BIRLESIK MODELLEME

GRAF TEORİSİ

KALITIM

FONKSIYON IMZA HASHİ

KONTRAT OZET BILGILERI

KONTRAT BIRIM TEST BILGILERI

BIRIM TEST ORNEK KODLAMA

SERCAN ÇELENK

12 AĞUSTOS 2021

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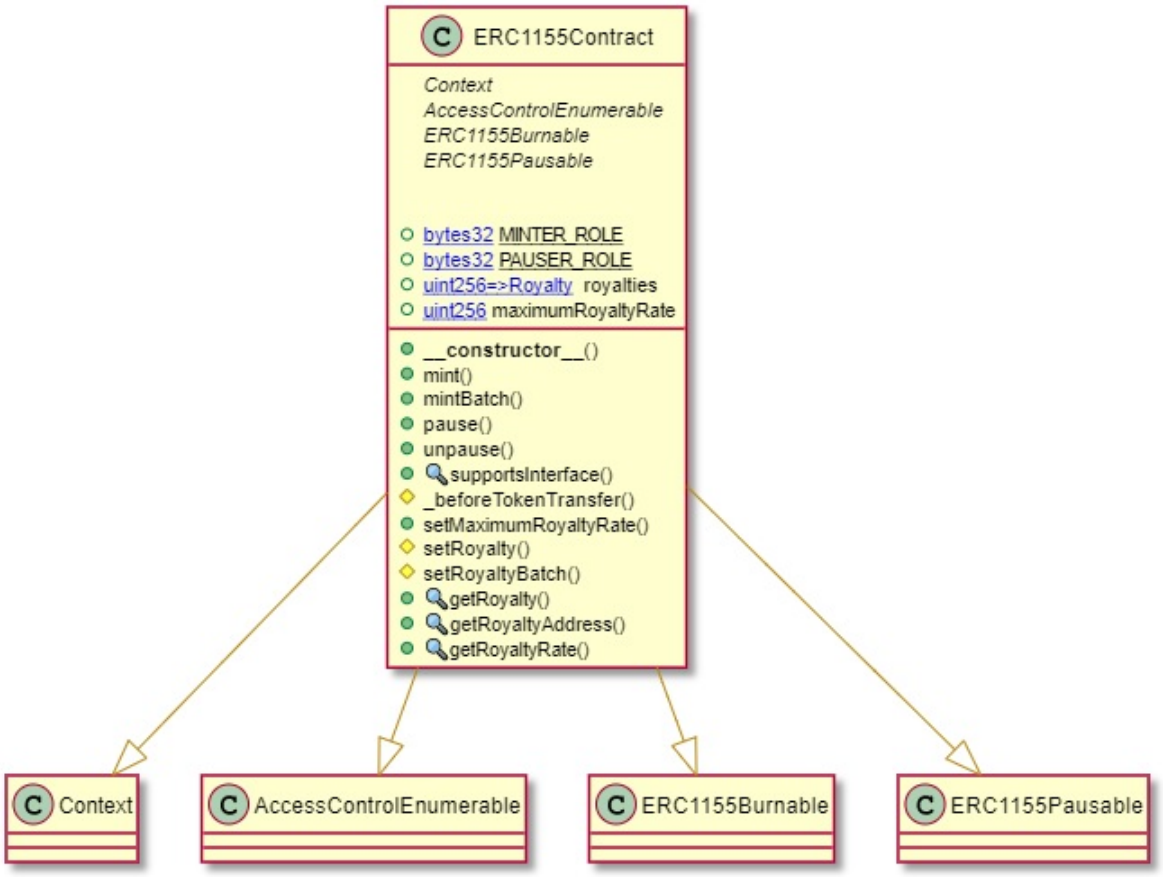
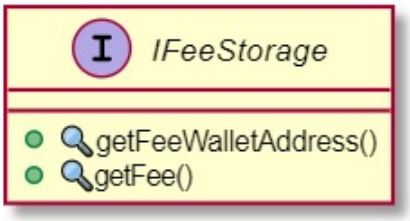
1 Birleşik Modelleme Dili(UML)

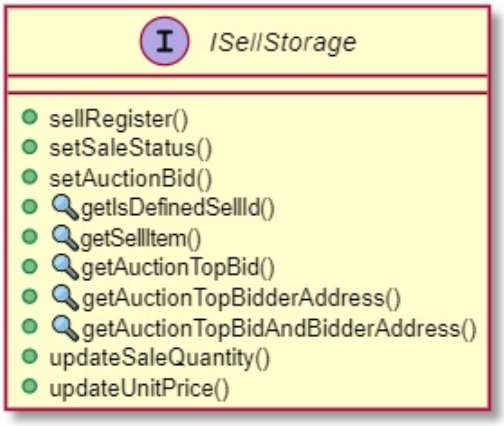
UML, bir sistemin tasarımını görselleştirmek için yazılım mühendisliği alanında genel amaçlı modelleme dilidir. Yazılı bir dil değildir. Farklı amaçlar için kategorilere ayrılmış olsa da, genel itibariyle modelleme için kullanılır.

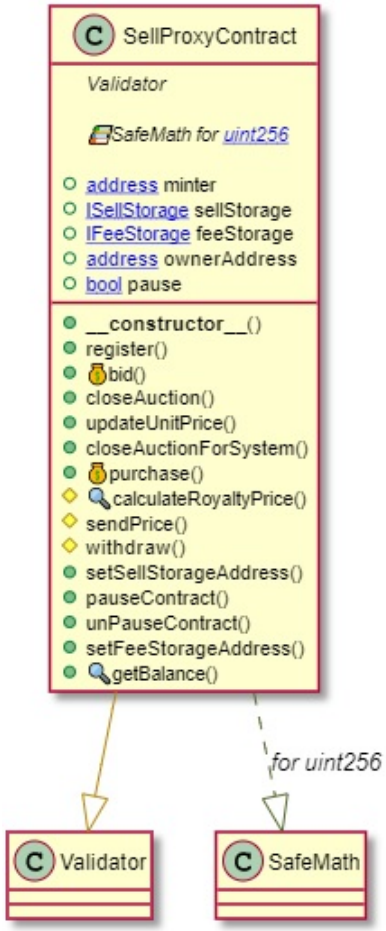


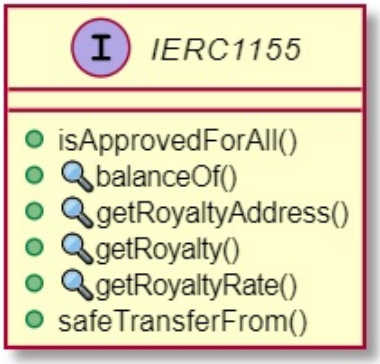
FeeStorageContract
AccessControl
bytes32 WRITER_ROLE
bytes32 READER_ROLE
bytes32 MINTER_ROLE
address minter
address feeWalletAddress
uint256 defaultFeeRate
address=>FeeOverride feeOverrides
__constructor__()
setFeeOverride()
setFeeOverrideBatch()
setWriterRole()
setReaderRole()
getContractAddress()
setFeeWalletAddress()
setDefaultFeeRate()
getFeeWalletAddress()
getFee()
AccessControl

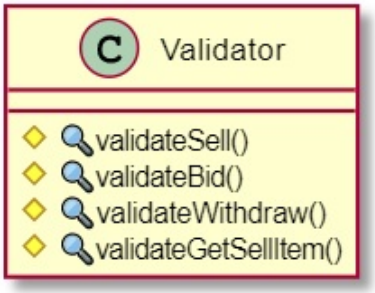

IFeeStorage
getFeeWalletAddress()
getFee()

SellStorageContract
AccessControl
bytes32 WRITER_ROLE
bytes32 READER_ROLE
bytes32 MINTER_ROLE
address minter
address ownerAddress
uint256=>SellLib.Sell sales
uint256=>SellLib.Bid bids
uint256=>SellLib.Metadata metadataList
__constructor__()
sellRegister()
setSaleItem()
setWriterRole()
setReaderRole()
getSellItem()
getContractAddress()
getIsDefinedSellId()
updateUnitPrice()
setSaleStatus()
updateSaleQuantity()
setAuctionBid()
getAuctionTopBid()
getAuctionTopBidderAddress()
getAuctionTopBidAndBidderAddress()
AccessControl


ISellStorage
sellRegister()
setSaleStatus()
setAuctionBid()
getIsDefinedSellId()
getSellItem()
getAuctionTopBid()
getAuctionTopBidderAddress()
getAuctionTopBidAndBidderAddress()
updateSaleQuantity()
updateUnitPrice()


SellProxyContract
Validator
SafeMath for uint256
address minter
ISellStorage sellStorage
IFeeStorage feeStorage
address ownerAddress
bool pause
__constructor__()
register()
bid()
closeAuction()
updateUnitPrice()
closeAuctionForSystem()
purchase()
calculateRoyaltyPrice()
sendPrice()
withdraw()
setSellStorageAddress()
pauseContract()
unPauseContract()
setFeeStorageAddress()
getBalance()
for uint256
Validator
SafeMath

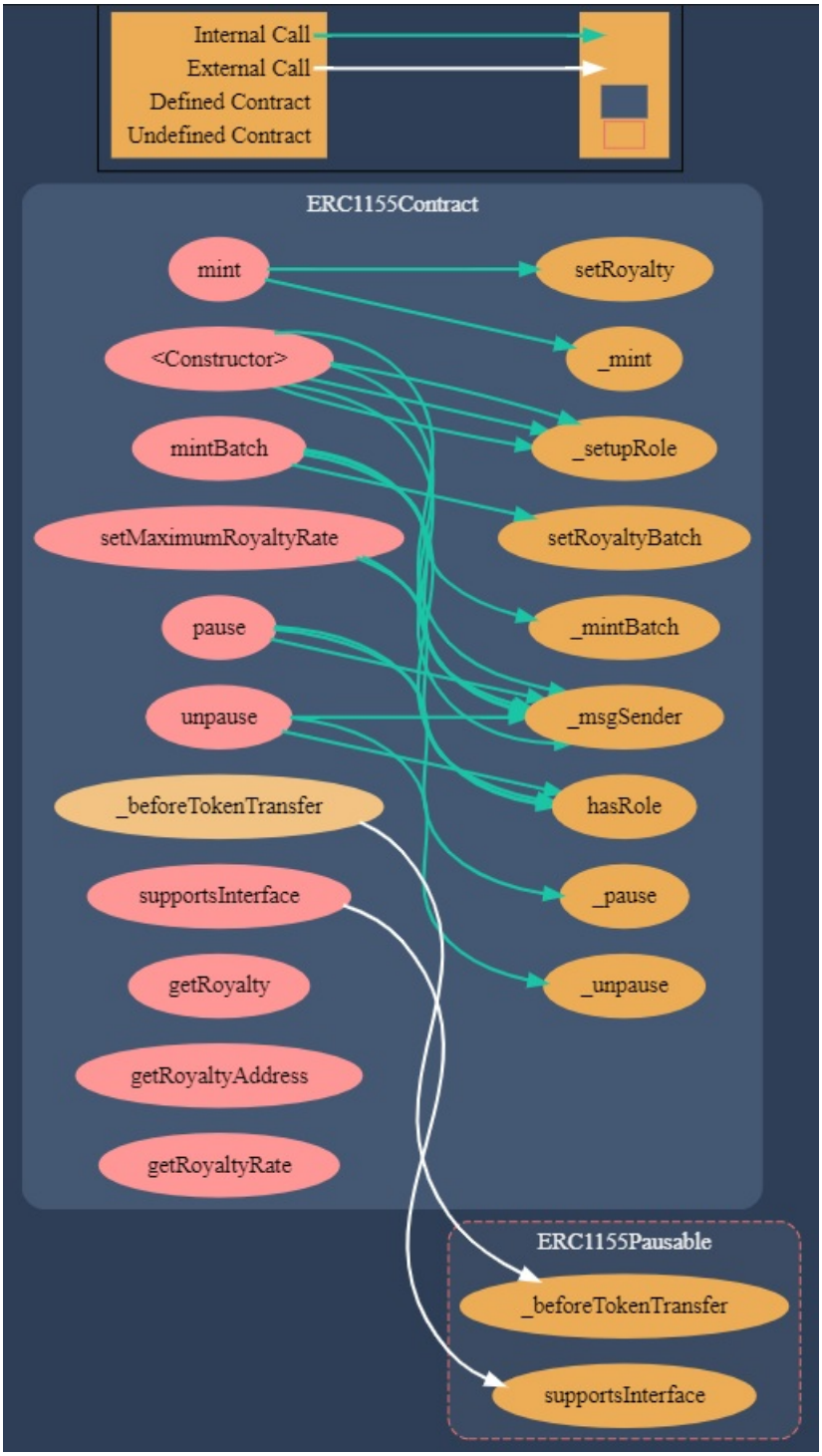

IERC1155
isApprovedForAll()
balanceOf()
getRoyaltyAddress()
getRoyalty()
getRoyaltyRate()
safeTransferFrom()


Validator
validateSell()
validateBid()
validateWithdraw()
validateGetSellItem()

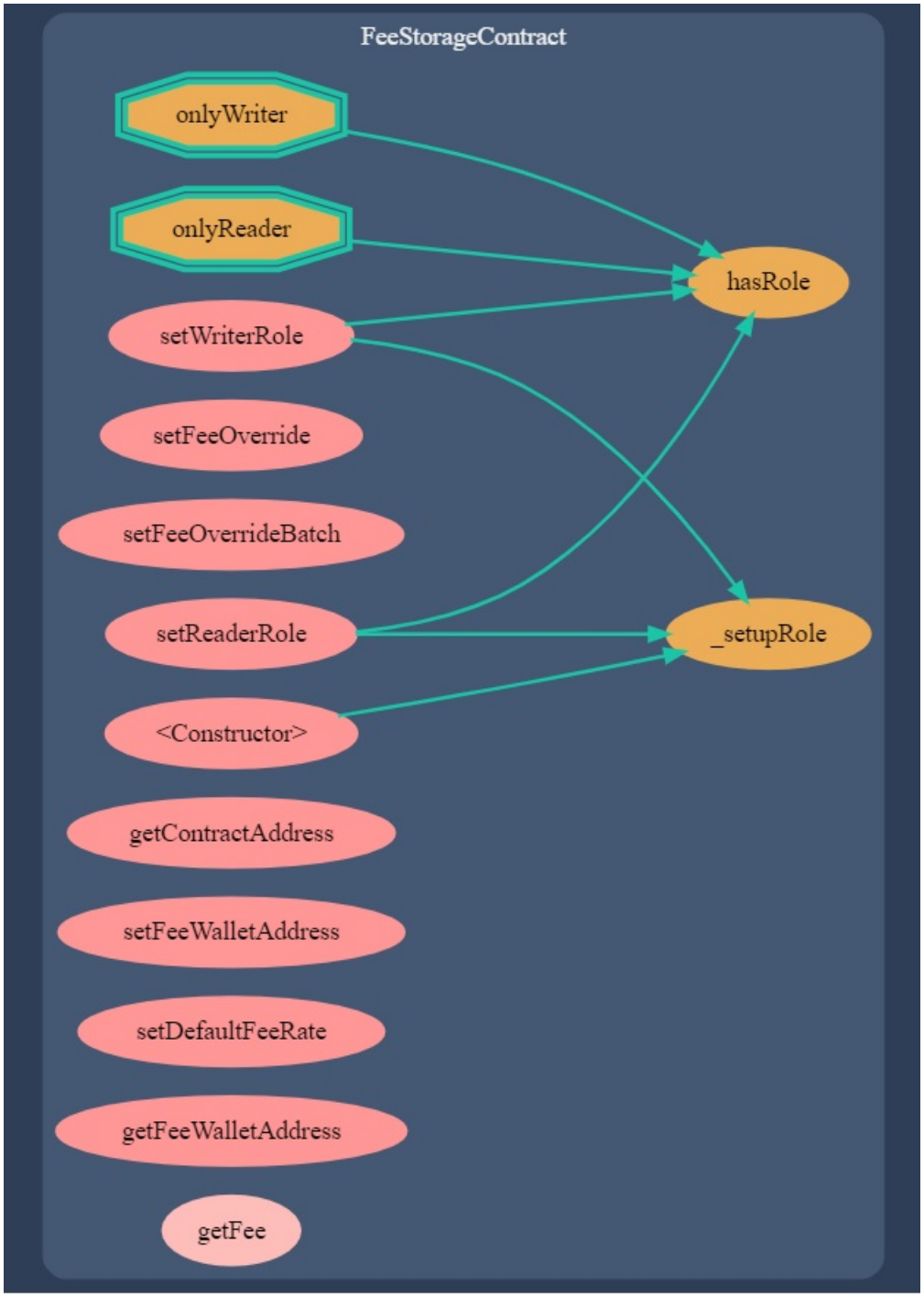
2 Graf Teorisi(Graph Theory)

Matematikte graf ya da çizge, nesne çiftlerinin bir anlamda ilişki olduğu bir dizi nesne kümesini belirleyen yapıdır.

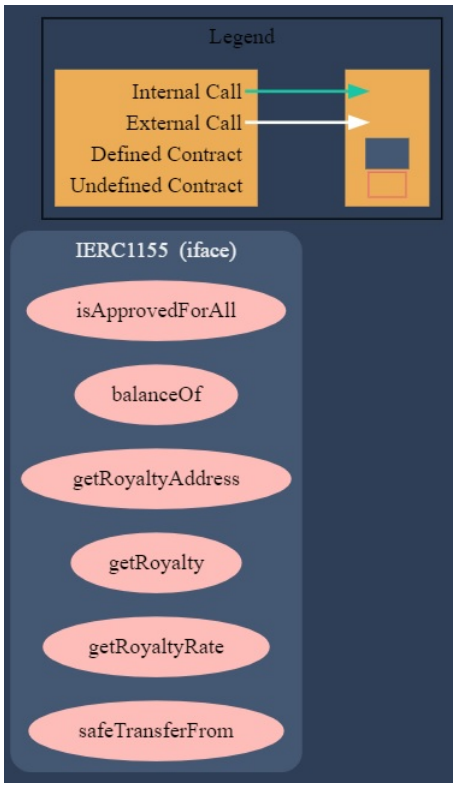
ERC1155Contract



FeeStorage

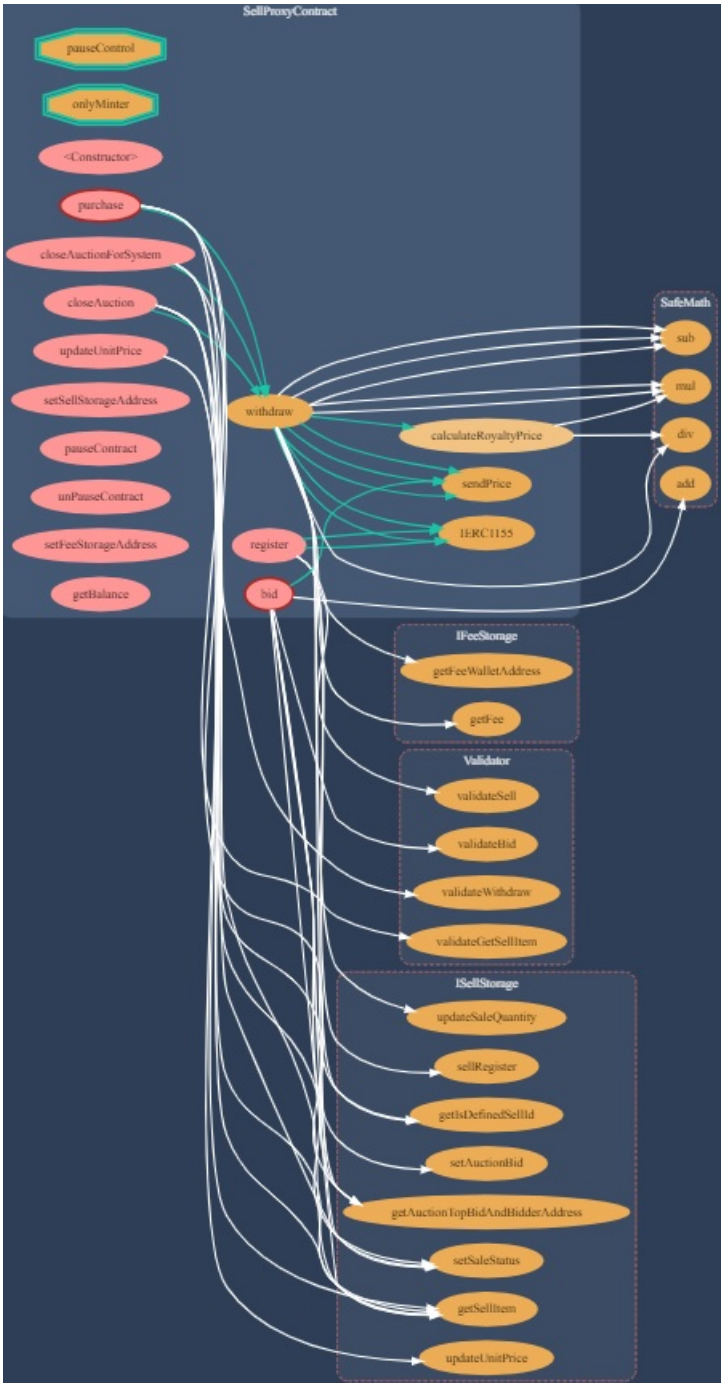

FeeStorageContract
onlyWriter
onlyReader
hasRole
setWriterRole
setFeeOverride
setFeeOverrideBatch
setReaderRole
_setupRole
<Constructor>
getContractAddress
setFeeWalletAddress
setDefaultFeeRate
getFeeWalletAddress
getFee

IERC1155

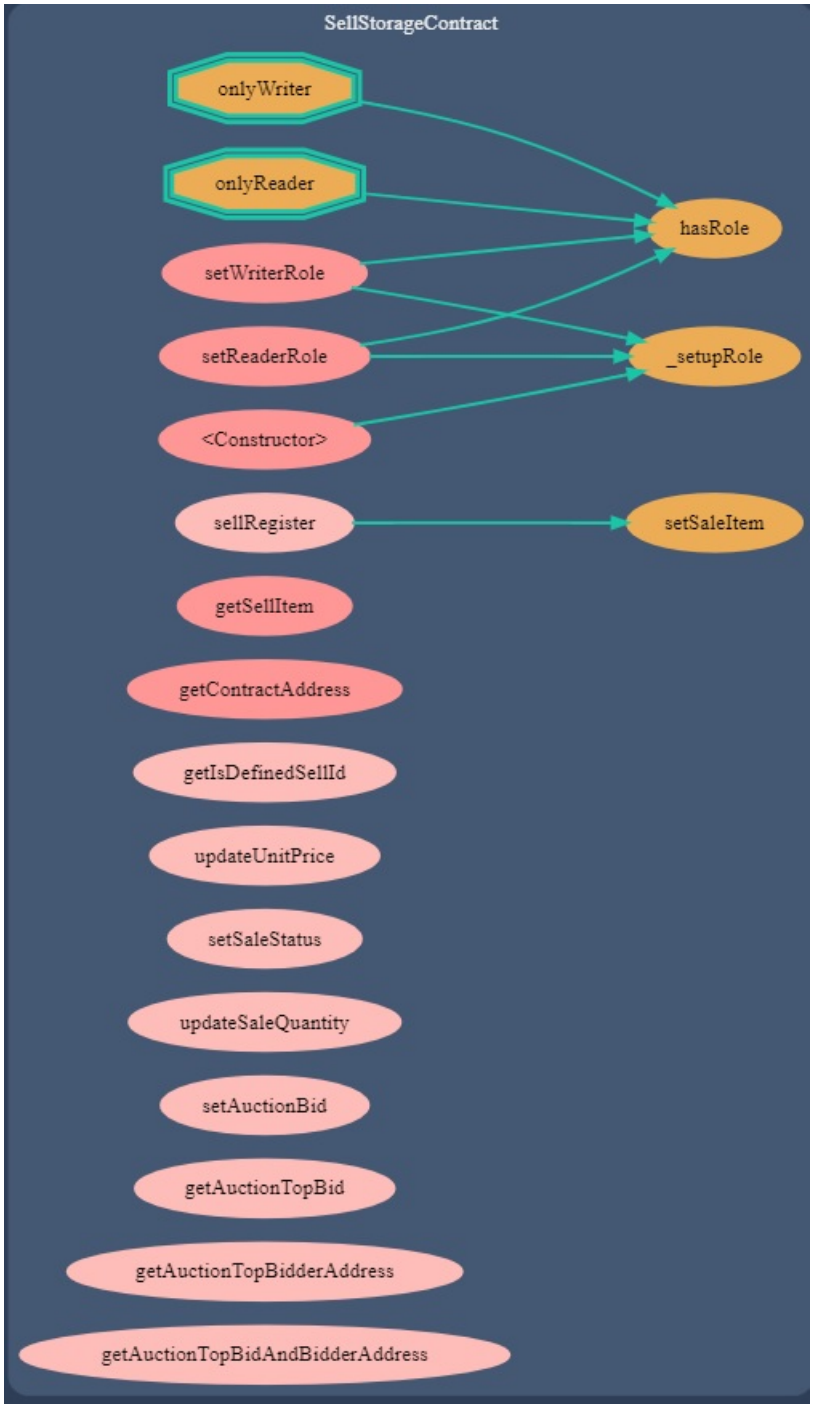


ISellStorage

ISellStorage



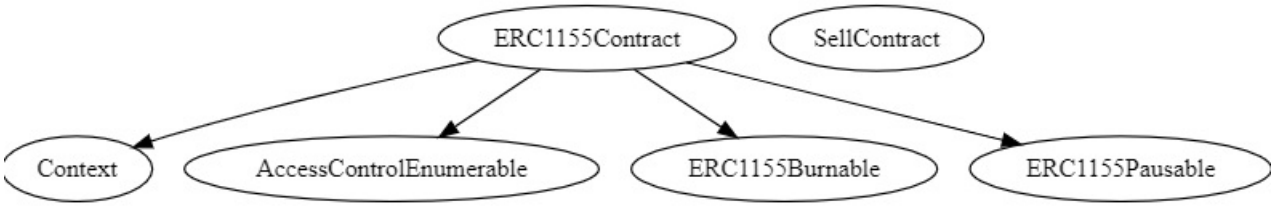
SellContractProxy



3 Kalıtım(Inheritance)

Kalıtım; bir sınıftan başka bir sınıf türetirken aralarında bir alt-üst ilişkisi oluşturmayı ve bu sınıflar üzerinde ortak metotlar ve özellikler kullanılmasını sağlayan bir mekanizmadır.

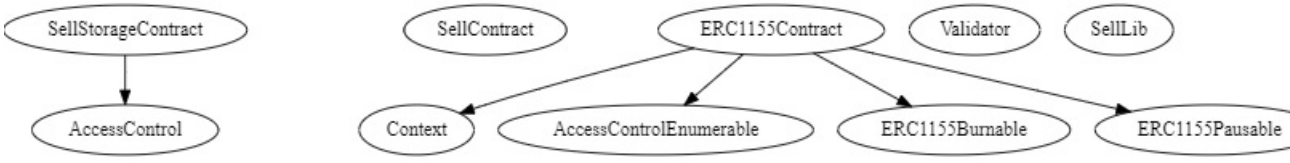
ERC1155



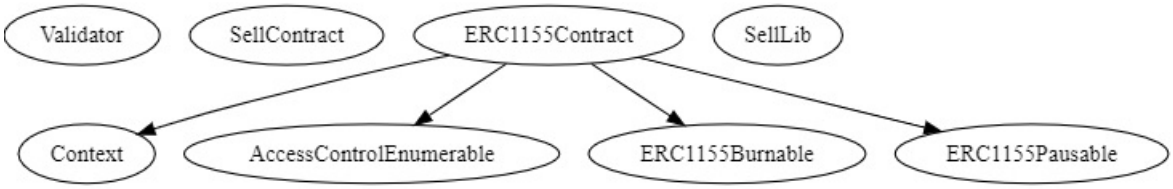
FeeStorage

SellProxyContract

SellStorage



Validator



4 Fonksiyon Imzası(Function Signature)

Sighash **====>** Function Signature

ERC1155Contrat.sol

44928394 => getRoyaltyAddress(uint256)

8773ebd7 => mint(address,uint256,uint256,uint256,bytes32,bytes32,uint8,bytes)

b05b1e1c => mintBatch(address,uint256[],uint256[],uint256[],bytes)

8456cb59 => pause()

3f4ba83a => unpause()

01ffc9a7 => supportsInterface(bytes4)

fe49010b => beforeTokenTransfer(address,address,address,uint256[],uint256[],bytes)

df7e849a => setMaximumRoyaltyRate(uint256)

9ed838e7 => setRoyalty(address,uint256,uint256)

4f20b87f => setRoyaltyBatch(address,uint256[],uint256[])

1af9cf49 => getRoyalty(uint256)

1524afc9 => getRoyaltyRate(uint256)

FeeStorage.sol

5b75de36 => setFeeOverride(address,uint256,address)

94c0fe89 => setFeeOverrideBatch(address[],uint256[],address[])

7e82d8ae => setWriterRole(address)

1ed87da9 => setReaderRole(address)

32a2c5d0 => getContractAddress()

31503ec4 => setFeeWalletAddress(address)

5f70fdb5 => setDefaultFeeRate(uint256)

ec397b29 => getFeeWalletAddress()

b88c9148 => getFee(address)

SellStorage.sol a59de20b => sellRegister(SellLib.Sell)

f8e5cedb => setSaleItem(SellLib.Sell)

7e82d8ae => setWriterRole(address)

1ed87da9 => setReaderRole(address)

37a8a018 => getSellItem(uint256)

32a2c5d0 => getContractAddress()

0528ba60 => getIsDefinedSellId(uint256)

bac28c40 => updateUnitPrice(uint256,uint256)

b54c5c31 => setSaleStatus(uint256,bool)

0be799b5 => updateSaleQuantity(uint256,uint256)

266970c1 => setAuctionBid(uint256,address,uint256)

4689afec => getAuctionTopBid(uint256)

be59e51d => getAuctionTopBidderAddress(uint256)

d59365ca => getAuctionTopBidAndBidderAddress(uint256)

SellProxyContract.sol

58333316 => setFeeStorageAddress(IFeeStorage)

88af4af6 => register(SellLib.Sell)

9f04996d => bid(uint256,address)

236ed8f3 => closeAuction(uint256)

bac28c40 => updateUnitPrice(uint256,uint256)

35a8cdc8 => closeAuctionForSystem(uint256[])

ea3bd5df => purchase(uint256,uint256,address)

8b40f86e => calculateRoyaltyPrice(uint256,uint256)

16f64c9e => sendPrice(address,uint256)

c3fef492 => withdraw(SellLib.Sell,address,uint256,uint256,uint256)

57541a75 => setSellStorageAddress(ISellStorage)

439766ce => pauseContract()

bac15203 => unPauseContract()

12065fe0 => getBalance()

Validator.sol

241df2a8 => validateSell(SellLib.Sell)

e53453bd => validateBid(uint256,address)

1e0e0d6f => validateWithdraw(uint256,address)

0f3b2d36 => validateGetSellItem(SellLib.Sell,address,uint256)

5 Kontrat Özet(Contract Describe)

Fonksiyonların listelenme özellikleri şu şekildedir;

([Pub]) halka açık

([Ext]) harici

([Prv]) özel

([Int]) dahili

Sarı renk; bir işlevin olduğunu gösterir.

Kırmızı renk;, durumun değiştirilebileceğini gösterir.

ERC1155 Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main> surya describe ERC1155Contract.sol
 +  ERC1155Contract (Context, AccessControlEnumerable, ERC1155Burnable, ERC1155Pausable)
    - [Pub] <Constructor> #
       - modifiers: ERC1155
    - [Pub] mint #
    - [Pub] mintBatch #
    - [Pub] pause #
    - [Pub] unpause #
    - [Pub] supportsInterface
    - [Int] _beforeTokenTransfer #
    - [Pub] setMaximumRoyaltyRate #
    - [Int] setRoyalty #
    - [Int] setRoyaltyBatch #
    - [Pub] getRoyalty
    - [Pub] getRoyaltyAddress
    - [Pub] getRoyaltyRate
```

FeeStorage Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Storage> surya describe FeeStorage.sol
 +  FeeStorageContract (AccessControl)
    - [Pub] <Constructor> #
    - [Pub] setFeeOverride #
       - modifiers: onlyWriter
    - [Pub] setFeeOverrideBatch #
       - modifiers: onlyWriter
    - [Pub] setWriterRole #
    - [Pub] setReaderRole #
    - [Pub] getContractAddress
    - [Pub] setFeeWalletAddress #
       - modifiers: onlyWriter
    - [Pub] setDefaultFeeRate #
       - modifiers: onlyWriter
    - [Pub] getFeeWalletAddress
       - modifiers: onlyReader
    - [Ext] getFee
       - modifiers: onlyReader
```

IERC1155 Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Interface> surya describe IERC1155.sol
 + [Int] IERC1155
    - [Ext] isApprovedForAll #
    - [Ext] balanceOf
    - [Ext] getRoyaltyAddress
    - [Ext] getRoyalty
    - [Ext] getRoyaltyRate
    - [Ext] safeTransferFrom #
```

IFeeStorage Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Interface> surya describe IFeeStorage.sol
 + [Int] IFeeStorage
    - [Ext] getFeeWalletAddress
    - [Ext] getFee
```

ISellStorage Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Interface> surya describe ISellStorage.sol
 + [Int] ISellStorage
    - [Ext] sellRegister #
    - [Ext] setSaleStatus #
    - [Ext] setAuctionBid #
    - [Ext] getIsDefinedSellId
    - [Ext] getSellItem
    - [Ext] getAuctionTopBid
    - [Ext] getAuctionTopBidderAddress
    - [Ext] getAuctionTopBidAndBidderAddress
    - [Ext] updateSaleQuantity #
    - [Ext] updateUnitPrice #
```

SellProxyContract Describe

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Proxy> surya describe SellProxyContract.sol
 +  SellProxyContract (Validator)
    - [Pub] <Constructor> #
    - [Pub] register #
       - modifiers: pauseControl
    - [Pub] bid ($)
       - modifiers: pauseControl
    - [Pub] closeAuction #
       - modifiers: pauseControl
    - [Pub] updateUnitPrice #
       - modifiers: pauseControl
    - [Pub] closeAuctionForSystem #
       - modifiers: pauseControl,onlyMinter
    - [Pub] purchase ($)
       - modifiers: pauseControl
    - [Int] calculateRoyaltyPrice
    - [Int] sendPrice #
    - [Int] withdraw #
    - [Pub] setSellStorageAddress #
       - modifiers: pauseControl,onlyMinter
    - [Pub] pauseContract #
       - modifiers: onlyMinter
    - [Pub] unPauseContract #
       - modifiers: onlyMinter
    - [Pub] setFeeStorageAddress #
       - modifiers: onlyMinter
    - [Pub] getBalance
       - modifiers: pauseControl
```

SellStorage Describe

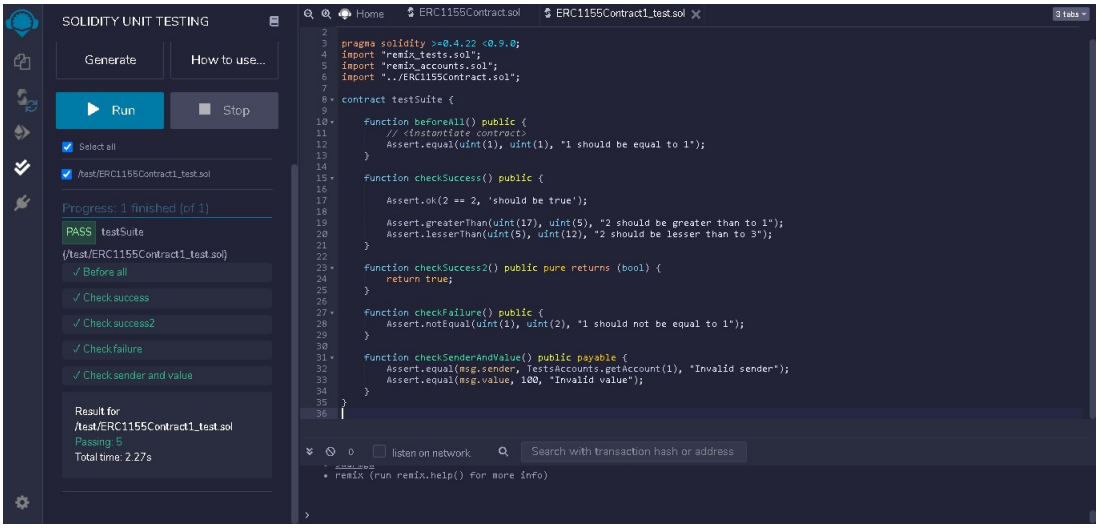
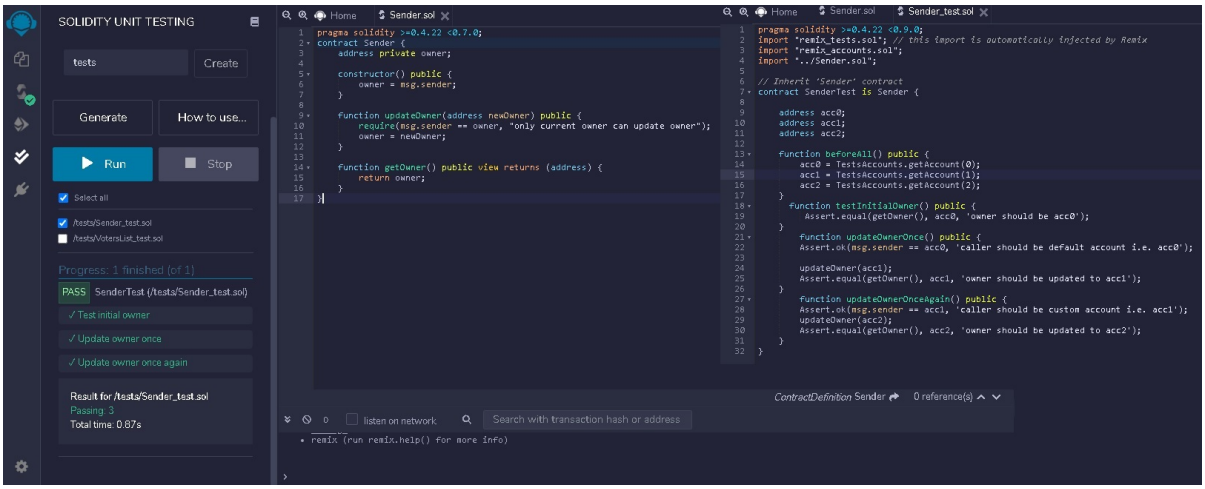
```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Storage> surya describe SellStorage.sol
 +  SellStorageContract (AccessControl)
    - [Pub] <Constructor> #
    - [Ext] sellRegister #
       - modifiers: onlyWriter
    - [Int] setSaleItem #
    - [Pub] setWriterRole #
    - [Pub] setReaderRole #
    - [Pub] getSellItem
       - modifiers: onlyReader
    - [Pub] getContractAddress
    - [Ext] getIsDefinedSellId
    - [Ext] updateUnitPrice #
       - modifiers: onlyWriter
    - [Ext] setSaleStatus #
       - modifiers: onlyWriter
    - [Ext] updateSaleQuantity #
       - modifiers: onlyWriter,onlyWriter
    - [Ext] setAuctionBid #
       - modifiers: onlyWriter
    - [Ext] getAuctionTopBid
       - modifiers: onlyReader
    - [Ext] getAuctionTopBidderAddress
       - modifiers: onlyReader
    - [Ext] getAuctionTopBidAndBidderAddress
       - modifiers: onlyReader
```

Validator

```
PS C:\Users\Bakor\Desktop\nft-marketplace-smart-contract-main\Validator> surya describe Validator.sol
 +  Validator
    - [Int] validateSell
    - [Int] validateBid
    - [Int] validateWithdraw
    - [Int] validateGetSellItem
```

6 Birim Test Örnek Kodlama

ERC1155Contract



Sender