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# **Pomelo**

Node.js

### **Hello World**

Hello World

```
$ pomelo init ./HelloWorld
```

```
$ mkdir HelloWorld
$ cd HelloWorld
$ pomelo init
```

HelloWorld

```
$ sh npm-install.sh
```

```
$ cd game-server
$ pomelo start --daemon
-daemon command 가. ...
```

```
$ cd web-server
$ node app
```

node가 forever

```
http://localhost:3001 . 가 Test Game Server 'game server is ok'
```

#### **Gate**

Frontend load balancing connector 가 gate gate connector gate.gateHandler load balancing

```
// gateHandler.js
var connectors = this.app.getServersByType('connector');

// select connector, because more than one connector existed.
var dispatcher = require('/util/dispatcher');
var res = dispatcher.dispatch(uid, connectors);

// ...

// dispatcher.js
var crc = require('crc');
module.exports.dispatch = function(key, list) {
    var index = Math.abs(crc.crc32(key)) % list.length;
    return list[index];
};
```

• Server scalability

Gate connector servers.json port . clientPort .

#### Connector

Client connection . (session.bind() ) 가 routing client backend . backend

push connector client

Connector client listen clientPort , backend server port

Gate , Connector

Getting source code & installation

### **Application**

Application logic 가 client service . gate, connector frontend client . application backend

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client.frontendclientservice.Backendrpc.clientclientPort..args

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### Master

### **RPC** invocation

```
RPC
Interprocess communication
                                         . Interprocess communication
                                                                         frontend
     backend , backend
app.rpc.game.gameRemote.request( routeParam, args, cb );
                                            , request
                  , gameRemote
                                                                   . pomelo
       game
                                remote
  app/servers
                  game
                                                    ) game/remote
gameRemote.js
                         request
                                                                   cb rpc call
                                                           . args
                     2
                                                           . (cb
                 null
                                        cb
                                                        .)
        args
                                      ... Converting circular structure to JSON
                                                             가
     routeParam
                 route
                                                    session
user
     id , ,
        route
                              .((
                                                                  ) Route
// app.js
var router = function(routeParam, msg, context, cb) {
  var gameServers = app.getServersByType('game');
```

```
var id = gameServers[routeParam% gameServers.length].id;
cb(null, id);
}
app.configure('production|development', function() {
  app.route('game', router); // router
});
```

servers.json game 가

```
"game": [
    {"id": "game-server-1", "host": "127.0.0.1", "port": 7000},
    {"id": "game-server-2", "host": "127.0.0.1", "port": 7001}
]time
```

app.route()

- RPC Invocation
- Rpc framework

### Route, router

```
Route
                가
                             가
   . Javascript
window.pomelo.request( 'game.gameHandler.request', {
    protocol: ...
}, function( result ) {
} );
                  , gameHandler handler
                                              , request
                                                                   . pomelo
       game
                                                   gameHandler.js
    app/servers
                   game
                                    handler
request
```

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### **Session**

```
id : <session id> // readonly
frontendId : <frontend server id> // readonly
uid : <bound uid> // readonly
settings : <key-value map> // read and write
__socket__ : <raw_socket>
_state__ : <session state>

// ...
}
```

uid session.bind(value, callback) bind value

### **Channel**

```
channel app.get('channelService').channels["channel "]
channels "channel ":

app.get('channelService').getChannel(roomname, true);

getChannel

ChannelService.prototype.getChannel = function(name, create) {
   var channel = this.channels[name];
   if(!channel && !!create) {
      channel = this.channels[name] = new Channel(name, this);
   }
   return channel;
}
```

Channel

# Request, response, notify, push

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### **Filter**

### **Handler**

```
Handler client logic . 가 .

handler.methodName = function(msg, session, next) {
   // ...
}
```

handler remote 가 remote rpc invocation

### **Error handler**

## Component

### **Protocol**

```
// app.js
app.configure('production|development', 'connector', function(){
   app.set('connectorConfig', {
      connector: pomelo.connectors.hybridconnector,
      heartbeat: 3,
      useDict: true,
      useProtobuf: true,
      checkClient: function(type, version) {
            // check the client type and version then return true or false
      },
      handshake: function(msg, cb){
            cb(null, {/* message pass to client in handshake phase */});
      }
    });
});
```

Pomelo 0.3 new features

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#### Pomelo protocol

• Pomelo communications protocol

# servers.json

cpu

```
0.5 ( ) cpu
```

```
0.6 hybridconnector . pomelo.init encrypt 가
```

```
pomelo.init({
  host:'127.0.0.1',
  port:3014,
  encrypt:true
}, function() {
// do something connected
});
```

app.js connectorConfig useCrypto 가 .

```
app.set('connectorConfig', {
  connector: pomelo.connectors.hybridconnector,
  heartbeat: 3,
  useDict: true,
  useProtobuf: true,
  useCrypto: true
});
```

#### Pomelo

1. Gate handler connector host, port

2. Gate handler session connector

3. connector host, port handler connector

4. Connector handler session bind

router connector handler session

route

Pomelo Wiki

• Promelo Wiki Tutorial 가 ( ?)

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