PonIO

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Overview

- What

- Structure

- Server

- Agent

- Demonstration

- Reflection

- Conclusion

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Twiggy-TLS

Twitter bootstrap

stunnel

Twiggy

What

vash

Pocket.IO

Microsoft WebMatrix

Connect

Gepok

AnyEvent

Express

Windows Azure Cloud

Markdown

PSGI

Node.js

Server-agent

Jade

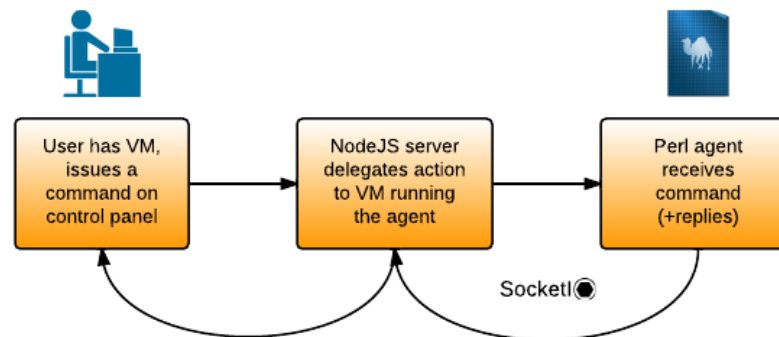Plackup

Mojolicious
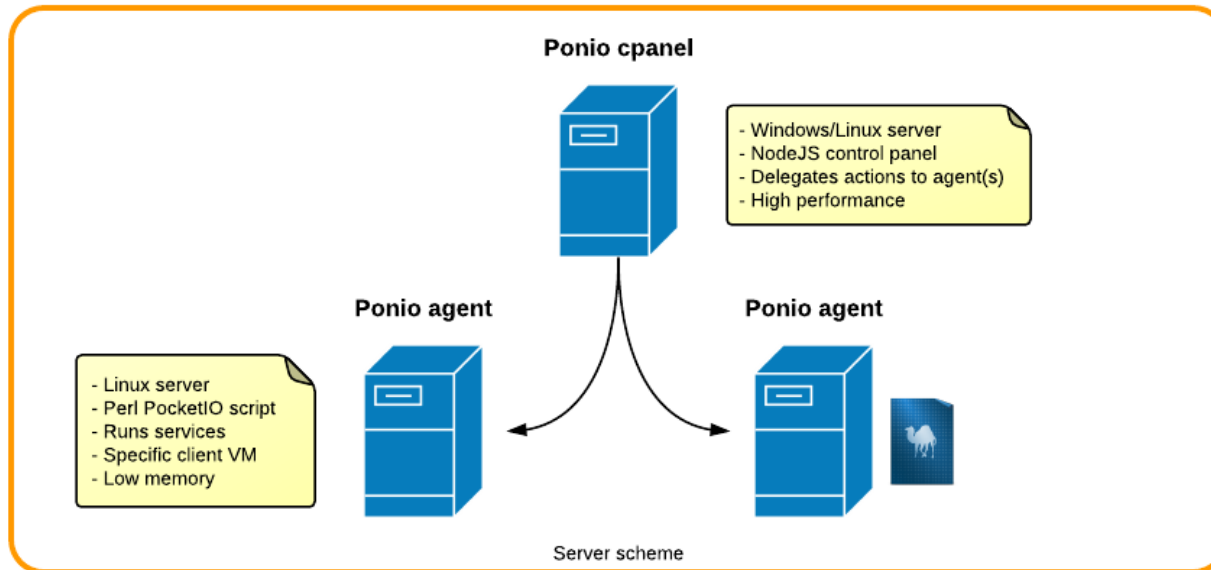
socket.io-client

Phonegap

Perl

iptables

DBI

App-TSLMe
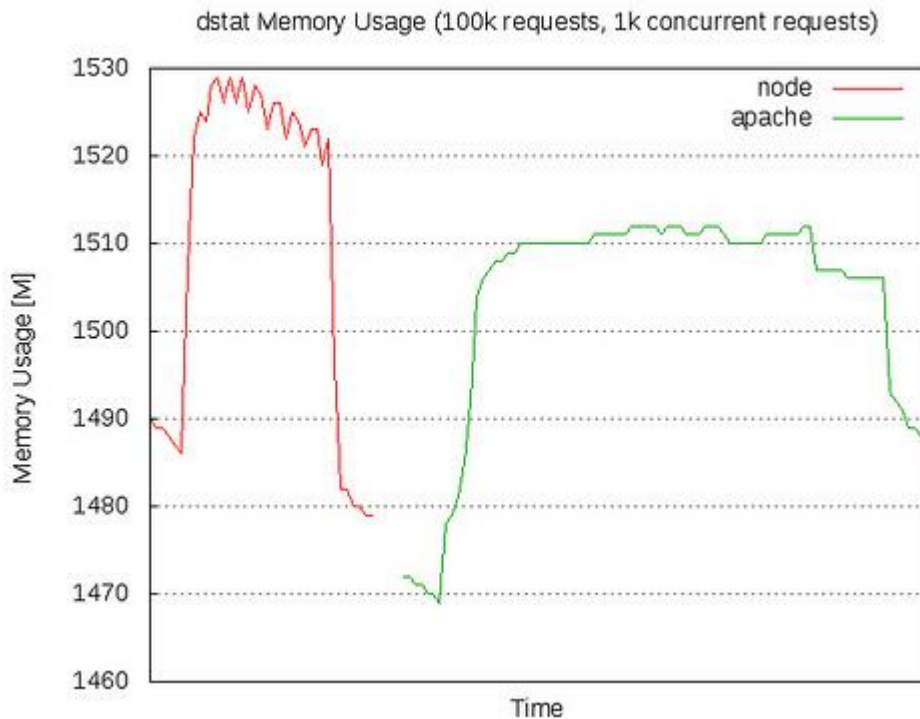
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Structure

Ponio cpanel

- Windows/Linux server
- NodeJS control panel
- Delegates actions to agent(s)
- High performance

Ponio agent

Ponio agent

- Linux server
- Perl PocketIO script
- Runs services
- Specific client VM
- Low memory

Server scheme

User has VM, issues a command on control panel → NodeJS server delegates action to VM running the agent → Perl agent receives command (+replies)

SocketIO

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Server

dstat Memory Usage (100k requests, 1k concurrent requests)

- Faster
- More m
- Javascrip
- Event- d
- Asynchr

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Jade

```
doctype 5
html(lang="en")
  head
    title= pageTitle
    script(type='text/javascript')
      if (foo) {
        bar()
      }
  body
    h1 Jade - node template engine
    #container
      if youAreUsingJade
        p You are amazing
      else
        p Get on it!
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Jade</title>
    <script type="text/javascript">
      if (foo) {
        bar()
      }
    </script>
  </head>
  <body>
    <h1>Jade - node template engine</h1>
    <div id="container">
      <p>You are amazing</p>
    </div>
  </body>
</html>
```

Socket.io-client

```
var socket = require('socket.io')('http://localhost');
socket.on('connect', function(){
  socket.on('event', function(data){});
  socket.on('disconnect', fucntion(){});
});
```

Node.JS

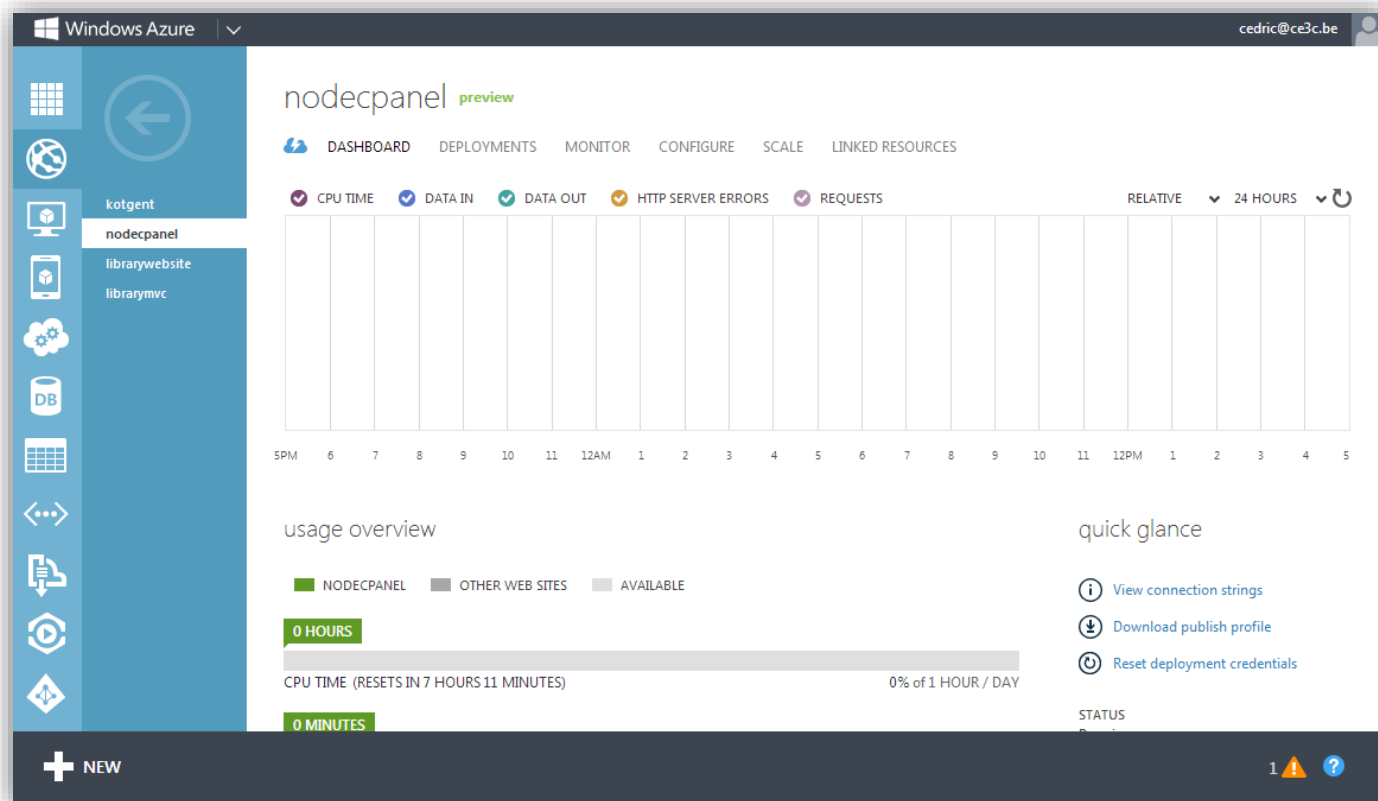Add `socket.io-client` to your `package.json` and then:

```
var socket = require('socket.io-client')('http://localhost');
socket.on('connect', function(){
  socket.on('event', function(data){});
  socket.on('disconnect', fucntion(){});
});
```
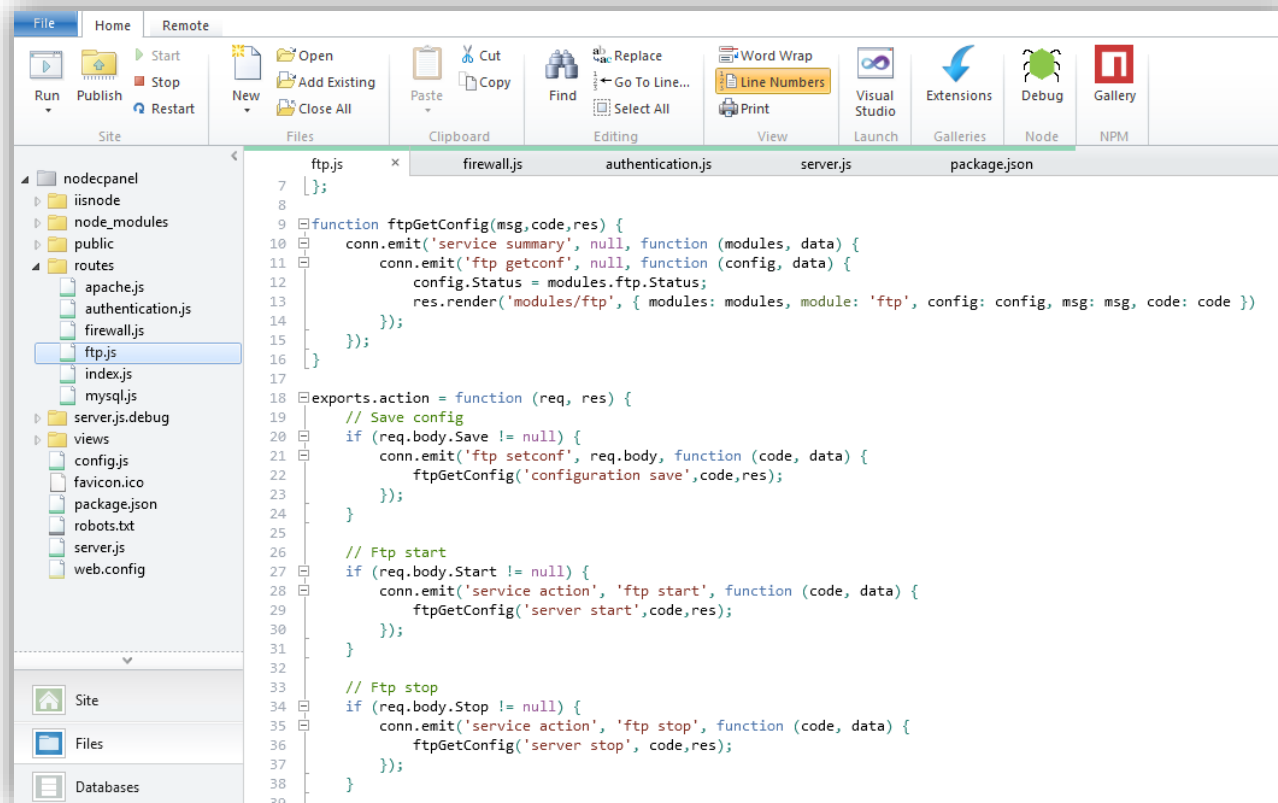
API

IO(url:String, opts:Object):Socket

Exposed as the `io` namespace in the standalone build, or the result of calling `require('socket.io-client')`.

Windows Azure Cloud

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Microsoft WebMatrix

Agent

- RPC-server (Remote Procedure Call)

- Goal: speed, accessibility, low resources

- Why Perl: small footprint, universal

- Perl module system

- PSGI application (CGI-like)

- Socket.IO

- Security

PSGI-application

- PSGI: interface between Perl scripts and web servers

- Passes on environment variables (User-Agent, Host, …)

- Twiggy: non-blocking, streaming

Socket.IO

- Socket.IO via Pocket.IO

- Asynchronous, streaming, non-blocking

- Accessible through WebSockets / JSONP / …

- Alternatieven: mojolicious

Security

- Use of certificates

- Modified Perl library: Twiggy-TLS

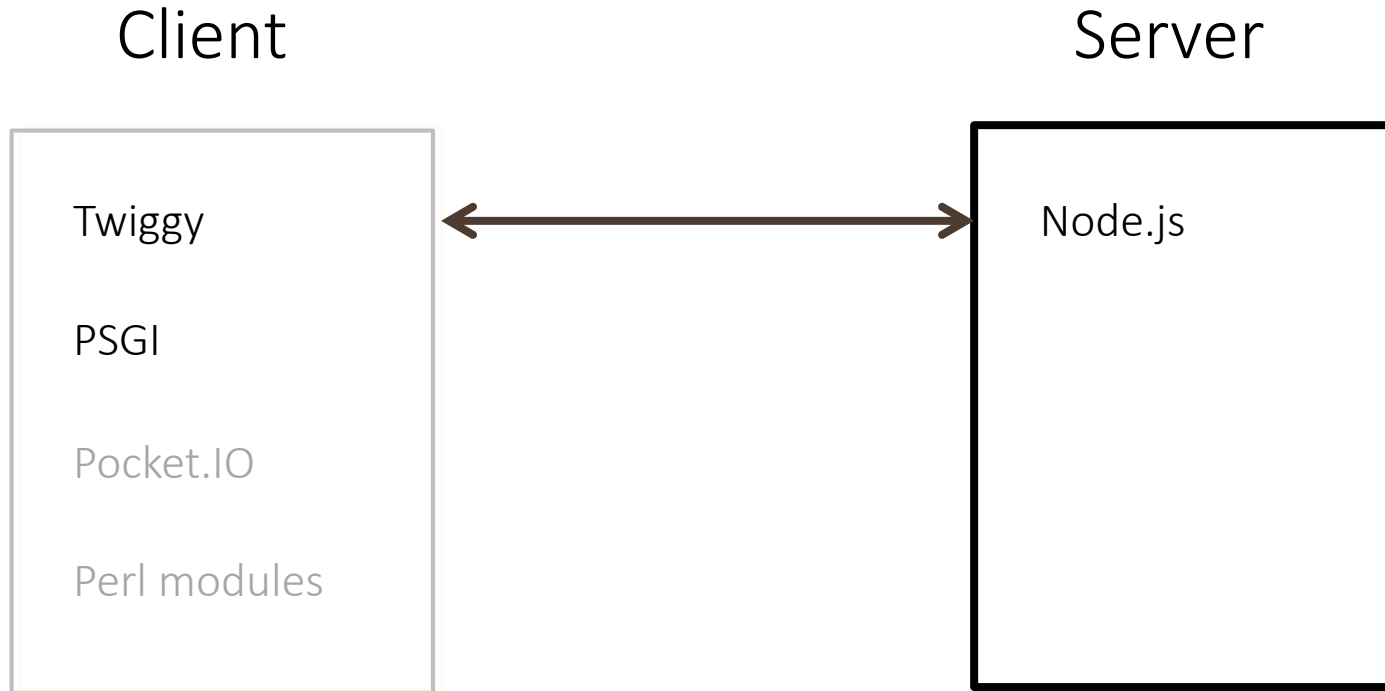- Authentication

- IP block

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Agent

Client

Twiggy

PSGI

Pocket.IO

Perl modules

Agent

Client

Server

Twiggy

PSGI

Pocket.IO

Perl modules

Node.js

Agent

Client

Twiggy

PSGI

Pocket.IO

Perl modules

```perl
$self->on('list websites' => sub {
    my ($sock, $msg, $cb) = @_;
    my @sites = &GetApacheSites;
    $cb->(\@sites);
});

$self->on('create website' => sub {
    my ($sock, $msg, $cb) = @_;
    &CreateWebsite($msg);
    $cb->(JSON::true);
});

$self->on('disable website' => sub {
    my ($sock, $msg, $cb) = @_;
    &DisableWebsite($msg);
    $cb->(JSON::true);
});
```
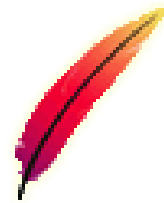
Agent

Client

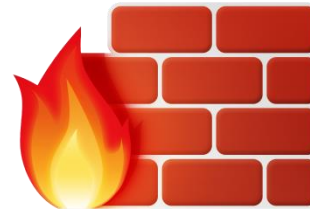Twiggy

PSGI

Pocket.IO

Perl modules

Agent

Client

Twiggy

PSGI

Pocket.IO

Perl modules


```
*filter

-A INPUT -i lo -j ACCEPT
-A INPUT -i lo -d 127.0.0.0/8 -j REJECT
-A OUTPUT -j ACCEPT
-A INPUT -p tcp --dport 80 -j ACCEPT
-A INPUT -p tcp --dport 443 -j ACCEPT
-A INPUT -p tcp --dport 30000 -j ACCEPT
-A INPUT -p icmp -j ACCEPT
-A INPUT -j REJECT
-A FORWARD -j REJECT

-A INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT

COMMIT
```

Agent

Client

Twiggy

PSGI

Pocket.IO

Perl modules


```
# If set on you can experience a longer connection delay in many cases.
IdentLookups            off

ServerName          "FTP Server"
ServerType          standalone
DeferWelcome            off

MultilineRFC2228        on
DefaultServer           on
ShowSymlinks            on

TimeoutNoTransfer       600
TimeoutStalled          600
TimeoutIdle          1200

DisplayLogin                "/etc/proftpd/welcome.msg"
DisplayChdir                .message true
ListOptions                 "-l"
```

Agent

Client

Twiggy

PSGI

Pocket.IO

Perl modules


```
if(!dbExists($name)) {

        my $db = DBI->connect('DBI:mysql:mysql:localhost','root','*******');

        my $add = $db->prepare('create database ' . $name);
        $add->execute() or die("Cannot add $name: " . $add->errstr());
        $add->finish();
```
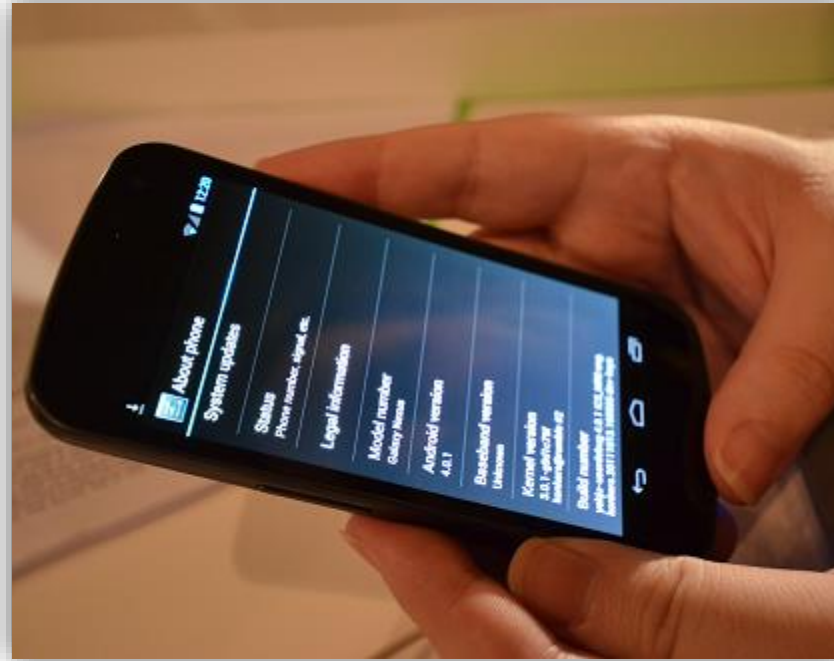
Agent

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Perl modules


```perl
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```

Demonstration

Reflection

- Projected

- Accomplished

Projected

- Minimum

  FTP module

  MySQL module

- Possible additions

  Webserver module

  Mail server module

  Firewall module

- Server & Agent: Node.js

Accomplished

- Modules
    - FTP module
    - MySQL module
    - Apache module
    - Firewall module

- Server: Node.js

- Agent: Perl

Conclusion

- Existing need

- New approach

- Main focus is speed

- Portability, cross-platform