Rice Stock Data MCP Server

Setup Guide for Claude Desktop Integration

Rice Business

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1 Overview

A Model Context Protocol (MCP) server for accessing Rice Business Stock Market Data Portal through Claude Desktop.

1.1 Features

- Natural language queries for stock market data
- Access to comprehensive financial metrics and indicators
- Rice University email verification for access control
- Seamless integration with Claude Desktop

2 Prerequisites

You must have Node.js installed on your computer to use this MCP server.

- **Download Node.js**: Visit nodejs.org and install the LTS version

- **Verify installation**: Open terminal/command prompt and run:

```
node --version
npm --version
```

Both commands should return version numbers.

3 Claude Desktop Configuration

3.1 Step 1: Get Your Access Token

1. Visit the Rice Business Stock Market Data Portal
2. Verify your Rice University email address
3. Copy your personal access token

3.2 Step 2: Configure Claude Desktop

1. Open Claude Desktop
2. Go to **Settings → Developer → Edit Config**
3. Add the following configuration to your `claude_desktop_config.json`:

```json
{
  "mcpServers": {
    "rice-stock-data": {
      "command": "npx",
      "args": ["@kerryback/rice-stock-data"],
      "env": {
        "USER_ACCESS_TOKEN": "your_actual_access_token_here",
        "APP_URL": "https://your-actual-data-portal.rice-business.org"
      }
    }
  }
}
```

4. Replace `"your_actual_access_token_here"` with your actual access token from Step 1 (keep the quotation marks)
5. Save the configuration file
6. **Restart Claude Desktop completely** (right-click system tray icon → Quit)

3.3 Step 3: Using the MCP Server

Once configured, you can ask Claude questions about stock market data:

- "Show me tech stocks with PE under 20"
- "What are Apple's financial ratios?"
- "List healthcare companies by market cap"
- "Get the latest earnings data for Microsoft"
- "Compare revenue growth across FAANG stocks"

4 Local Development

4.1 Installation

```
npm install
npm run build
```

4.2 Running the MCP Server Locally

```
npm run start:mcp
```

4.3 Running the Web Server (for deployment)

```
npm start
```

5 Environment Variables

- `USER_ACCESS_TOKEN` - Your personal Rice Data Portal access token (required)
- `APP_URL` - Data portal base URL (default: https://your-actual-data-portal.rice-business.org)
- `PORT` - Web server port (default: 8000, used for deployment only)

6 API Endpoints

The web server provides these endpoints (for deployment):

- `GET /` - Server information
- `GET /health` - Health check endpoint
- `POST /chat` - Query endpoint (requires token in request body)

7 Troubleshooting

7.1 "Authentication failed" error

- Verify your access token is correct and hasn't expired
- Ensure you've verified your Rice University email

7.2 "Rate limit exceeded" error

- Wait a moment before making additional queries
- The API has rate limiting to ensure fair usage

7.3 Claude Desktop doesn't show the MCP server

- Make sure you've **completely restarted** Claude Desktop after configuration
- On Windows: Right-click the system tray icon and select "Quit"
- Check that the configuration JSON is valid (no syntax errors)
- Verify the package name is correct: `@kerryback/rice-stock-data`

7.4 Node.js/npm not found errors

- Ensure Node.js is installed from nodejs.org
- Restart your terminal/command prompt after installation
- Verify `npx --version` works in terminal

8 Support

For issues or questions about:

- **MCP Server**: Open an issue in this repository
- **Data Portal Access**: Contact Rice Business IT support
- **Stock Data**: Refer to the Rice Business Stock Market Data Portal documentation

9 License

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