

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: <code>tb1qw508d6qejxtdg4y5r3zarvary0c5xw7kv8f3t4</code> Bitcoin address to query
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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: > x402

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 required	string Error type
message required	string 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 string
required
Example:
`a1b2c3d4e5f6a7b8c9d0e1f2a3b4c5d6e7f8a9b0c1d2e3f4a5b6c7d8e9f0a1`
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

<div><div></div><div>error</div><div>required</div></div>	string Error type
<div><div></div><div>message</div><div>required</div></div>	string 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	string
required	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	string
required	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

<div><div>error</div><div>required</div></div>	string Error type
<div><div>message</div><div>required</div></div>	string Error message

GET

/api/mempool/stats

▼

Response samples

200

402

500

Content type

application/json

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```
{
  "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	
<div><div>height</div></div>	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"
}
```