Shido Inu

Smart Contract Audit Report

SYSFIXED

04 Mar 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Shido Inu	SHIDO	Binance Smart Chain

Addresses

Contract address	0x733af324146dcfe743515d8d77dc25140a07f9e0
Contract deployer address	0x7ef6E527969054afbc0980E00C51D2E645b4A5ef

Project Website

https://www.shido.finance/

Codebase

https://bscscan.com/address/0x733af324146dcfe743515d8d77dc25140a07f9e0#code

SUMMARY

The Shido Ecosystem started to take shape during autumn of 2021. A group of experienced crypto developers and investors were exchanging ideas of what an ideal crypto project should look like. After agreeing on every point, and coming to the conclusion that we shared the same end goal and vision, we started working on what is now known as Shido. Our mission is to introduce and create a safe entry to crypto for investors. We seek to make our project a safe and easy way to invest while simultaneously bridging the gap between traditional fiat currencies and cryptocurrencies. There has never been an easier way to grow your wealth and earn passive income. The journey for Shido is just beginning. With the help of our community, we believe we will accomplish and achieve our goals. We want to make sure that every voice is heard, and let the community dictate the path, in which Shido will journey. We have a lot of exciting news and a powerful roadmap to share with you throughout the year. We look forward to this journey with each and every member of our community. You can join the Shido Family through any of our social platforms.

Contract Summary

Documentation Quality

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

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Shido Inu 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 973.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 213, 227, 242, 243, 256, 268, 283, 297, 311, 325, 341, 364, 387, 413, 1008, 1010, 1014, 1024, 1024, 1024, 1037, 1037, 1049, 1237, 1239, 1281, 1290, 1398, 1432, 1440, 1449 and 1239.
- 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 1238, 1239, 1239, 1400, 1401, 1403, 1404, 1556 and 1557.

CONCLUSION

We have audited the Shido Inu project released on January 2023 to discover issues and identify potential security vulnerabilities in Shido Inu 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 satisfactory results with low-risk issues.

The Shido Inu smart contract code issues 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 state variable visibility is not set, and out-of-bounds array access which the index access expression can cause an exception in case an invalid array index value is used. 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.

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.	PASS
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 griefing 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	Thursday Mar 03 2022 22:35:42 GMT+0000 (Coordinated Universal Time)
Finished	Friday Mar 04 2022 18:05:53 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	AntiBotLiquidityGeneratorToken.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	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 213

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
212   unchecked {
213   uint256 c = a + b;
214   if (c < a) return (false, 0);
215   return (true, c);
216   }
217
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 227

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
226   if (b > a) return (false, 0);
227   return (true, a - b);
228   }
229   }
230
231
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 242

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
241   if (a == 0) return (true, 0);
242   uint256 c = a * b;
243   if (c / a != b) return (false, 0);
244   return (true, c);
245   }
246
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 243

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
242   uint256 c = a * b;
243   if (c / a != b) return (false, 0);
244   return (true, c);
245   }
246   }
247
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 256

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
255   if (b == 0) return (false, 0);
256   return (true, a / b);
257   }
258   }
259
260
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 268

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
267   if (b == 0) return (false, 0);
268   return (true, a % b);
269   }
270   }
271
272
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 283

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
282   function add(uint256 a, uint256 b) internal pure returns (uint256) {
283   return a + b;
284   }
285
286   /**
287
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 297

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
296   function sub(uint256 a, uint256 b) internal pure returns (uint256) {
297   return a - b;
298   }
299
300   /**
301
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 311

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
310   function mul(uint256 a, uint256 b) internal pure returns (uint256) {
311   return a * b;
312   }
313
314   /**
315
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 325

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
324   function div(uint256 a, uint256 b) internal pure returns (uint256) {
325   return a / b;
326   }
327
328   /**
329
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 341

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
340   function mod(uint256 a, uint256 b) internal pure returns (uint256) {
341   return a % b;
342   }
343
344   /**
345
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 364

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
363   require(b <= a, errorMessage);
364   return a - b;
365   }
366   }
367
368
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 387

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
386   require(b > 0, errorMessage);
387   return a / b;
388   }
389   }
390
391
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 413

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
412   require(b > 0, errorMessage);
413   return a % b;
414   }
415   }
416   }
417
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1008

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1007   ) payable {
1008   require(taxFeeBps_ >= 0 && taxFeeBps_ <= 10**4, "Invalid tax fee");
1009   require(
1010   liquidityFeeBps_ >= 0 && liquidityFeeBps_ <= 10**4,
1011   "Invalid liquidity fee"
1012
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1010

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1009   require(
1010   liquidityFeeBps_ >= 0 && liquidityFeeBps_ <= 10**4,
1011   "Invalid liquidity fee"
1012   );
1013   require(
1014
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1014

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1013   require(
1014   charityFeeBps_ >= 0 && charityFeeBps_ <= 10**4,
1015   "Invalid charity fee"
1016   );
1017   if (charityAddress_ == address(0)) {
1018
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1024

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1023   require(
1024   taxFeeBps_ + liquidityFeeBps_ + charityFeeBps_ <= 10**4,
1025   "Total fee is over 100% of transfer amount"
1026   );
1027
1028
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1024

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1023   require(
1024   taxFeeBps_ + liquidityFeeBps_ + charityFeeBps_ <= 10**4,
1025   "Total fee is over 100% of transfer amount"
1026   );
1027
1028
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1024

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1023   require(
1024   taxFeeBps_ + liquidityFeeBps_ + charityFeeBps_ <= 10**4,
1025   "Total fee is over 100% of transfer amount"
1026   );
1027
1028
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1037

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1036   _tTotal = totalSupply_;
1037   _rTotal = (MAX - (MAX % _tTotal));
1038
1039   _taxFee = taxFeeBps_;
1040   _previousTaxFee = _taxFee;
1041
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 1037

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1036   _tTotal = totalSupply_;
1037   _rTotal = (MAX - (MAX % _tTotal));
1038
1039   _taxFee = taxFeeBps_;
1040   _previousTaxFee = _taxFee;
1041
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1049

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1048
1049   numTokensSellToAddToLiquidity = totalSupply_.mul(5).div(10**4); // 0.05%
1050
1051   swapAndLiquifyEnabled = true;
1052
1053
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1237

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1236   require(_isExcluded[account], "Account is already excluded");
1237   for (uint256 i = 0; i < _excluded.length; i++) {
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1239

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241   _isExcluded[account] = false;
1242   _excluded.pop();
1243
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1281

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1280   function setTaxFeePercent(uint256 taxFeeBps) external onlyOwner {
1281   require(taxFeeBps >= 0 && taxFeeBps <= 10**4, "Invalid bps");
1282   _taxFee = taxFeeBps;
1283   }
1284
1285
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1290

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1289   require(
1290   liquidityFeeBps >= 0 && liquidityFeeBps <= 10**4,
1291   "Invalid bps"
1292   );
1293   _liquidityFee = liquidityFeeBps;
1294
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1398

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1397   uint256 tSupply = _tTotal;
1398   for (uint256 i = 0; i < _excluded.length; i++) {
1399   if (
1400   _rOwned[_excluded[i]] > rSupply ||
1401   _tOwned[_excluded[i]] > tSupply
1402
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1432

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1431   function calculateTaxFee(uint256 _amount) private view returns (uint256) {
1432   return _amount.mul(_taxFee).div(10**4);
1433   }
1434
1435   function calculateLiquidityFee(uint256 _amount)
1436
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1440

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1439   {
1440   return _amount.mul(_liquidityFee).div(10**4);
1441   }
1442
1443   function calculateCharityFee(uint256 _amount)
1444
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1449

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1448   if (_charityAddress == address(0)) return 0;
1449   return _amount.mul(_charityFee).div(10**4);
1450   }
1451
1452   function removeAllFee() private {
1453
```

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

LINE 1239

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241   _isExcluded[account] = false;
1242   _excluded.pop();
1243
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 973

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

- AntiBotLiquidityGeneratorToken.sol

Locations

```
972
973   bool inSwapAndLiquify;
974   bool public swapAndLiquifyEnabled;
975
976   uint256 private numTokensSellToAddToLiquidity;
977
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1238

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1237   for (uint256 i = 0; i < _excluded.length; i++) {
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241   _isExcluded[account] = false;
1242
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1239

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241   _isExcluded[account] = false;
1242   _excluded.pop();
1243
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1239

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1238   if (_excluded[i] == account) {
1239   _excluded[i] = _excluded[_excluded.length - 1];
1240   _tOwned[account] = 0;
1241   _isExcluded[account] = false;
1242   _excluded.pop();
1243
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1400

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1399   if (
1400   _rOwned[_excluded[i]] > rSupply ||
1401   _tOwned[_excluded[i]] > tSupply
1402   ) return (_rTotal, _tTotal);
1403   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
1404
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1401

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1400   _rOwned[_excluded[i]] > rSupply ||
1401   _tOwned[_excluded[i]] > tSupply
1402   ) return (_rTotal, _tTotal);
1403   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
1404   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
1405
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1403

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1402   ) return (_rTotal, _tTotal);
1403   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
1404   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
1405   }
1406   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
1407
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1404

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1403   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
1404   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
1405   }
1406   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
1407   return (rSupply, tSupply);
1408
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1556

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1555   address[] memory path = new address[](2);
1556   path[0] = address(this);
1557   path[1] = uniswapV2Router.WETH();
1558
1559   _approve(address(this), address(uniswapV2Router), tokenAmount);
1560
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1557

low SEVERITY

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

Source File

- AntiBotLiquidityGeneratorToken.sol

Locations

```
1556   path[0] = address(this);
1557   path[1] = uniswapV2Router.WETH();
1558
1559   _approve(address(this), address(uniswapV2Router), tokenAmount);
1560
1561
```

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