

# ORIGINALART

## Contributors

Name	Organization
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Taxonomy Formula: tN{s,t}

## Token Specification Summary

### Token Classification

<b>Template Type:</b>	SingleToken	This token has no sub or child tokens.
<b>Token Type:</b>	NonFungible	This token is not interchangeable with other tokens of the same type as they have different values.
<b>Token Unit:</b>	Singleton	There is only one instance of this token and it cannot be subdivided.
<b>Value Type:</b>	Reference	This token is a receipt or title to a material item, property or right. The token represents a reference to the value, can be owned or used digitally via its token. Sometimes referred to as a digital twin.
<b>Representation Type:</b>	Common	This token is simply represented as a balance or quantity attributed to an owner address where all the balances are recorded on the same balance sheet, like a bank account. All instances can easily share common properties and locating them is simple.

*Draft*  
A singleton is a non-subdivisible whole token with a quantity of 1. Generally used to represent digital or physical items where there will be a single owner. A singleton implies non-subdivisible, so the decimal value for the base token should be 0 and a total Quantity be 1, both are established upon creation. This singleton is transferable

## Example

This token could be used to represent an original work of art like a painting.

## Analogies

Name	Description
Painting	A token representing ownership of an original, single piece of art like a painting.

## OriginalArt is:

- Singleton
- Non-Subdividable
- Transferable

### OriginalArt Details

#### Singleton

Type:	Base
Name:	Singleton
Id:	53101d87-3c93-4d8b-ab39-1e629406d062
Visual:	&tau<sub>N</sub><i>s</i>
Tooling:	tN{s}
Version:	1.0

## Definition

*A restriction on the token in that there can only be 1 whole token in the class and is not subdividable. This behavior is only available to non-fungible base types. By definition, a Singleton cannot be mintable.*

## Example

CryptoKitties, Art, Reserved Seat for an event.

## Analogies

Name	Description

<b>Property Title</b>	The physical property title, land for example, have the identical look and feel from the paper, colors and seal. The difference between them are the values like property address, plot numbers, etc. These values make the title unique. There are some properties on a class of titles that are the same, like the county or jurisdiction the property is in. For titles that have some shared values and unique values, it may make more sense to define them in the same class.
<b>Art</b>	The valuable painting or other unique piece of art may not share any property values with other paintings, unless the artist is extremely prolific in generating tens of thousands of pieces of art, it would make sense to define each piece of art as its own class. Meaning there would be only a single piece of art represented by the token class. If the art cannot be sub-divided, meaning there can be no fractional owners, this token class can be a singleton if the quantity in the class is set to 1. A singleton has only one instance in the class, essentially meaning the class is the instance, and not be sub-dividable and no new tokens can be minted in the class.

## Comments

Non-fungible tokens require additional thought about how these tokens may or may not be grouped together in the same class.

## Dependencies

Artifact Type	Symbol	Description
Base	t	Base Token Definition
Behavior	~d	non-subdividable

## Incompatible With

Artifact Type	Symbol	Id
Behavior	d	6e3501dc-5800-4c71-b59e-ad11418a998c
Behavior	m	f9224e90-3cab-45bf-b5dc-0175121e2ead

## Influenced By

Description	Symbol	Applies To

## Artifact Files

Content Type	File Name	File Content
Control	singleton.proto	
Uml	singleton.md	

## Code Map

Map Type	Name	Platform	Location

## Implementation Map

Map Type	Name	Platform	Location

## Resource Map

Map Type	Name	Location	Description

## Base Details

<b>Token Name:</b>	
<b>Token Type:</b>	NonFungible
<b>Representation Type:</b>	Common
<b>Value Type:</b>	Reference
<b>Token Unit:</b>	Singleton
<b>Symbol:</b>	
<b>Owner:</b>	
<b>Quantity:</b>	0
<b>Decimals:</b>	0

**Constructor Name:** Constructor

## Behaviors

### Singleton

Type:	Behavior
Name:	Singleton
Id:	c1189d7a-e142-4504-bf26-44c35b76c9d6
Visual:	<i>s</i>
Tooling:	s
Version:	1.0

## Definition

A restriction on the token in that there can only be 1 whole token in the class and is not subdividable. This behavior is only available to non-fungible base types. By definition, a Singleton cannot be mintable.

## Example

## Analogies

Name	Description
Analogy 1	singleton analogy 1 description

## Dependencies

Artifact Type	Symbol	Description
Base	tN	Singleton must be have a non-fungible base.
Behavior	~d	Singleton requires non-sub-dividable.

## Incompatible With

Artifact Type	Symbol	Id
Behavior	d	6e3501dc-5800-4c71-b59e-ad11418a998c
Behavior	m	f9224e90-3cab-45bf-b5dc-0175121e2ead

## Influenced By

Description	Symbol	Applies To
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## Artifact Files

Content Type	File Name	File Content
Control	singleton.proto	
Uml	singleton.md	

## Code Map

Map Type	Name	Platform	Location
SourceCode	Code 1	Daml	

## Implementation Map

Map Type	Name	Platform	Location
Implementation	Implementation 1	ChaincodeGo	

## Resource Map

Map Type	Name	Location	Description
Resource	Regulation Reference 1		

## Specification Behavior

### Singleton

Taxonomy Symbol: s

*A restriction on the token in that there can only be 1 whole token in the class and is not subdividable. This behavior is only available to non-fungible base types. By definition, a Singleton cannot be mintable.*

Example

Analogies

Name	Description
Analogy 1	singleton analogy 1 description

Is External: True

Constructor:

Singleton responds to these Invocations

Properties

#### Non-Subdividable

Type:	Behavior
Name:	Non-Subdividable
Id:	d5807a8e-879b-4885-95fa-f09ba2a22172
Visual:	<i>~d</i>
Tooling:	~d
Version:	1.0

## Definition

*An ability or restriction on the token where it cannot be subdivided from a single whole token into fractions. Sets the base token Decimals property to 0 which will make the token non-sub-dividable and a whole token is the smallest ownable unit of the token.*

## Example

Non-subdivisible is common for items where subdivision does not make sense, like a property title, inventory item or invoice.

## Analogy

Name	Description
<b>Non-Fractional</b>	It is not possible to own a fraction of this token.
<b>Barrel of Oil</b>	Barrels of Oil don't make sense to subdivide.

## Dependencies

Artifact Type	Symbol	Description

## Incompatible With

Artifact Type	Symbol	Id
<b>Behavior</b>	d	6e3501dc-5800-4c71-b59e-ad11418a998c

## Influenced By

Description	Symbol	Applies To

## Artifact Files

Content	File Name	File Content
Type		
<b>Control</b>	non-subdivisible.proto	

## Code Map

Map Type	Name	Platform	Location
SourceCode	Code 1	Daml	

## Implementation Map

Map Type	Name	Platform	Location
Implementation	Implementation 1	ChaincodeGo	

## Resource Map

Map Type	Name	Location	Description
Resource	Regulation Reference 1		

## Specification Behavior

### Non-Subdivisible

Taxonomy Symbol: ~d

*An ability or restriction on the token where it cannot be subdivided from a single whole token into fractions. Sets the base token Decimals property to 0 which will make the token non-sub-dividable and a whole token is the smallest ownable unit of the token.*

## Example

Non-subdividable is common for items where subdivision does not make sense, like a property title, inventory item or invoice.

## Analogy

Name	Description
Non-Fractional	It is not possible to own a fraction of this token.
Barrel of Oil	Barrels of Oil don't make sense to subdivide.

Is External: True

Constructor:

## Non-Subdividable responds to these Invocations

### Properties

*Name: Decimals*

Value Description: Set to Zero, not allowing any subdivision, usually this is applied to the base token.

Template Value: 0

### Invocations

*GetDecimals*

Id: 2ca7fbb2-ce98-4dda-a6ae-e4ac2527bb33

Description: Should return 0

### Request

Control Message: GetDecimalsRequest

Description:

### Parameters

Name	Value

### Response

Control Message: GetDecimalsResponse

Description: Return 0

## Parameters

Name	Value
Decimals	0

## *GetDecimals*

Id: 2ca7fbb2-ce98-4dda-a6ae-e4ac2527bb33

Description: Should return 0

## **Request**

Control Message: GetDecimalsRequest

Description:

## Parameters

Name	Value
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## **Response**

Control Message: GetDecimalsResponse

Description: Return 0

## Parameters

Name	Value
Decimals	0

## Properties

### Transferable

Type:	Behavior
Name:	Transferable
Id:	af119e58-6d84-4ca6-9656-75e8d312f038
Visual:	<i>t</i>
Tooling:	t

**Version:** 1.0

## Definition

*Every token instance has an owner. The Transferable behavior provides the owner the ability to transfer the ownership to another party or account. This behavior is often inferred by other behaviors that might exist like Redeem, Sell, etc. This behavior is Delegable. If the token definition is Delegable, TransferFrom will be available.*

## Example

### Analogies

Name	Description
Analogy 1	transferable analogy 1 description

### Dependencies

Artifact Type	Symbol	Description
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### Incompatible With

Artifact Type	Symbol	Id
Behavior	~t	a4fa4ca8-6af8-452b-91f5-7103b6fee5e5

### Influenced By

Description	Symbol	Applies To
If the token is Delegable, TransferFrom should be enabled.	g	[ ]
If Compliance is present, a CheckTransferAllowed request has to be made and verified before a Transfer request or a TransferFrom request.	c	[ ]
If issuable is present, an AcceptTokenRequest from the token issuer, in response to a RequestTokens, has to be made and verified before a Transfer	i	[ ]

request.

## Artifact Files

Content Type	File Name	File Content
Control	transferable.proto	
Uml	transferable.md	

## Code Map

Map Type	Name	Platform	Location
SourceCode	Code 1	Daml	

## Implementation Map

Map Type	Name	Platform	Location
Implementation	Implementation 1	ChaincodeGo	

## Resource Map

Map Type	Name	Location	Description
Resource	Regulation Reference 1		

## Specification Behavior

### Transferable

Taxonomy Symbol: t

*Every token instance has an owner. The Transferable behavior provides the owner the ability to transfer the ownership to another party or account. This*

*behavior is often inferred by other behaviors that might exist like Redeem, Sell, etc. This behavior is Delegable. If the token definition is Delegable, TransferFrom will be available.*

## Example

### Analogies

Name	Description
Analogy 1	transferable analogy 1 description

Is External:	True
Constructor:	

### Transferable responds to these Invocations

#### *Transfer*

Id: 5d4b8f10-7857-4a2f-9b8c-d61e367a6bcc

Description: >A transfer request will invoke a transfer from the owner of the token to the party or account provided in the To field of the request. For fungible or subdividable non-fungible tokens, this request may also include value in the Amount field of the request to transfer more than one token of the class in a single request.

#### **Request Message:**

TransferRequest

Description: The request

#### Request Parameters

Name	Value
To	AccountId to transfer ownership to.
Quantity	Number of tokens to transfer.

#### **Response Message**

TransferResponse

Description: The response

#### Response Parameters

Name	Value
Confirmation	A confirmation receipt or error may be returned to the owner based on the outcome of the transfer request.

### *TransferFrom*

Id: 516b4e2f-4a14-4c4f-a6f2-1419d4af35c6

Description: >A transfer request will invoke a transfer from the owner of the token to the party or account provided in the To field of the request. For fungible or subdividable non-fungible tokens, this request may also include value in the Amount field of the request to transfer more than one token of the class in a single request.

#### **Request Message:**

TransferFromRequest

Description: The request

#### Request Parameters

Name	Value
From	AccountId to transfer ownership from.
To	AccountId to transfer ownership to.
Quantity	Number of tokens to transfer.

### **Response Message**

TransferFromResponse

Description: The response

#### Response Parameters

Name	Value
Confirmation	A confirmation receipt or error may be returned to the owner based on the outcome of the transfer from request.

## Properties

