0f>

愛迪達-Burn & Mint

The screenshot shows the Etherscan.io token page for the Adidas Originals: Into the Metaverse (ADI) token. The URL in the address bar is highlighted with a red box. The page includes a search bar, navigation buttons (Buy, Exchange, Play, Gaming), and a link to the project website (adidas.com/into_the_metaverse). The token details section shows the MAX TOTAL SUPPLY (0 ADI) and Market volume (N/A). The Other Info section displays the TOKEN CONTRACT address (0x28472a58a490c5e09a238847f66a68a47cc76f0f). The Transaction History table lists four transactions:

Transaction Hash	Method	Block	Age	From	To	Value	Item
0xfc495b34997...	Burn And Mint	17011851	444 days ago	0xE7e7cb48...5c0485D13	OUT Null: 0x000...000	2	adidas Originals: Into the ...
0x1097bd608b...	Redeem Card ...	14696389	787 days ago	Null: 0x000...000	IN 0xE7e7cb48...5c0485D13	2	adidas Originals: Into the ...
0x1097bd608b...	Redeem Card ...	14696389	787 days ago	0xE7e7cb48...5c0485D13	OUT Null: 0x000...000	2	adidas Originals: Into the ...
0xfd1145414cc...	Early Access ...	13825187	922 days ago	Null: 0x000...000	IN 0xE7e7cb48...5c0485D13	2	adidas Originals: Into the ...

Three specific rows are highlighted with red boxes and labeled Phase 1, Phase 2, and Phase 3 from bottom to top.

Phase 1: The third transaction row, which is a Burn And Mint operation.

Phase 2: The second transaction row, which is a Redeem Card operation.

Phase 3: The first transaction row, which is another Burn And Mint operation.

愛迪達-Phase 3

The screenshot shows a web browser displaying the Rarible website for the 'ALTS by adidas' collection. The main header features the Rarible logo and a search bar. Below the header is a large banner image of a neon-lit motel at night, with the text 'ALTS by adidas' prominently displayed in red. A red button with a white icon is visible on the left side of the banner. To the right of the banner is a sidebar with various metrics: Floor (0.041 ETH), Volume (3.1K ETH), Items (20.1K), Owners (10.5K), Blockchain (Ethereum), and Address (0x749...417d). The main content area below the banner shows a grid of six NFT preview cards, each featuring a futuristic, metallic humanoid figure standing on a glowing platform against a dark, atmospheric background. Each card includes the text 'ALTS by adidas' and a unique ID: #6558, #2819, #18251, #11855, #12865, and #15775.

ALTS by adidas ✅

Created by **adidas** ✅ Royalties 10%

Embarking on a fresh chapter in the adidas web3 journey, we transcend the realms of into the Metaverse towards Phase 3: ALTS by adidas.

Episode 1: coming April 2023. You may not come back the same...

Place floor bid ⏪ ...

Floor 0.041 ETH
Volume 3.1K ETH
Items 20.1K
Owners 10.5K
Blockchain Ethereum
Address 0x749...417d

Items Activity

Filters Live data Search by NFTs Price: low to high

ALTS by adidas #6558
ALTS by adidas #2819
ALTS by adidas #18251
ALTS by adidas #11855
ALTS by adidas #12865
ALTS by adidas #15775

愛迪達-Smart Contract

The screenshot shows the Etherscan.io interface for a specific Ethereum address. The address is highlighted with a red box in the top navigation bar: **Contract 0x749f5Ddf5Ab4c1F26f74560A78300563C34B417d**. The page displays various sections: Overview (ETH BALANCE: 0 ETH, TOKEN HOLDINGS: \$0.00 (1 Tokens)), More Info (PRIVATE NAME TAGS, CONTRACT CREATOR: adidas Originals..., TOKEN TRACKER: ALTS by adidas (ALT)), and Multichain Info (\$0 (Multichain Portfolio)). There are also tabs for Source Code and Token Contract, and a sidebar with links like Home, Blockchain, Tokens, NFTs, Resources, Developers, More, and Sign In. A sponsored banner for bc.game is visible at the bottom.

adidas Originals: ALTS | Address etherscan.io/address/0x749f5ddf5ab4c1f26f74560a78300563c34b417d

ETH Price: \$3,372.87 (-1.22%) Gas: 3 Gwei

Etherscan

Contract 0x749f5Ddf5Ab4c1F26f74560A78300563C34B417d

Sponsored: bc.game - Free Bonus Up To 5 BTC Everyday! Earn While Playing! [Play Now](#)

adidas Originals: ALTS

Source Code

Token Contract

Overview

ETH BALANCE
0 ETH

ETH VALUE
\$0.00

TOKEN HOLDINGS
\$0.00 (1 Tokens)

More Info

PRIVATE NAME TAGS
+ Add

CONTRACT CREATOR
adidas Originals... at txn 0xee910e8cc10...

TOKEN TRACKER
ALTS by adidas (ALT)

Multichain Info

\$0 (Multichain Portfolio)

No addresses found

Bitget

Marginal improvements the secret to success
#MakeItCount

愛迪達-ALTS by adidas #18372

The screenshot shows a web browser window displaying an NFT listing on the Rarible platform. The URL in the address bar is highlighted with a red box and reads <https://rarible.com/token/0x749f5ddf5ab4c1f26f74560a78300563c34b417d:18372>. The main image features a glowing, crystalline figure of a person in a dynamic pose, set against a sunset or sunrise background with a basketball hoop in the distance. The figure is labeled "ALT[ER] EGO" and "HOOPS". The Rarible interface includes tabs for Overview, Properties, Bids, and Activity. The NFT details show it's created by "ALTS by adidas" with 10% royalties. The current owner is listed as "Oxcce74...45b4". The price is listed as 0.048 ETH (\$161). A "Buy now for 0.048 ETH" button is present, along with a "Place a bid" button. A note at the bottom indicates the metadata has been updated with the figure.

Overview Properties Bids Activity

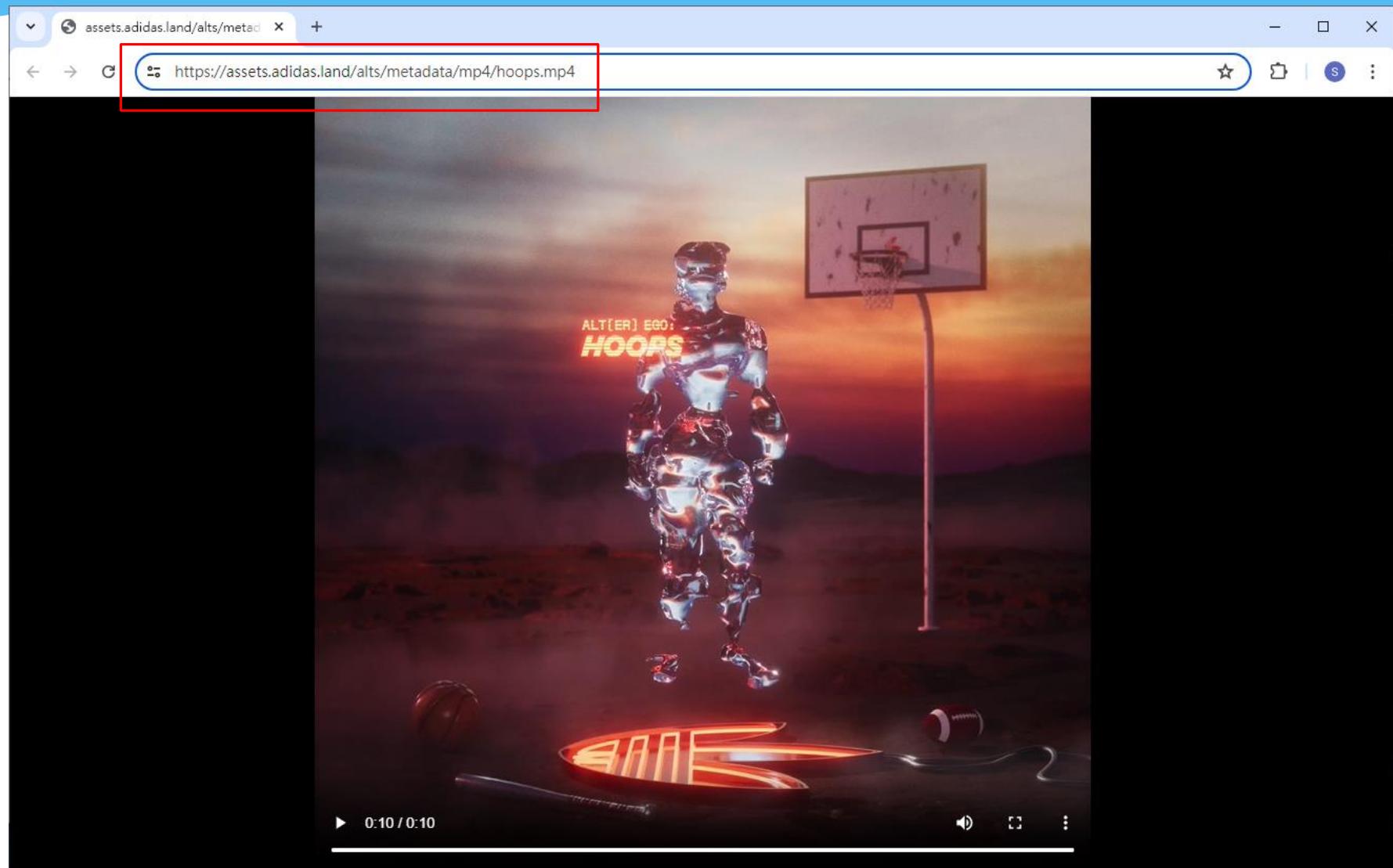
Description

Embarking on a fresh chapter in the adidas web3 journey, we transcend the realms of Into the Metaverse into Phase 3: ALTS by adidas.

Update: Your ALTS by adidas NFT metadata has been updated with your ALT[er] Ego. [Learn]

107
<https://rarible.com/token/0x749f5ddf5ab4c1f26f74560a78300563c34b417d:18372>

愛迪達-ALTS by adidas #18372



Case 2 - 車隊管理

Blockchain應用-車隊管理

createdAt	TransactionHash	車牌號碼	派車日期時間	memo 資料
2020-09-27 19:16:43	0xa9e44433e0baf2c8e8...	TDB-8305	2020-09-27T18:36:29.153	{"OrderNo":"cbc5facf ...
2020-09-25 16:07:28	0x568895e16f692363f5...	QQ-1234	2020-09-25T15:59:26.93	{"OrderNo":"c0f3c807 ...
2020-09-23 11:06:58	0x9af4ffa91ba6758a1c...	ABC-1234	2020-09-18T10:23:43.937	{"OrderNo":"c2a48fe4 ...
2020-09-23 11:06:13	0xa529bf63028dc4fbe...	5291-QQ	2020-09-18T10:13:54.187	{"OrderNo":"e44c1b1e ...
2020-09-23 11:04:58	0xd1c3dd5ed8a795ab3f...	ABC-1234	2020-09-18T10:13:06.733	{"OrderNo":"d1a888bb ...
2020-09-23 10:56:13	0xa1cec1198224d36694...	5291-QQ	2020-09-18T10:25:06.923	{"OrderNo":"20a1f6f1 ...
2020-09-23 10:41:58	0x180215bb701ef5a88b...	ABC-1234	2020-09-18T10:23:43.937	{"OrderNo":"c2a48fe4 ...
2020-09-23 10:34:28	0x5115200ce090fa031f...	5291-QQ	2020-09-18T10:13:54.187	{"OrderNo":"e44c1b1e ...

Blockchain應用-車隊管理

The screenshot shows a browser window titled "block explorer" with a blue header bar. The main content area displays a transaction record with the following fields:

hash :	0x568895e16f692363f5f55e548658e023f79c35bc07cda882428bf42a0a364e2f
車牌號碼 :	QQ-1234
派車日期時間 :	2020-09-25T15:59:26.93
memo 資料 :	{"OrderNo":"c0f3c807-2c1c-4902-9114-d99cc9058aed","PassengerName":"RD_乘客","PassengerId":"4a92e2ac-d0f0-4e4d-a8d3-dee779936ee8","StartAddress":"台灣桃園市蘆竹區南崁路一段南崁台茂購物中心 La New","TragetAddress":"台灣桃園市蘆竹區南崁","CompanyId":1,"CompanyName":"測試車隊","DriverName":"RD_司機","DriverId":"da2680e8-e1ec-442e-b04c-209f7b2f63dd","VehicleNumber":"QQ-
nonce :	97
blockHash :	0fdb4ced31d39073f86071cd60a062da37eaa7b653ae4f884861f60a80fe1a9bd
blockNumber :	442715
transactionIndex :	0
from :	0x8f55ec85d3f4f4c00437b463952dce60ee43effd
to :	0x67cb076537d34b54bd7de2ee5603bc423293cb52

The "memo 資料" field contains a JSON object representing a ride request, which is highlighted with a red rectangle.

Troubleshooting

OpenSea

The screenshot shows the OpenSea testnet collection page for "Salu Office". The header features a large cruise ship image and the collection name "Salu Office". Below the header, it displays "0 ETH Total volume", "Floor price --", "Best offer --", "0% Listed", and "1 Owner". The main content area shows a grid of 5 items, each with a character illustration and a red circle indicating they are "Content not available yet". The items are labeled SaluNFT #1 through SaluNFT #5. A sidebar on the left provides filtering options for Status (All, Listed, On auction), Price, Currency, Traits, Animal, Background, and Sweep. A search bar and sorting dropdown are also present. At the bottom right is a blue button labeled "Make collection offer".

<https://testnets.opensea.io/collection/salu-office-4>

<https://testnets.opensea.io/assets/sepolia/0x2fc29bce9d9f7dd7ba64ebc70ed5d5d2243b14ea>

Token # 2 – Refresh metadata



Token # 3 – Refresh metadata

The screenshot shows a web browser window for OpenSea. The URL in the address bar is highlighted with a red box and labeled '1'. A large blue circle with the number '2' points to a blurred image placeholder. A blue circle with the number '3' points to a button labeled 'Refresh metadata' in a dropdown menu, which is also highlighted with a red box. A green callout box contains the text: '當你碰到檔案已經有上傳 metadata & images至IPFS，卻在OpenSea無法看到image時，請做Refresh metadata'.

1 testnets.opensea.io/assets/sepolia/0x2fc29bce9d9f7dd7ba64ebc70ed5d5d2243b14ea/3

2

3

當你碰到檔案已經有上傳
metadata & images至IPFS，
卻在OpenSea無法看到image
時，請做Refresh metadata

尚未做過Refresh metadata，
故image目前顯示不正常

Token # 2-NFT

The screenshot shows a web browser window for OpenSea Testnets. A red circle labeled '1' highlights the address bar, which contains the URL <https://testnets.opensea.io/assets/sepolia/0x3850a7397ae84ab9d15e69be0f03934347429cd6/2>. The main content area displays an NFT titled "SaluNFT #2", owned by 4CE135. The NFT image features a muscular man in traditional attire standing next to a golden tiger head. To the right of the image, the NFT's title "SaluNFT #2" is highlighted with a red box. A red arrow points from this box to a separate browser tab titled "magenta-retired-roundworm" showing the JSON metadata for the NFT. The metadata includes:

```
"name": "SaluNFT #2",
"description": "My first ERC1155 project.",
"image": "https://magenta-retired-roundworm-860.myipnata.cloud/ipfs/bafybeicp5xu4
"attributes": [
{
  "trait_type": "Background",
  "value": "2"
}
```

A green box contains the text: "正常情形下做完 Refresh metadata 即可看到image和metadata內的其他資料".

OpenSea

SaluNFT #3 - Salu Office | OpenSea

https://testnets.opensea.io/assets/sepolia/0xfc29bce9d9f7dd7ba64ebc70ed5d5d2243b14ea/3

OpenSea Testnets

Drops Stats Create Search / Login

Salu Office

SaluNFT #3

1,000,000,000 owned by [4CE135](#)

1 owner > 1 billion items 4 views

Make offer - 1 +

Content not available yet

Refresh metadata

View website

Report

OpenSea

Contract 0x0d1c806df99542b29cf7646e09d315feae1e149

Source Code

Overview

ETH BALANCE

0 ETH

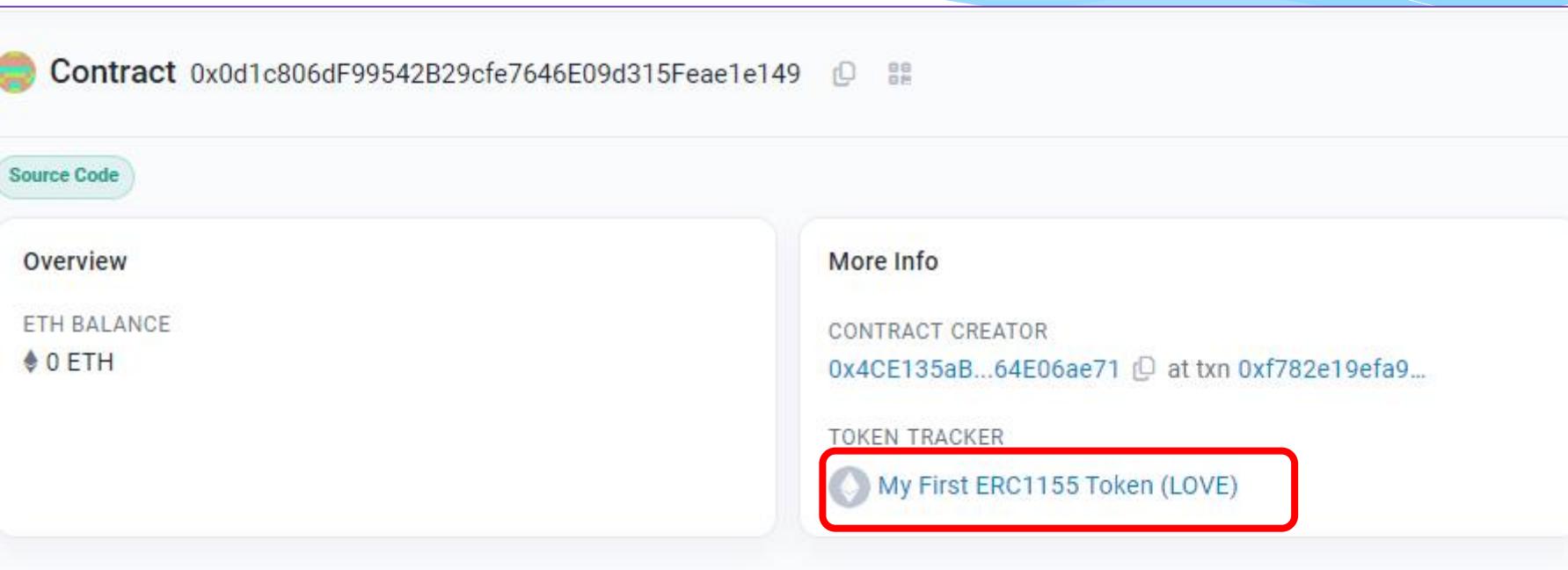
More Info

CONTRACT CREATOR

0x4CE135aB...64E06ae71 at txn 0xf782e19efa9...

TOKEN TRACKER

My First ERC1155 Token (LOVE)



```
constructor() ERC1155("https://magenta-retiree.com/tokens") {
    name = "My First ERC1155 Token";
    symbol = "LOVE";
    _mint(msg.sender, GOLD, 10**18, "");
    _mint(msg.sender, SILVER, 10**27, "");
    _mint(msg.sender, THORS_HAMMER, 1, "");
```

Thank you !



References

References

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<https://github.com/MetaMask/metamask-extension>

■ Remix

<https://github.com/ethereum/browser-solidity>

■ Openzeppelin

<https://docs.openzeppelin.com/>

<https://github.com/OpenZeppelin/openzeppelin-contracts>

<https://www.openzeppelin.com/solidity-contracts>

■ Opensea

<https://docs.opensea.io/docs/metadata-standards>

References

■ Ethereum

<https://github.com/ethereum/>

<https://github.com/ethereum/go-ethereum>

<https://ethereum.org/en>

<https://geth.ethereum.org/docs/fundamentals/private-network>

■ Solidity Documentation

<https://solidity.readthedocs.io>

<https://docs.soliditylang.org/en/v0.8.28/>

■ Smart Contract

<https://www.quicknode.com/guides/tags/ethereum>

https://bshare.io/nft/erc20_721_1155/