



GRC20 and Coins

Token Standards in the Gno Ecosystem

How native coins and tokens differs

How to implement tokens and their use cases

Coins

Managed by the `banker` module, separate from GnoVM,

- ✓ **Native type**
- ✓ Efficient gas use -- Lightweight
- ✓ Used for staking, fees

- ✗ **No custom logic**
- ✗ Limited dApp usage

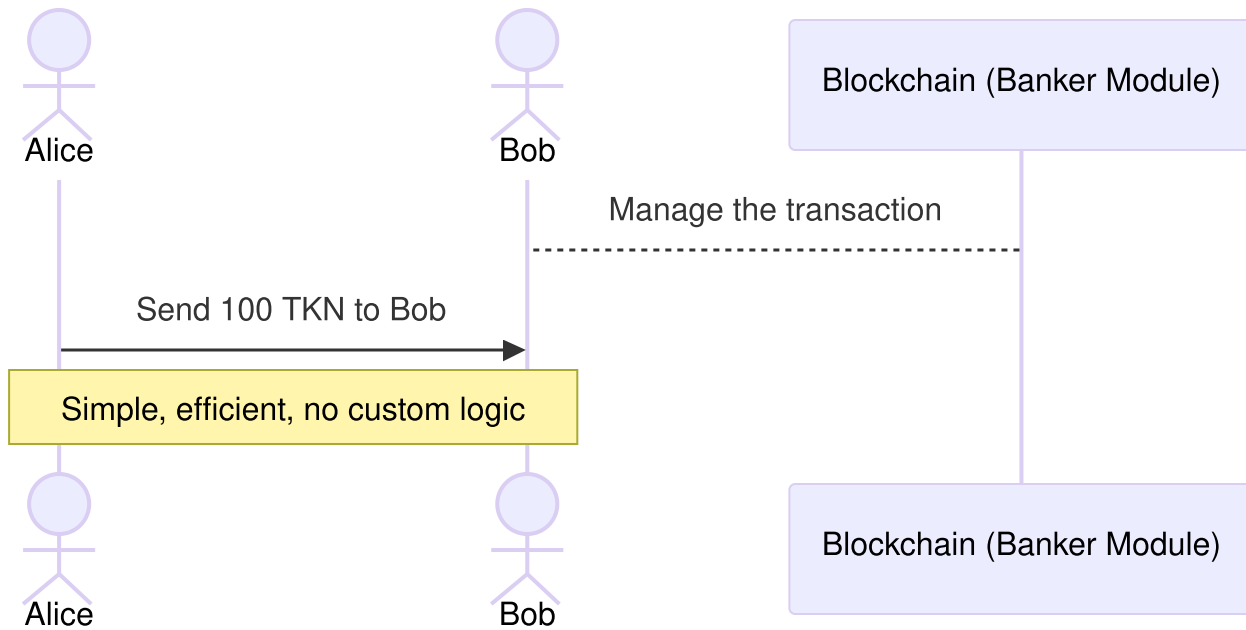
 [Read the Coin and Bankers Docs](#)



A Coin is a Gno type made of a denomination and an amount.

```
// Defines a basic Coin with a denomination and amount
type Coin struct {
    Denom  string `json:"denom"` // e.g., "GNOT"
    Amount int64  `json:"amount"` // e.g., 1000
}
```



```
banker.SendCoins(from, to, coins)
banker.IssueCoin(addr, denom, amount)
banker.RemoveCoin(addr, denom, amount)
coins := banker.GetCoins(addr)
```





GRC20 Tokens

ERC20-style Smart Contracts

-  **Fungible**, programmable token standard
-  Stored and executed in **Gno realm**



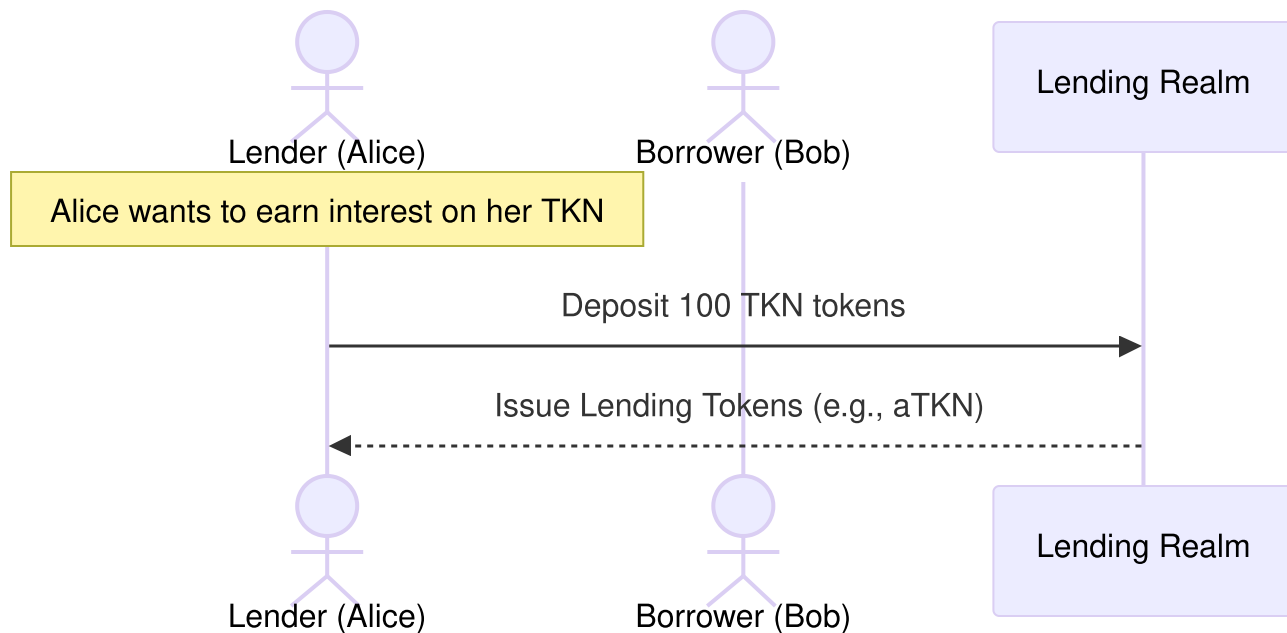
GRC20 = Gno's version of ERC20/CW20



Fully programmable logic on-chain

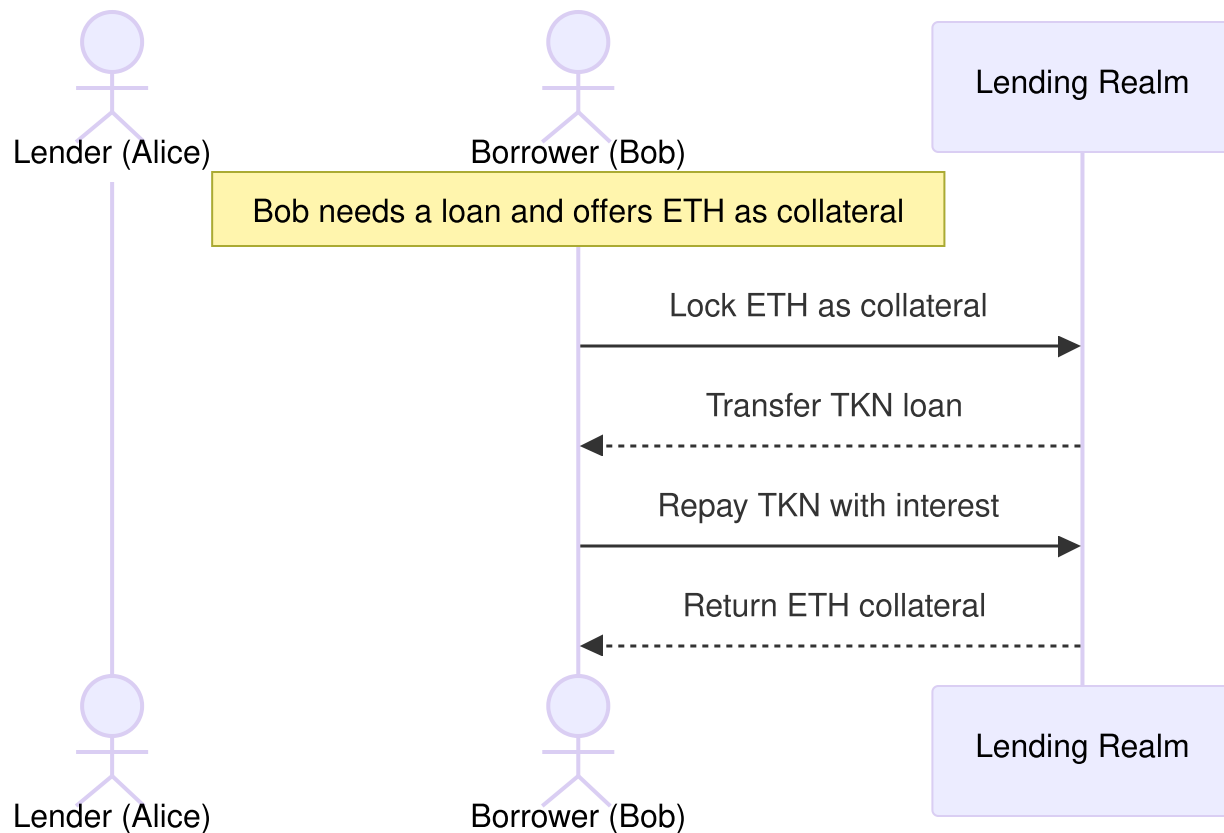


GRC20 Tokens



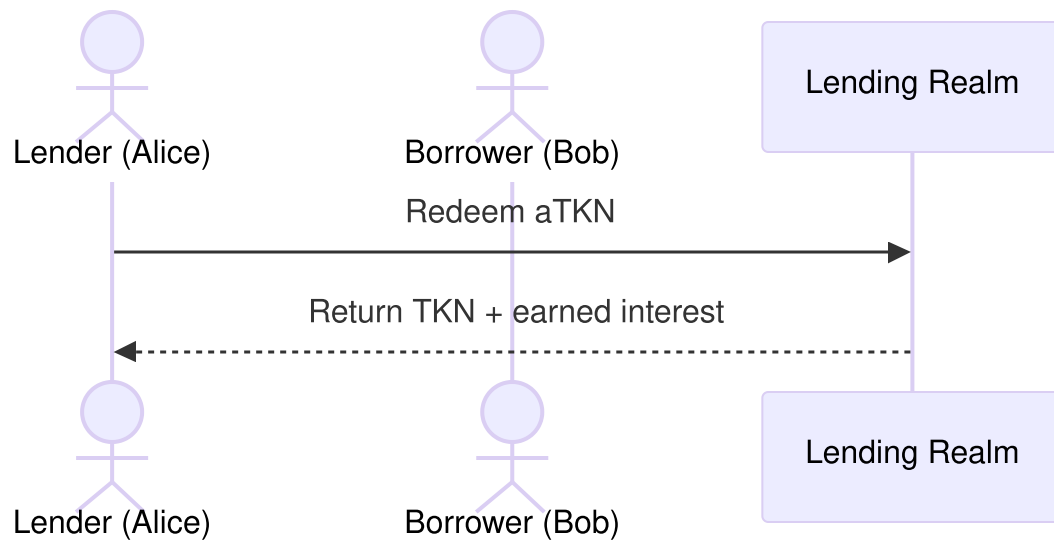


GRC20 Tokens





GRC20 Tokens








Why use GRC20 ?

Use Case 1: Token Gating

Token Gating

Use GRC20 tokens to:



-  Unlock gated content
-  Access private organizations
-  Control premium event access

```
if (!hasGRC20(user)) {  
  return "Access Denied"  
}
```

Use Case 2: **Vaults**



Vaults: Passive Income



- Deposit GRC20 → Get yield-bearing shares
-  Earn interest as the vault grows
-  Withdraw anytime with rewards

```
vault.deposit(user, GRC20.amount)  
shares = calculateShares(user)
```

Use Case 3: Wrapping Coins



Wrapping Native Coins

-  Works in DeFi (Decentralized Finance)
-  Composable – Connects to other apps













Enables:

- Liquidity pools
- Lending protocols
- Cross-chain assets



Comparison Table

Feature	 Coins (Banker)	 GRC20 Token
Native to chain		
Composable in dApps		
Custom Logic		
Governance Control	Centralized	Decentralized
Efficiency		 Slight overhead

Coins vs Grc20



Let's build our own GRC20

Let's fill our functions !

```
func init() {}

// Informations
func TotalSupply() uint64 {}
func BalanceOf(owner std.Address) uint64 {}

// Create / Delete
func Mint(to std.Address, amount uint64) {}
func Burn(from std.Address, amount uint64) {}

// Send
func Transfer(to std.Address, amount uint64) {}

// Send from another address
func Allowance(owner, spender std.Address) uint64 {}
func Approve(spender std.Address, amount uint64) {}
func TransferFrom(from, to std.Address, amount uint64) {}
```

Sources

- [!\[\]\(467d80e979964f7f8c752fb22248b5b7_img.jpg\) gno.land](#)
- [foo20](#)
- [bar20](#)

 Fully on-chain Gno smart contracts

Read the [Coin](#) and [Bankers Docs](#)