



Madox

# Smart Contract Audit Report

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# AUDITED DETAILS

## Audited Project

Project name	Token ticker	Blockchain
Madox	MANDOX	Ethereum

## Addresses

Contract address	0x33d203fa03bb30b133de0fe2d6533c268ba286b6
Contract deployer address	0x958D4277F9C049108256E7f8b61765575B6D92a9

## Project Website

<a href="https://mandoxglobal.net/">https://mandoxglobal.net/</a>
---

## Codebase

<a href="https://etherscan.io/address/0x33d203fa03bb30b133de0fe2d6533c268ba286b6#code">https://etherscan.io/address/0x33d203fa03bb30b133de0fe2d6533c268ba286b6#code</a>
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# SUMMARY

Madox LLC is a company in Wyoming, United States. We launched Madox November 26th 2021. The development team is fully doxxed & KYC certified. Madox is creating a forever growing ecosystem that bridges the gap between cryptocurrencies & NFTs. Madox specializes in Crypto, NFTs, NFT & Token Staking, which allows investors to earn passive income. There is also a P2E Game in development, Madox Play and Create NFT Marketplace.

## Contract Summary

### Documentation Quality

Madox provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also don't have any high risk issue.

### Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Madox with the discovery of several low issues.

### Test Coverage

Test coverage of the project is 100% ( Through Codebase )

## Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 419 and 444.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 74, 83, 92, 93, 108, 115, 451, 451, 452, 452, 474, 474, 475, 475, 562, 563, 578, 578, 578, 605, 607, 657, 658, 666, 666, 736, 767, 771, 853 and 607.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 42.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 577, 578, 605, 606, 606, 738, 741, 742, 746, 864 and 865.

## CONCLUSION

We have audited the Madox project released on April 2022 to discover issues and identify potential security vulnerabilities in Madox Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides a satisfactory result with some low-risk issues.

The issues found in the Madox smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set, a state variable visibility is not set and out of bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.

# AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	PASS
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS

DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas grieving attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	PASS
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS

Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	PASS
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS



# SMART CONTRACT ANALYSIS

Started	Monday Apr 04 2022 05:48:05 GMT+0000 (Coordinated Universal Time)
Finished	Tuesday Apr 05 2022 11:36:46 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	MandoxV2Token.sol

## Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged

SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "***" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-=" DISCOVERED	low	acknowledged



# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 74

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
73
74  function div(uint256 a, uint256 b, string memory errorMessage) internal pure returns
(uint256) {
75    require(b > 0, errorMessage);
76    uint256 c = a / b;
77    // assert(a == b * c + a % b); // There is no case in which this doesn't hold
78
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 83

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
82  function mod(uint256 a, uint256 b) internal pure returns (uint256) {
83  return mod(a, b, "SafeMath: modulo by zero");
84  }
85
86  function mod(uint256 a, uint256 b, string memory errorMessage) internal pure returns
(uint256) {
87
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 92

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
91
92  abstract contract Context {
93
94  function _msgSender() internal view virtual returns (address) {
95  return msg.sender;
96
```

## SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 93

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
92  abstract contract Context {  
93  
94  function _msgSender() internal view virtual returns (address) {  
95  return msg.sender;  
96  }  
97
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 108

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
107     bytes32 codehash;  
108     bytes32 accountHash =  
0xc5d2460186f7233c927e7db2dcc703c0e500b653ca82273b7bfad8045d85a470;  
109     assembly { codehash := extcodehash(account) }  
110     return (codehash != accountHash && codehash != 0x0);  
111 }  
112
```



## SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 115

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
114     require(address(this).balance >= amount, "Address: insufficient balance");
115     (bool success, ) = recipient.call{ value: amount }("");
116     require(success, "Address: unable to send value, recipient may have reverted");
117 }
118
119
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 451

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
450
451     event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
452     event SwapAndLiquifyEnabledUpdated(bool enabled);
453     event SwapAndLiquify(
454         uint256 tokensSwapped,
455
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 451

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
450
451     event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
452     event SwapAndLiquifyEnabledUpdated(bool enabled);
453     event SwapAndLiquify(
454         uint256 tokensSwapped,
455
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 452

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
451 event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
452 event SwapAndLiquifyEnabledUpdated(bool enabled);
453 event SwapAndLiquify(
454     uint256 tokensSwapped,
455     uint256 ethReceived,
456
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 452

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
451     event MinTokensBeforeSwapUpdated(uint256 minTokensBeforeSwap);
452     event SwapAndLiquifyEnabledUpdated(bool enabled);
453     event SwapAndLiquify(
454         uint256 tokensSwapped,
455         uint256 ethReceived,
456
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 474

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
473
474   _isExcludedFromFee[owner()] = true;
475   _isExcludedFromFee[address(this)] = true;
476
477   emit Transfer(address(0), _msgSender(), _tTotal);
478
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 474

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
473
474     _isExcludedFromFee[owner()] = true;
475     _isExcludedFromFee[address(this)] = true;
476
477     emit Transfer(address(0), _msgSender(), _tTotal);
478
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 475

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
474  _isExcludedFromFee[owner()] = true;
475  _isExcludedFromFee[address(this)] = true;
476
477  emit Transfer(address(0), _msgSender(), _tTotal);
478  }
479
```



# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 475

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
474  _isExcludedFromFee[owner()] = true;
475  _isExcludedFromFee[address(this)] = true;
476
477  emit Transfer(address(0), _msgSender(), _tTotal);
478  }
479
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 562

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
561     require(tAmount <= _tTotal, "Amount must be less than supply");
562     if (!deductTransferFee) {
563         (uint256 rAmount,,,,) = _getValues(tAmount);
564         return rAmount;
565     } else {
566
```

## SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 563

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MadoxV2Token.sol

### Locations

```
562     if (!deductTransferFee) {  
563         (uint256 rAmount,,,,) = _getValues(tAmount);  
564         return rAmount;  
565     } else {  
566         (,uint256 rTransferAmount,,,,) = _getValues(tAmount);  
567     }
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 578

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MandoxV2Token.sol

### Locations

```
577 function excludeFromReward(address account) public onlyOwner() {  
578     require(!_isExcluded[account], "Account is already excluded");  
579     if(_rOwned[account] > 0) {  
580         _tOwned[account] = tokenFromReflection(_rOwned[account]);  
581     }  
582 }
```

## SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 578

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MadoxV2Token.sol

### Locations

```
577 function excludeFromReward(address account) public onlyOwner() {
578     require(!_isExcluded[account], "Account is already excluded");
579     if(_rOwned[account] > 0) {
580         _tOwned[account] = tokenFromReflection(_rOwned[account]);
581     }
582 }
```

## SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 578

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- MadoxV2Token.sol

### Locations

```
577 function excludeFromReward(address account) public onlyOwner() {  
578     require(!_isExcluded[account], "Account is already excluded");  
579     if(_rOwned[account] > 0) {  
580         _tOwned[account] = tokenFromReflection(_rOwned[account]);  
581     }  
582 }
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 605

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
604     _takeLiquidity(tLiquidity);  
605     _reflectFee(rFee, tFee);  
606     emit Transfer(sender, recipient, tTransferAmount);  
607 }  
608  
609
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 607

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
606     emit Transfer(sender, recipient, tTransferAmount);
607     }
608
609     function excludeFromFee(address account) public onlyOwner {
610         _isExcludedFromFee[account] = true;
611     }
```



# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 657

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
656
657  function addBotWallet(address botwallet) external onlyOwner() {
658  botWallets[botwallet] = true;
659  }
660
661
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 658

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
657     function addBotWallet(address botwallet) external onlyOwner() {  
658         botWallets[botwallet] = true;  
659     }  
660  
661     function removeBotWallet(address botwallet) external onlyOwner() {  
662
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 666

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
665     function getBotWalletStatus(address botwallet) public view returns (bool) {  
666         return botWallets[botwallet];  
667     }  
668  
669     function allowtrading()external onlyOwner() {  
670
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 666

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
665     function getBotWalletStatus(address botwallet) public view returns (bool) {  
666         return botWallets[botwallet];  
667     }  
668  
669     function allowtrading()external onlyOwner() {  
670
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 736

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
735     function calculateTaxFee(uint256 _amount) private view returns (uint256) {  
736         return _amount.mul(_taxFee).div(  
737             10**2  
738         );  
739     }  
740 }
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 767

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MandoxV2Token.sol

## Locations

```
766 function _approve(address owner, address spender, uint256 amount) private {  
767     require(owner != address(0), "ERC20: approve from the zero address");  
768     require(spender != address(0), "ERC20: approve to the zero address");  
769  
770     _allowances[owner][spender] = amount;  
771 }
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 771

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
770     _allowances[owner][spender] = amount;  
771     emit Approval(owner, spender, amount);  
772 }  
773  
774 function _transfer(  
775
```

# SWC-101 | ARITHMETIC OPERATION "-=" DISCOVERED

LINE 853

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
852
853  uniswapV2Router.addLiquidityETH{value: ethAmount}(
854    address(this),
855    tokenAmount,
856    0,
857
```



# SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 607

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- MadoxV2Token.sol

## Locations

```
606     emit Transfer(sender, recipient, tTransferAmount);
607   }
608
609   function excludeFromFee(address account) public onlyOwner {
610     _isExcludedFromFee[account] = true;
611   }
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 42

### low SEVERITY

The current pragma Solidity directive is `""^0.8.9""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- MadoxV2Token.sol

### Locations

```
41  uint256 c = a + b;  
42  require(c >= a, "SafeMath: addition overflow");  
43  
44  return c;  
45  }  
46
```

## SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 419

### low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "botscantrade" is internal. Other possible visibility settings are public and private.

### Source File

- MandoxV2Token.sol

### Locations

```
418 mapping (address => bool) private botWallets;  
419 bool botscantrade = false;  
420  
421 bool public canTrade = false;  
422  
423
```

## SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 444

### low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

### Source File

- MandoxV2Token.sol

### Locations

```
443
444  bool inSwapAndLiquify;
445  bool public swapAndLiquifyEnabled = true;
446
447  uint256 public _maxTxAmount = 100000000000 * 10**9;
448
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 577

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
576
577 function excludeFromReward(address account) public onlyOwner() {
578     require(!_isExcluded[account], "Account is already excluded");
579     if(_rOwned[account] > 0) {
580         _tOwned[account] = tokenFromReflection(_rOwned[account]);
581     }
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 578

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
577 function excludeFromReward(address account) public onlyOwner() {  
578     require(!_isExcluded[account], "Account is already excluded");  
579     if(_rOwned[account] > 0) {  
580         _tOwned[account] = tokenFromReflection(_rOwned[account]);  
581     }  
582 }
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 605

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
604  _takeLiquidity(tLiquidity);  
605  _reflectFee(rFee, tFee);  
606  emit Transfer(sender, recipient, tTransferAmount);  
607  }  
608  
609
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 606

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MandoxV2Token.sol

### Locations

```
605  _reflectFee(rFee, tFee);
606  emit Transfer(sender, recipient, tTransferAmount);
607  }
608
609  function excludeFromFee(address account) public onlyOwner {
610
```



## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 606

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
605     _reflectFee(rFee, tFee);  
606     emit Transfer(sender, recipient, tTransferAmount);  
607 }  
608  
609 function excludeFromFee(address account) public onlyOwner {  
610
```

# SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 738

## low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

## Source File

- MandoxV2Token.sol

## Locations

```
737     10**2
738     );
739     }
740
741     function calculateLiquidityFee(uint256 _amount) private view returns (uint256) {
742
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 741

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MandoxV2Token.sol

### Locations

```
740
741  function calculateLiquidityFee(uint256 _amount) private view returns (uint256) {
742  return _amount.mul(_liquidityFee).div(
743  10**2
744  );
745
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 742

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MandoxV2Token.sol

### Locations

```
741     function calculateLiquidityFee(uint256 _amount) private view returns (uint256) {  
742         return _amount.mul(_liquidityFee).div(  
743             10**2  
744         );  
745     }  
746
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 746

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
745     }  
746  
747     function removeAllFee() private {  
748         if(_taxFee == 0 && _liquidityFee == 0) return;  
749  
750     }
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 864

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MandoxV2Token.sol

### Locations

```
863     function _tokenTransfer(address sender, address recipient, uint256 amount, bool
takeFee) private {
864         if(!canTrade){
865             require(sender == owner());
866         }
867
868
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 865

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- MadoxV2Token.sol

### Locations

```
864     if(!canTrade){  
865         require(sender == owner());  
866     }  
867  
868     if(botWallets[sender] || botWallets[recipient]){  
869
```

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