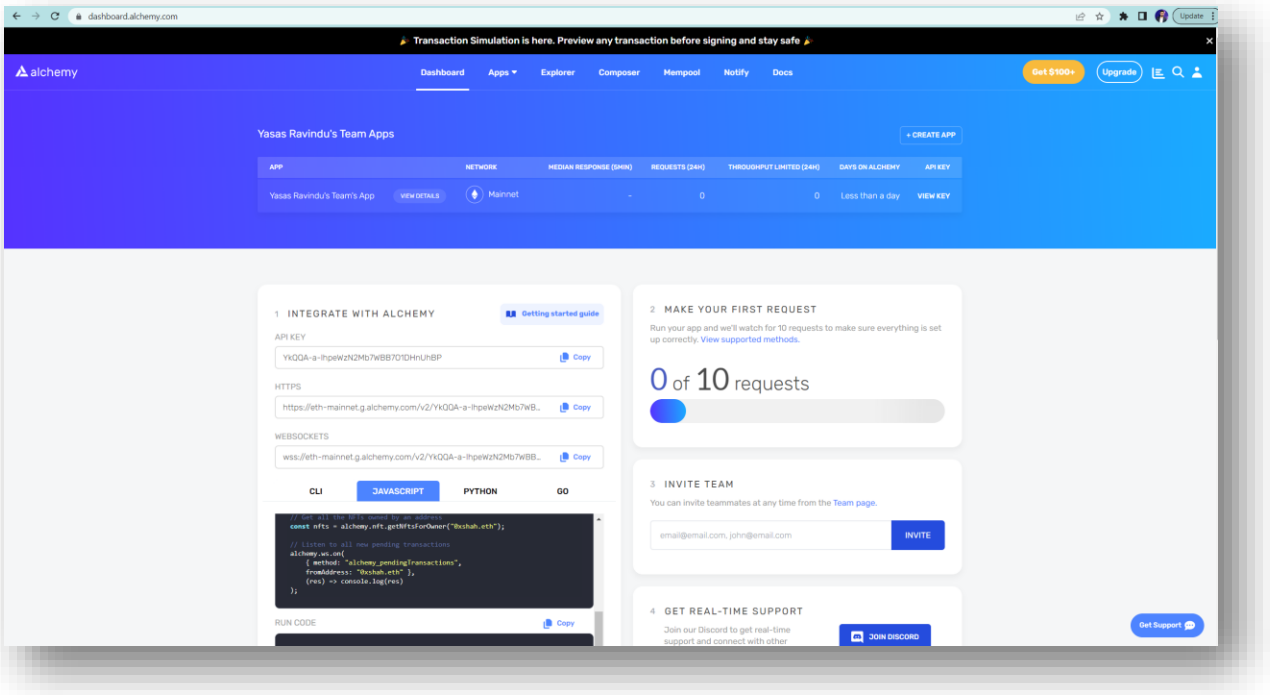
Steps of Develop and Deploy NFT contract

1. Connect with ETHEREUM Network
    a. create free account in alchemy block chain developer platform.
    b. Plan to deploy ERC-721 contracts into **Goerli** Test network.
        i. Why Goerli?
            1. Lightweight and fast – block time about 15 secs



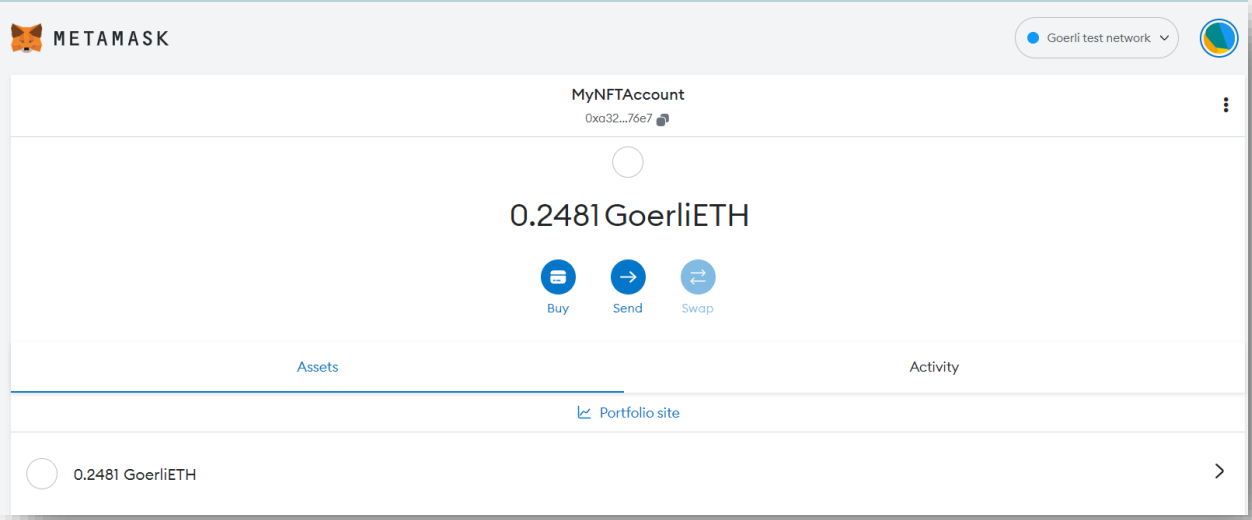
2. Generate API keys and access url in Alchemy for ETHEREUM Network

Eg:

API KEY – wR-F2H3s29xwPrUxBQlfTGuNFp771_qs

ACCESS URL - https://eth-goerli.g.alchemy.com/v2/wR-F2H3s29xwPrUxBQlfTGuNFp771_qs

3. Create Account for Metamask and get the private key from metamask to integrate from our application code



4. Set private key, public key (wallet address) and API URL in .env file in the application.

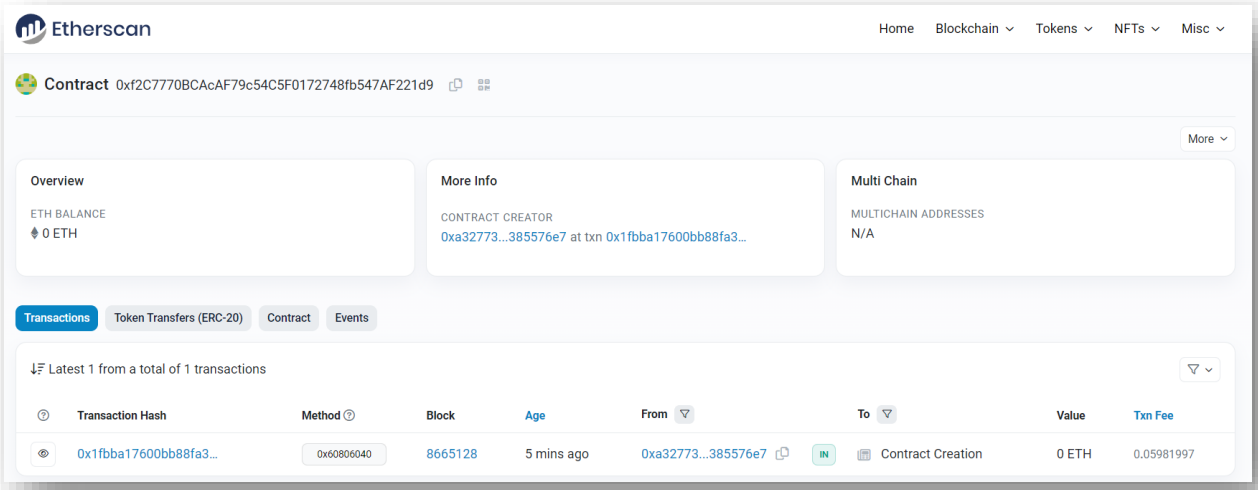
```
.env
1  API_URL="https://eth-goerli.g.alchemy.com/v2/wR-F2H3s29xwPrUxBQlfTGuNFp771_qs"
2  PRIVATE_KEY="f8f39c4f04c0353cd3e73335c69ce8eb00bb2f004ce342963f4ecd12abb51255"
3  PUBLIC_KEY = "0xa3277306462F05eBaB9AaC6BbFcB928c385576e7"
```

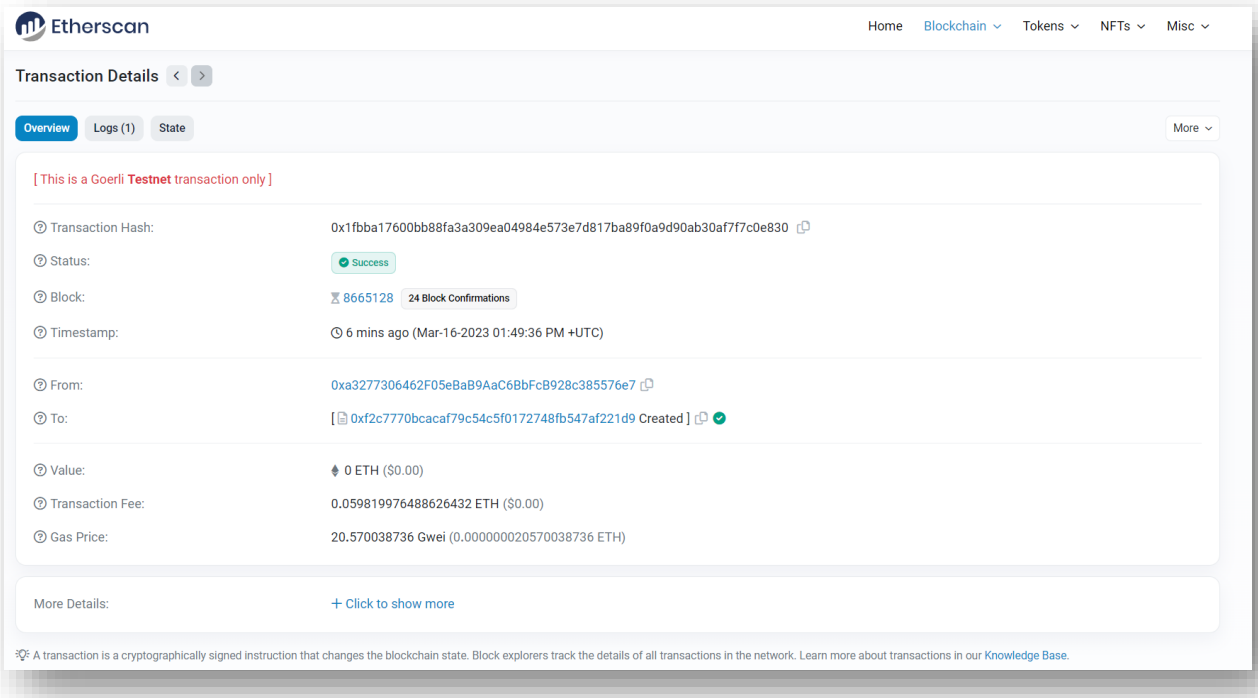
5. Deploy the smart contract using given script.
   - Deploy script - \MercedeseNFT\scripts\deploy.js
   - Smart Contract Script – \MercedeseNFT\contracts\MerceNFT1.sol
   - Command - npx hardhat --network goerli run scripts/deploy.js

After successful deploy – should be able to appear these below logs

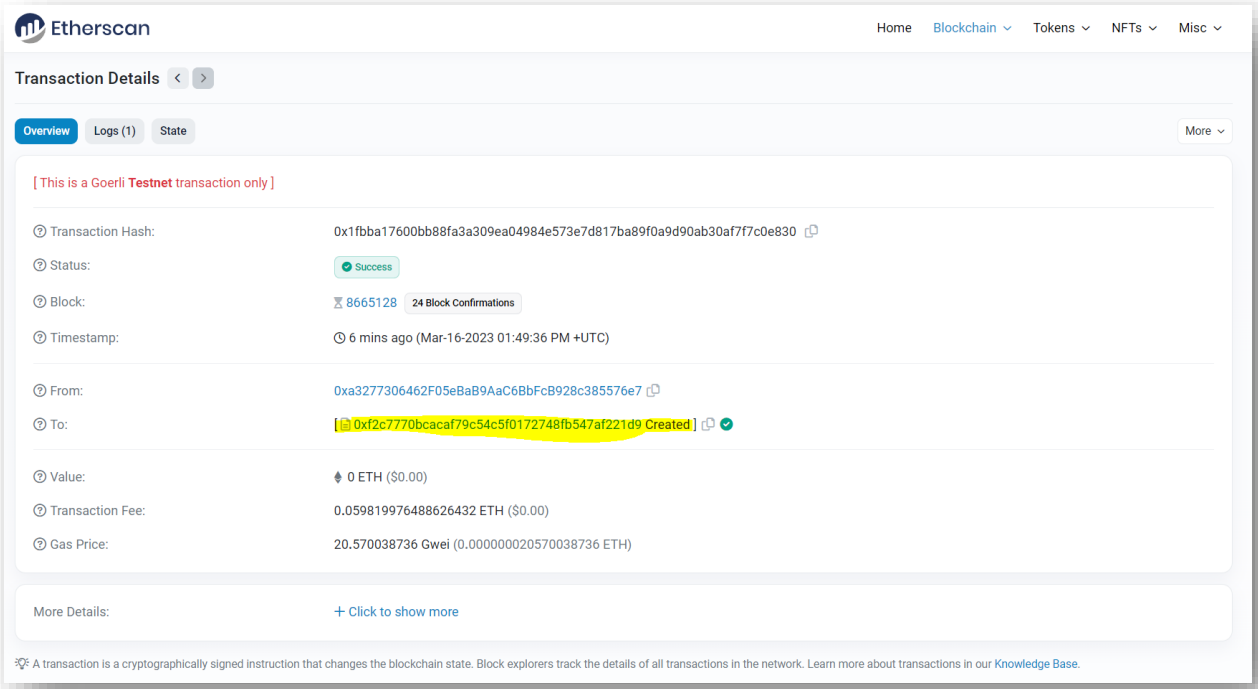
```
PS C:\Users\Administrator\Desktop\Job Hunt Selfstudy\Mercedese Benz Assignment\MercedeseNFT> npx hardhat --network goerli  run scripts/deploy.js
MerceNFT1 Contract deployed to address: 0xf2C7770BCAcAF79c54C5F0172748fb547AF221d9
MerceNFT1 contract valid start date: 1673049600
MerceNFT1 contract valid end date: 1681430400
PS C:\Users\Administrator\Desktop\Job Hunt Selfstudy\Mercedese Benz Assignment\MercedeseNFT>
```

6. Verify the contract from https://goerli.etherscan.io/

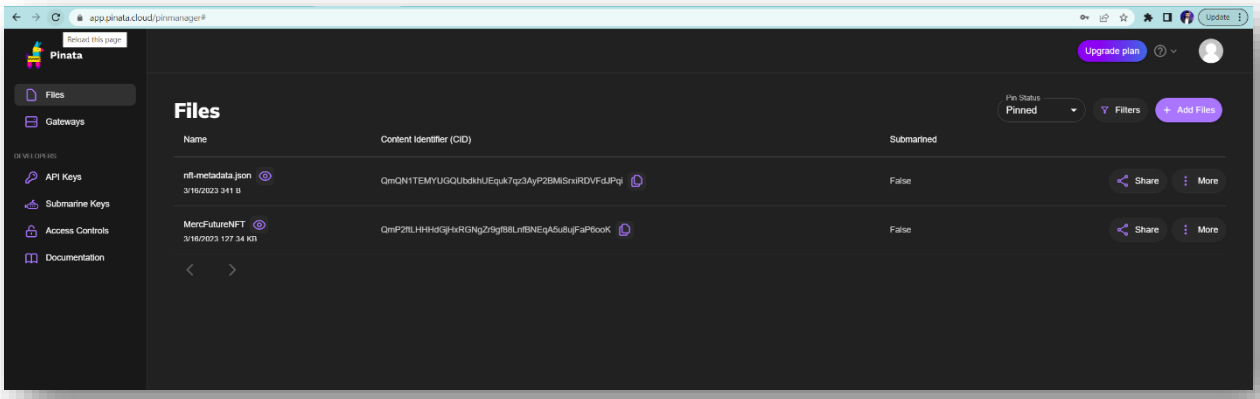




7. Get contract address from transaction details, as highlighted below

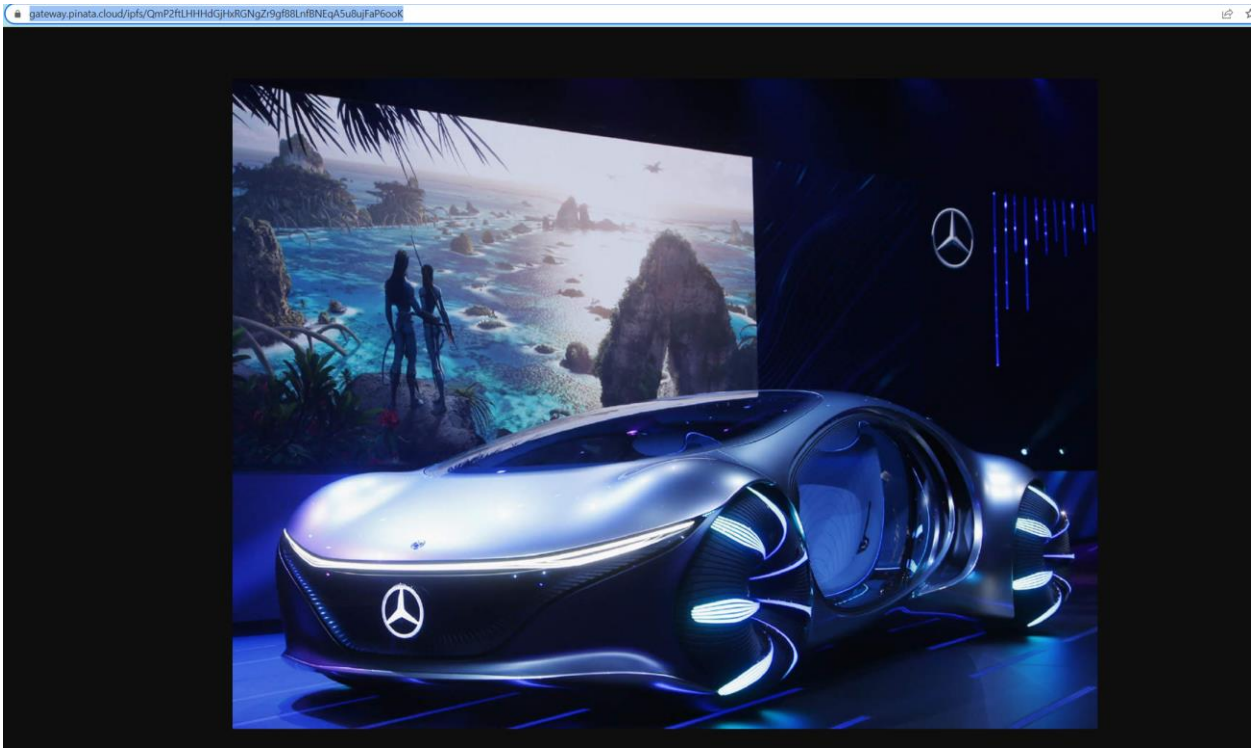


8. Create account in piñata for create nft token and specific meta data



9. View the NFT token by this URL

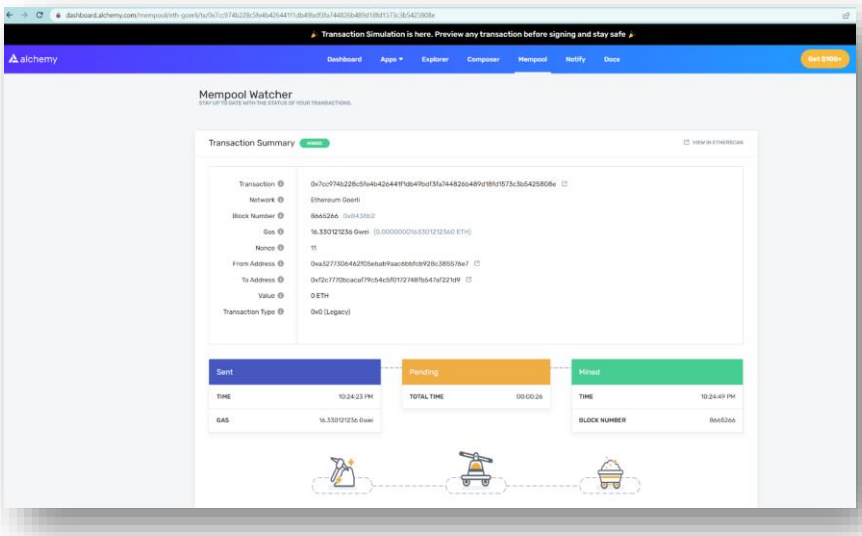
https://gateway.pinata.cloud/ipfs/QmP2ftLHHHdGjHxRGNgZr9gf88LnfBNEqA5u8ujFaP6ooK

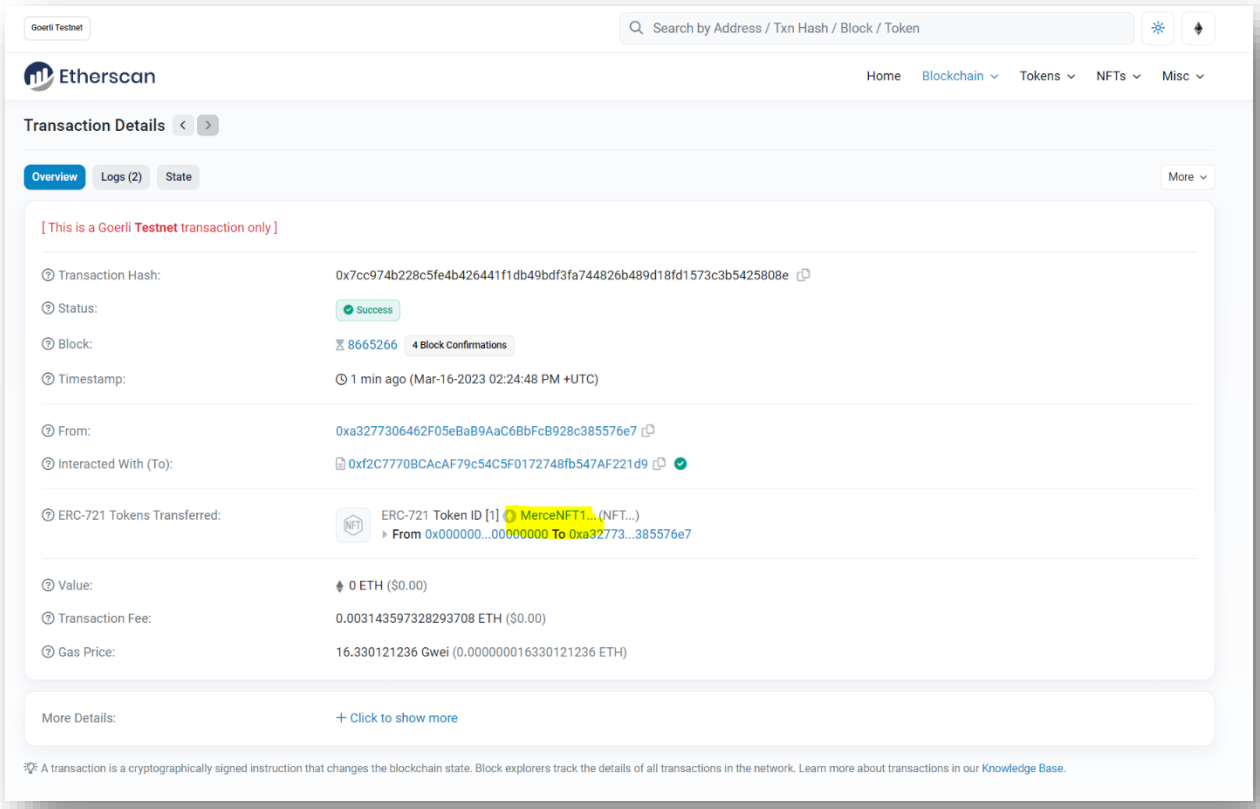


10. Mint the NFT token using below commands

```
PS C:\Users\Administrator\Desktop\Job Hunt Selfstudy\Mercedese Benz Assignment\MercedeseNFT\scripts> node .\min-nft.js
The hash of your transaction is:  0x7cc974b228c5fe4b426441f1db49bdf3fa744826b489d18fd1573c3b5425808e
 Check Alchemy's Mempool to view the status of your transaction!
PS C:\Users\Administrator\Desktop\Job Hunt Selfstudy\Mercedese Benz Assignment\MercedeseNFT\scripts>
```

Check result from Alchemy mempool watcher




Goerli Testnet
Search by Address / Txn Hash / Block / Token
Etherscan
Home
Blockchain
Tokens
NFTs
Misc
Transaction Details
Overview
Logs (2)
State
More
[This is a Goerli Testnet transaction only]
Transaction Hash:
0x7cc974b228c5fe4b426441f1db49bdf3fa744826b489d18fd1573c3b5425808e
Status:
Success
Block:
8665266
4 Block Confirmations
Timestamp:
1 min ago (Mar-16-2023 02:24:48 PM +UTC)
From:
0xa3277306462F05eBaB9AaC6BbFcB928c385576e7
Interacted With (To):
0xf2C7770BCAcAF79c54C5F0172748fb547AF221d9
ERC-721 Tokens Transferred:
ERC-721 Token ID [1] MerceNFT1...(NFT...)
From 0x000000...00000000 To 0xa32773...385576e7
Value:
0 ETH ($0.00)
Transaction Fee:
0.003143597328293708 ETH ($0.00)
Gas Price:
16.330121236 Gwei (0.000000016330121236 ETH)
More Details:
+ Click to show more
A transaction is a cryptographically signed instruction that changes the blockchain state. Block explorers track the details of all transactions in the network. Learn more about transactions in our Knowledge Base.