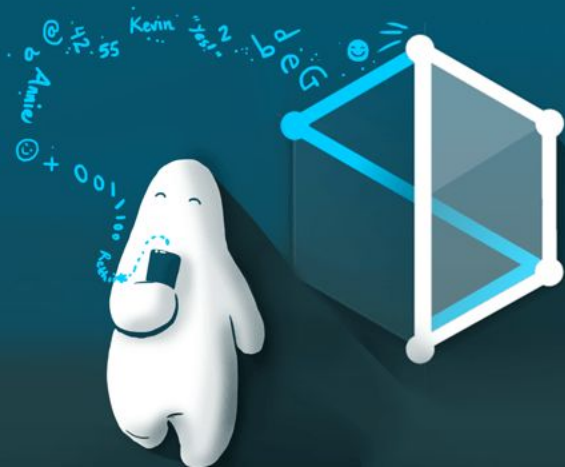
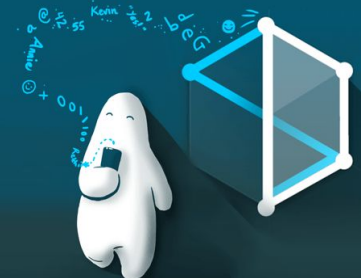


realtime stock prices with
RethinkDB
and
deepstream.io

PS: wifi password is XXXXXXXXXXXXXXXXX







deepstream.io

RethinkDB



```
r  
  .table('visitors')  
  .filter(r.row('referrer').eq('twitter'))  
  .sum()  
  .run(conn )  
  .then(function( sum ){  
    rec.set( 'twitter', sum );  
  });
```

RethinkDB



```
r
  .table('visitors')
  .filter(r.row('referrer').eq('twitter'))
  .sum()
  .changes()
  .run(conn )
  .then(function( sum ){
    rec.set( 'twitter', sum );
  });
```

RethinkDB



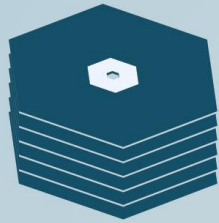


deepstream.io

RethinkDB



Records



Permissions



WebRTC



RPCs



Events



deepstream.io

```
rec = ds.record.getRecord( 'traffic-sources' );  
  
rec.subscribe( 'twitter', function( visitors ){  
    $( '.twitter' ).text( visitors );  
});
```

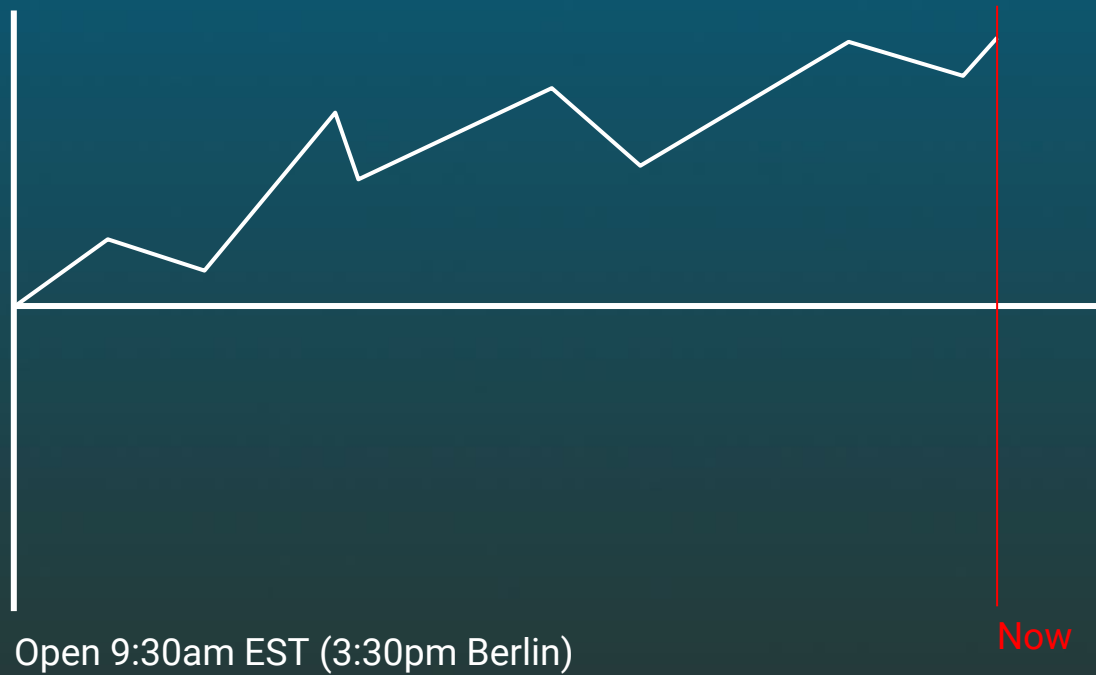


```
rec = ds.record.getRecord( 'traffic-sources' );  
  
r  
  .table('visitors')  
  .filter(r.row('referrer').eq('twitter'))  
  .sum()  
  .changes()  
  .run(conn )  
  .then(function( sum ){  
    rec.set( 'twitter', sum );  
  });
```

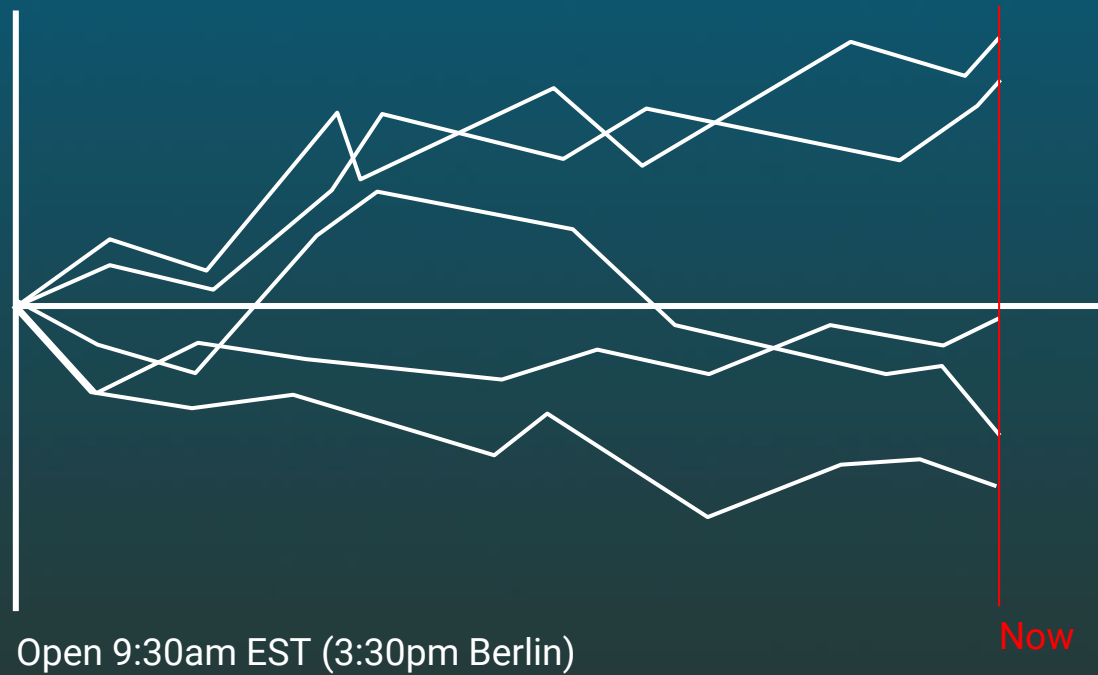
RethinkDB



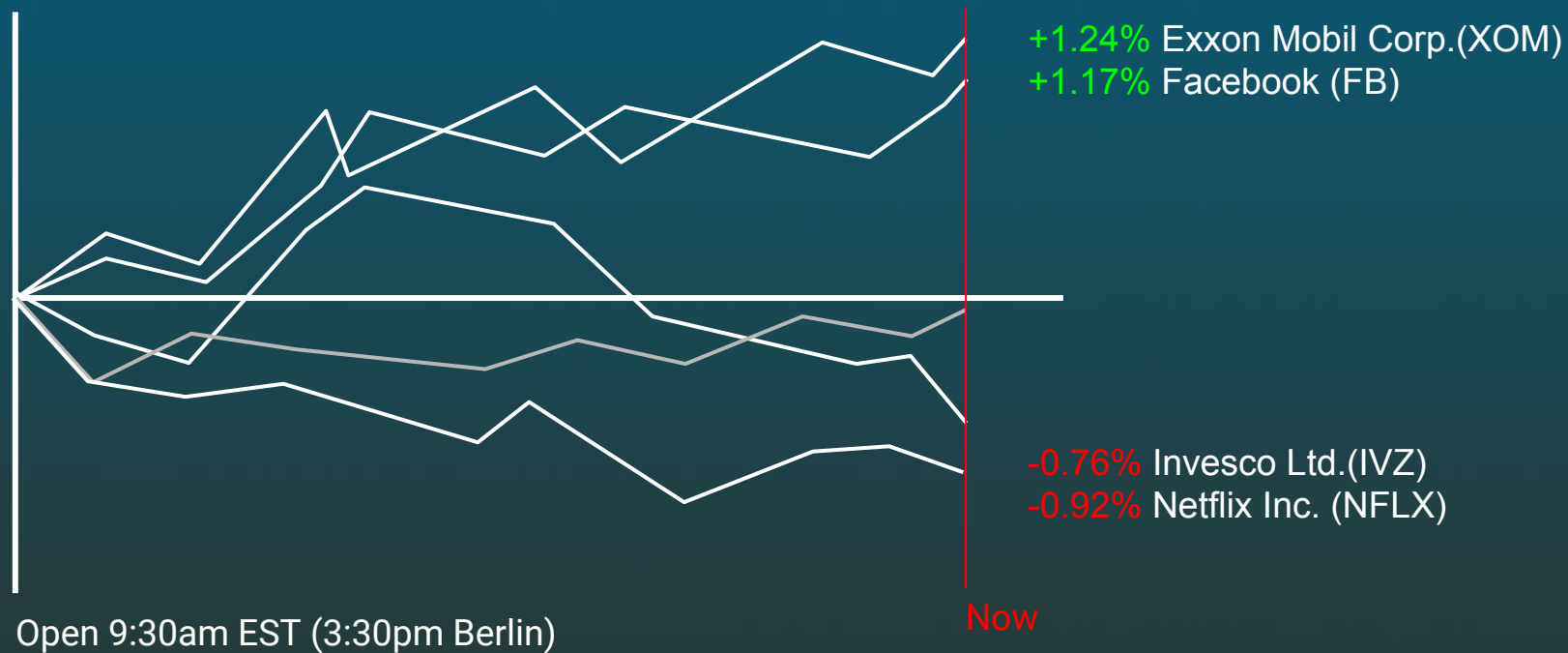
S&P 500

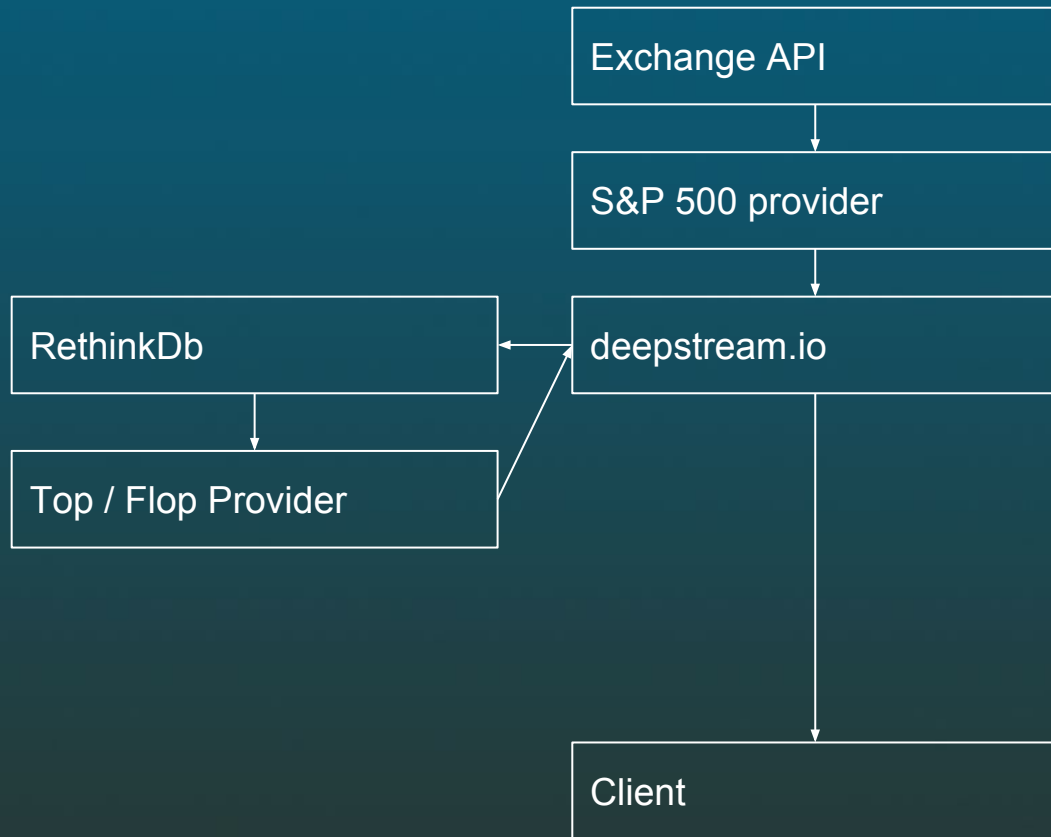


S&P 500

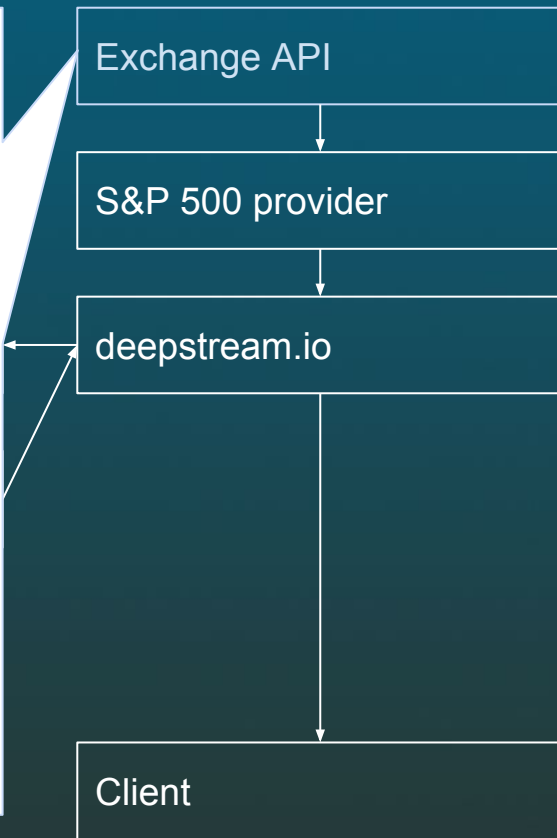


S&P 500





```
{  
  company_name: 'Apple Inc. - Common Stock',  
  exchange: 'NNM',  
  country: 'US',  
  currency: 'USD',  
  trading_status: '3',  
  symbol: 'AAPL',  
  name: 'Apple Inc.',  
  sector: 'Information Technology',  
  sub_sector: 'Computer Hardware',  
  address: 'Cupertino, California',  
  last_price: '117.925',  
  last_bid: '117.92',  
  last_ask: '117.93',  
  last_bid_size: '500',  
  last_ask_size: '300',  
  last_size: '100',  
  previous_close: '117.75',  
  intraday_high: '119.23',  
  intraday_low: '117.12',  
  intraday_open: '117.33',  
  total_volume: '15970637',  
  timestamp: '11:03:50'  
}
```



```
var DeepstreamServer = require( 'deepstream.io' ),  
    RdbC = require( 'deepstream.io-storage-rethinkdb' ),  
    server = new DeepstreamServer();
```

```
server.set( 'host', '0.0.0.0' );  
server.set( 'port', 6020 );  
server.set( 'tcpHost', '0.0.0.0' );  
server.set( 'tcpHost', 6021 );
```

```
server.set( 'storage', new RdbC({  
  port: 28015,  
  host: '52.29.184.11',  
  splitChar: '/'  
}));
```

```
server.start();
```

Exchange API

S&P 500 provider

deepstream.io

Client



```
var deepstream = require( 'deepstream.io-client-js' );  
var RedisMsg = require( 'deepstream.io-msg-redis' );  
var symbols = require( './symbols.json' );
```

```
//Connect to Redis Pub Sub  
var redisMsg = new RedisMsg({  
  port: 6379,  
  host: '52.29.184.11'  
});  
redisMsg.on( 'ready', subscribeIfReady );
```

```
//Connect to deepstream  
var ds = deepstream( '52.29.184.11:6021' );  
ds.login({}, subscribeIfReady);
```

```
//Subscribe to S&P 500  
function subscribeIfReady() {  
  if( ds.isReady && redisMsg.isReady ) {  
    for( var i = 0; i < symbols.length; i++ ) {  
      redisMsg.subscribe( symbols[ i ], onData );  
    }  
  }  
}
```

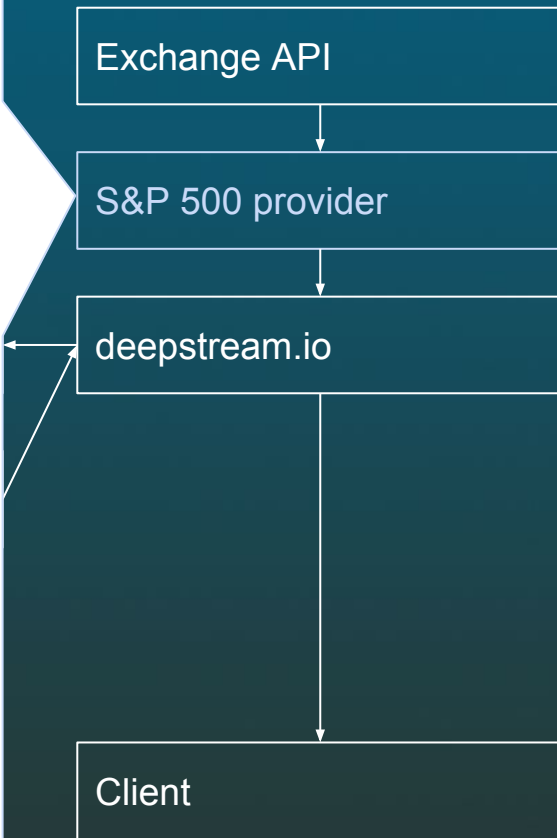
```
//Send data to deepstream  
function onData( data ) {  
  ds.record.getRecord( data.symbol ).set( data );  
}
```

Exchange API

S&P 500 provider

deepstream.io

Client



RethinkDb



Top / Flop Provider

```
{ _d:
  {
    address: 'Cupertino, California',
    company_name: 'Apple Inc. - Common Stock',
    country: 'US',
    currency: 'USD',
    exchange: 'NNM',
    intraday_high: '0',
    intraday_low: '0',
    intraday_open: '0',
    last_ask: '118.99',
    last_ask_size: '900',
    last_bid: '118.9',
    last_bid_size: '200',
    last_price: '118.88',
    last_size: '0',
    name: 'Apple Inc.',
    previous_close: '118.88',
    sector: 'Information Technology',
    sub_sector: 'Computer Hardware',
    symbol: 'AAPL',
    timestamp: '05:24:57',
    total_volume: '10064',
    trading_status: '3'
  },
  _v: 33,
  ds_id: 'AAPL'
}
```

RethinkDb

Top / Flop Provider

```
var r = require('rethinkdb');
var deepstreamClient = require( 'deepstream.io-client-js' );
var ds = deepstreamClient( '52.29.184.11:6021' ).login();
var topStocks = ds.record.getList( 'topstocks' );

r
  .connect({port:28015, host:'52.29.184.11', db:'stockprices'})
  .then( runQuery );

function runQuery( connection ) {
  r
    .table('sp500')
    .orderBy({index: r.asc('intraday_performance')})
    .limit(3)
    .getField( 'ds_id' )
    .changes({includeInitial: true })
    .run( connection )
    .then( onResult );
}

function onResult( cursor ) {
  cursor.each(function( err, result ){
    if( result.new_val === null ) {
      topStocks.removeEntry( result.old_val );
    } else {
      topStocks.addEntry( result.new_val );
    }
  });
}
```

A few ideas...

Sectors

Compare sector performance (e.g. healthcare vs biotech)

Stock Explorer

Realtime searching, sorting and filtering for stocks

Heatmap

Visualise risers and fallers per sector in a heatmap

Sparkline

Create realtime sparklines for price updates

Algo

Write a trading algo that buys, holds or sells on each tick

Watchlist

Create a watchlist that lets the user monitor a number of stocks

Links / Resources

Redis

52.29.184.11:6379

RethinkDB

52.29.184.11:28015

RethinkDB Admin GUI

<http://52.29.184.11:8080/>

Deepstream from Browser

52.29.184.11:6020

Deepstream from Node

52.29.184.11:6021

<https://github.com/hoxton-one/deepstream-rethinkdb-stocks-example>

<http://deepstream.io/>

<https://rethinkdb.com/>

Show & Tell @ 20:45