

Engrave Protocol API (1.0.0)

URL: <https://github.com/david-dacruz/engrave-protocol> | License: MIT

MCP Server bridging AI Agents on Solana with Bitcoin's settlement layer through x402 payment endpoints.

Features

- Mempool.space Bridge for Bitcoin data queries
- Bitcoin address analytics and transaction verification
- Fee estimation and mempool statistics
- Solana USDC payments via x402 protocol
- AI agent discovery via .well-known/x402.json

x402 Payment Protocol

All paid endpoints require x402 payment headers for access.

Payment Tiers

- **Standard** (\$0.05-\$0.25 USDC) - Address analytics, transactions, blocks
- **Micropayments** (\$0.01 USDC) - Fee estimates, mempool stats
- **Free** - Block height endpoint

Payment Headers

- Endpoints marked with lock icon (🔒) require x402 payment
- Free endpoints are available without payment
- All payments settled on Solana Devnet

Mempool

Get Bitcoin address information

🔒 Retrieve detailed information about a Bitcoin address including balance and transaction history.

Cost: \$0.10 USDC

AUTHORIZATIONS: > [x402](#)

PATH PARAMETERS

— address **required** string
Example: `tb1qw508d6qejxtdg4y5r3zarvary0c5xw7kv8f3t4`
Bitcoin address to query

Responses

✓ **200** Address information retrieved successfully

RESPONSE SCHEMA: application/json

— address string
Bitcoin address

— data > object
Address information from Mempool.io

— network string

— success boolean

> **402** Payment required

✓ **500** Server error

RESPONSE SCHEMA: application/json

— error **required** string
Error type

 message
required

string
Error message

GET /api/mempool/address/{address} 

Response samples

200

402

500

Content type

application/json

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```
{  
    "success": true,  
    "address": "string",  
    - "data": {  
        "address": "string",  
        + "chain_stats": { ... },  
        + "mempool_stats": { ... }  
    },  
    "network": "testnet"  
}
```

Get address transactions

 Retrieve all transactions for a Bitcoin address. **Cost: \$0.25 USDC**

AUTHORIZATIONS: > 

PATH PARAMETERS

- address
required

string
Bitcoin address to query

Responses

✓ 200 Transactions retrieved successfully

RESPONSE SCHEMA: application/json

```
address      string  
count        integer  
network      string  
success      boolean  
transactions Array of objects
```

> 402 Payment required

✗ 500 Server error

RESPONSE SCHEMA: application/json

```
error        string  
required     Error type  
  
message      string  
required     Error message
```

GET /api/mempool/address/{address}/txs



Response samples

200

402

500

Content type

application/json

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```
{  
  "success": true,  
  "address": "string",
```

```
- "transactions": [
    {
    ],
    "count": 0,
    "network": "string"
}
```

Get transaction details

🔒 Retrieve detailed information about a specific Bitcoin transaction. **Cost: \$0.10 USDC**

AUTHORIZATIONS: > [x402](#)

PATH PARAMETERS

txid **required** string
Example:
`a1b2c3d4e5f6a7b8c9d0e1f2a3b4c5d6e7f8a9b0c1d2e3f4a5b6c7d8e9f0`
`a1`
Bitcoin transaction ID (64-character hex string)

Responses

✓ **200** Transaction details retrieved successfully

RESPONSE SCHEMA: application/json

data > object
Transaction details from Mempool.io

network string

success boolean

txid string
Transaction ID

> **402** Payment required

✗ **500** Server error

RESPONSE SCHEMA: application/json

error	string
required	Error type
message	string
required	Error message

GET /api/mempool/tx/{txid} ▾

Response samples

200

402

500

Content type

application/json

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```
{  
  "success": true,  
  "txid": "string",  
  - "data": {  
      "txid": "string",  
      "version": 0,  
      "locktime": 0,  
      "vin": [ ],  
      "vout": [ ],  
      "size": 0,  
      "weight": 0,  
      "fee": 0,  
      "status": { }  
    },  
  "network": "string"  
}
```

Get transaction confirmation status

 Check the confirmation status of a Bitcoin transaction. **Cost: \$0.05 USDC**

AUTHORIZATIONS: > **x402**

PATH PARAMETERS

txid **required** string
Bitcoin transaction ID

Responses

✓ **200** Transaction status retrieved successfully

RESPONSE SCHEMA: application/json

network string
status object
success boolean
txid string

> **402** Payment required

✗ **500** Server error

RESPONSE SCHEMA: application/json

error string
required Error type
message string
required Error message

GET /api/mempool/tx/{txid}/status



Response samples

200

402

500

Content type

application/json

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```
{  
    "success": true,  
    "txid": "string",  
    - "status": {  
        "confirmed": true,  
        "block_height": 0,  
        "block_hash": "string",  
        "block_time": 0  
    },  
    "network": "string"  
}
```

Get block information

🔒 Retrieve detailed information about a Bitcoin block. **Cost: \$0.10 USDC**

AUTHORIZATIONS: > [x402](#)

PATH PARAMETERS

- hash [required](#) string
Bitcoin block hash

Responses

✓ **200** Block information retrieved successfully

RESPONSE SCHEMA: application/json

blockHash string
data object

network	string
success	boolean

› 402 Payment required

▼ 500 Server error

RESPONSE SCHEMA: application/json

error required	string Error type
message required	string Error message

GET /api/mempool/block/{hash} ▾

Response samples

200

402

500

Content type

application/json

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```
{  
  "success": true,  
  "blockHash": "string",  
  "data": { },  
  "network": "string"  
}
```

Get recommended Bitcoin fee rates

🔒 Get current Bitcoin network fee recommendations for different confirmation speeds. **Cost: \$0.01 USDC (micropayment)**

Responses

✓ **200** Fee rates retrieved successfully

RESPONSE SCHEMA: application/json

fees >	object
network	string
success	boolean
unit	string

> **402** Payment required

✗ **500** Server error

RESPONSE SCHEMA: application/json

error required	string Error type
message required	string Error message

GET /api/mempool/fees



Response samples

200

402

500

Content type

application/json

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```
{  
    "success": true,  
    - "fees": {  
        "fastestFee": 0,  
        "halfHourFee": 0,  
        "hourFee": 0,  
        "economyFee": 0,  
        "minimumFee": 0  
    },  
    "network": "string",  
    "unit": "sat/vB"  
}
```

Get mempool statistics

🔒 Get current Bitcoin mempool statistics including size, fees, and transaction counts. **Cost: \$0.01 USDC (micropayment)**

AUTHORIZATIONS: > [x402](#)

Responses

✓ **200** Mempool statistics retrieved successfully

RESPONSE SCHEMA: application/json

network	string
stats	object
	Mempool statistics from Mempool.io
success	boolean

> **402** Payment required

✓ **500** Server error

RESPONSE SCHEMA: application/json

error required	string Error type
message required	string Error message

GET /api/mempool/stats ▾

Response samples

200 402 500

Content type
application/json

Copy Expand all Collapse all

```
{  
  "success": true,  
  "stats": {},  
  "network": "string"  
}
```

Get current Bitcoin block height

Get the current Bitcoin block height. **FREE - No payment required**

Responses

▼ 200 Block height retrieved successfully

RESPONSE SCHEMA: application/json

height	integer Current block height
--------	---------------------------------

network	string
success	boolean

✗ 500 Server error

RESPONSE SCHEMA: application/json

error required	string Error type
message required	string Error message

GET /api/mempool/height



Response samples

200

500

Content type

application/json

Copy

```
{  
  "success": true,  
  "height": 0,  
  "network": "string"  
}
```