

Building Decentralized Forums

Complete gno.land Boards Tutorial

Create Reddit-like communities on-chain Manage content with crypto payments

What is gno.land Boards?

Decentralized Bulletin Board SystemLike Reddit/Forum but:

- On blockchain
- & Crypto-native
- Fully programmable

Core Features:

- Create topic boards
- **Solution** Post threads & replies
- Tip with \$GNOT
- Community moderation



Why blockchain forums?

- Censorship-resistant
- User-owned content
- Monetization built-in
- Transparent moderation

***** How It Works

Technical Foundation

- 🐉 Built on Gno blockchain
- Smart contracts (realms)
- Managed with gnokey CLI

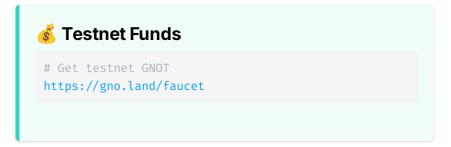
Key Components:

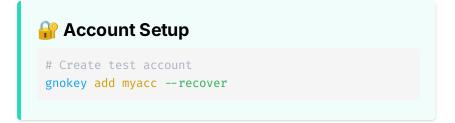
- 1. boards.gno Core contract
- 2. boards_test.gno Tests
- 3. Banker module Handle payments

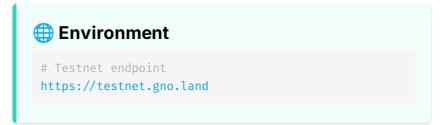
```
// Sample contract structure
package boards
type Board struct {
    Name
              string
   Moderators []Address
type Thread struct {
           int
    TD
   Title string
    Content string
   Author Address
   Tips int // in uGNOT
```

Setup Requirements

```
X Tools
 # Install gnokey
 git clone https://github.com/gnolang/gno
 make install
```







Board Management

Create Board

```
gnokey maketx call \
  --pkgpath "gno.land/r/demo/boards" \
  --func "CreateBoard" \
  --args "CryptoNews" \
  -- gas-fee 1gnot
```

Add Moderator

```
gnokey maketx call \
  --func "AddModerator" \
  --args "CryptoNews" "g1xyz..."
```



Properties of the original of the contraction of the original orig



💡 Board names are case-sensitive



Create Thread

Reply with Tip

```
gnokey maketx call \
  --func "CreateReply" \
  --args "CryptoNews" "1" "Great analysis!" \
  --send "500gnot"
```

✓ 1 GNOT fee prevents spam Tips go directly to author

X Content Management

Edit Thread

```
gnokey maketx call \
  --func "EditThread" \
  --args "CryptoNews" "1" \
        "Updated Market Analysis" \
        "Revised data..."
```

Delete Reply

```
gnokey maketx call \
  --func "DeleteReply" \
  --args "CryptoNews" "1" "3"
```

Only original authors can edit Moderators can delete any content

Querying Data

List Boards

```
gnokey query "vm/qeval" \
  --data "gno.land/r/demo/boards"
```

User Activity

```
gnokey query "vm/qeval" \
  --data 'GetUserPosts("g1myaddress...")'
```

View Thread

```
gnokey query "vm/qrender" \
  --data "gno.land/r/demo/boards/CryptoNews/1"
```

Transaction History

```
gnokey query txs --tags boards
```



* Advanced Customization

Change Board Policy

```
gnokey maketx call \
  --func "SetBoardPolicy" \
  --args "CryptoNews" \
  '{"MinThreadFee":"2gnot"}'
```

Karma System

```
// In boards.gno
func CreateReply( ... , reward int) {
  userKarma[author] += reward
```

Implement custom logic in realm Modify contract for unique features



Troubleshooting Guide

```
X "insufficient fee"
# Solution:
 --gas-fee 5gnot --gas-wanted 2000000
```

```
X "invalid board"
 # Solution:
gnokey query boards
 # Verify exact name
```

X "permission denied"

Solution:

- 1. Check moderator status
- 2. Verify post ownership

X "render failed"

```
# Solution:
Verify thread exists:
gno.land/r/demo/boards/BoardName/ID
```



Next Level Enhancements



NFT Avatars User profile pictures



Voting Upvote/downvote system



Staking Premium board access



Web UI React frontend



Bots Automated moderation



Notifications Activity alerts

Verification Checklist

- 1. □Board created and visible
- 2. Thread posted with fee deduction
- 3. □Reply with successful tip transfer
- 4. DEdit/delete operations working
- 5. □Custom policies applied
- 6. □All queries returning valid data

Live Demo: gno.land/r/demo/boards

Source Code: github.com/gnolang/gno/tree/master/examples/gno.land/r/demo/boards

Resources & Next Steps

Essential Links - [Soards Contract]

Continue Learning 1. Add user profiles 2.

(https://github.com/gnolang/gno/blob/master/example by the charm for the com/gnolang/gno/blob/master/example by the charm for the charm for

- [gno.land API]

4. Build notification system

(https://github.com/gnolang/gno/tree/master/cmd/gnoland/docs/api)

- [Discord Community]

(https://discord.gg/gnoland)

