

Go Lang developer test

DESCRIPTION:

Create a service that collect data from [cryptocompare.com](https://min-api.cryptocompare.com) using its API and stores it in a database (MySQL or PostgreSQL)

Example API request: GET

<https://min-api.cryptocompare.com/data/pricemultifull?fsyms=BTC&tsyms=USD,EUR>

RESPONSE STRUCTS:

Your service should serve data as described by these structs:

...

```
type raw struct {  
    CHANGE24HOUR      float64 `json:"CHANGE24HOUR"`  
    CHANGE24HOUR      float64 `json:"CHANGE24HOUR"`  
    CHANGE24HOUR      float64 `json:"CHANGE24HOUR"`  
    VOLUME24HOUR      float64 `json:"VOLUME24HOUR"`  
    VOLUME24HOUR      float64 `json:"VOLUME24HOUR"`  
    LOW24HOUR         float64 `json:"LOW24HOUR"`  
    HIGH24HOUR        float64 `json:"HIGH24HOUR"`  
    PRICE             float64 `json:"PRICE"`  
    LASTUPDATE        int64   `json:"LASTUPDATE"`  
    SUPPLY            int64   `json:"SUPPLY"`  
    MKTCAP            float64 `json:"MKTCAP"`  
}
```

```
type display struct {  
    CHANGE24HOUR      string `json:"CHANGE24HOUR"`  
    CHANGE24HOUR      string `json:"CHANGE24HOUR"`  
    OPEN24HOUR        string `json:"OPEN24HOUR"`  
    VOLUME24HOUR      string `json:"VOLUME24HOUR"`  
    VOLUME24HOUR      string `json:"VOLUME24HOUR"`  
    LOW24HOUR         string `json:"LOW24HOUR"`  
    HIGH24HOUR        string `json:"HIGH24HOUR"`  
    PRICE             string `json:"PRICE"`  
}
```

```

        LASTUPDATE      string `json:"LASTUPDATE"`
        SUPPLY           string `json:"SUPPLY"`
        MKTCAP           string `json:"MKTCAP"`
    }
    ...

```

REQUIREMENTS:

1. Currency pairs must be configurable.
2. Database parameters must be configurable.
3. Service must store data in database by a scheduler.
4. If cryptocompare's api is not accessible service must serve data from its database.
5. API should accept as many fsyms/tsyms in one request as possible (ex.: GET service/price?fsyms=BTC,LINK,MKR&tsyms=USD,EUR,ETH,LTC should return all pair prices)
6. Data in response must be fresh (realtime). 2-3 minutes discrepancy is ok.

ADDITIONAL POINTS:

1. Service scalability is a plus.
2. Following standard go project layout is a plus.
3. Websocket API for the service is a plus.
4. Using docker to build and run the service is a plus.
5. Nicely written README with clear instructions is a plus.

APPENDIX:

Example of HTTP request:

```
GET service/price?fsyms=BTC&tsyms=USD
```

Example of response:

```

{
  "RAW": {
    "BTC": {
      "USD": {
        "CHANGE24HOUR": -13.25,
        "CHANGE24HOURPCT": -0.18152873223073468,
        "OPEN24HOUR": 7299.12,
        "VOLUME24HOUR": 47600.120073200706,
        "VOLUME24HOURTO": 348033250.4911315,
        "LOW24HOUR": 7197.22,

```

```

        "HIGH24HOUR": 7426.64,
        "PRICE": 7285.87,
        "LASTUPDATE": 1586433196,
        "SUPPLY": 18313937,
        "MKTCAP": 133432964170.19
    }
}
},
"DISPLAY": {
    "BTC": {
        "USD": {
            "CHANGE24HOUR": "$ -13.25",
            "CHANGEPCT24HOUR": "-0.18",
            "OPEN24HOUR": "$ 7,299.12",
            "VOLUME24HOUR": "B 47,600.1",
            "VOLUME24HOURTO": "$ 348,033,250.5",
            "HIGH24HOUR": "$ 7,426.64",
            "PRICE": "$ 7,285.87",
            "FROMSYMBOL": "B",
            "TOSYMBOL": "$",
            "LASTUPDATE": "Just now",
            "SUPPLY": "B 18,313,937.0",
            "MKTCAP": "$ 133.43 B"
        }
    }
}
}
}

```

Example of WS request:

WS service/price

```
{ "fsyms": "DASH", "tsyms": "RUR" }
```