

Agent-Based Software Development

WoA - Interface Setup & API

Interface Setup

1. Install Node.js

To be able to run the interface you will need Node.js installed in your computer. Any build version $\geq 6.11.0$ is okay. Latest stable [here](#).

2. Generate map data

First download the code at: <https://www.dropbox.com/s/br3vmtm3ltdno75/WoA-MapGenerator.zip?dl=0>

Now, from a command line, navigate to the root folder of the downloaded code and execute `npm install` in order to install the generator dependencies.

You can now generate a map executing for example

```
node index.js --width=10 --height=13 --gold_percentage=40
```

You can find all the options in the README.md file located in the root folder.

3. Start bridge server + interface

First download the code at:

<https://www.dropbox.com/s/zudigfm8vrk489j/WoA-InterfaceBuild.zip?dl=0>

Now, from a command line, navigate to the root folder of the downloaded code and execute `npm install` in order to install the bridge server dependencies. Once finished execute `npm run start` to start the bridge server + interface. Finally navigate to <http://localhost:3000> to see the interface.

Now you can start doing API calls from your project!

WoA API

Entrypoint: localhost:3000

Game start

POST /api/start

{ players: [10, 17, "awbc", 23], map: { ... } }

players: unique identifier of any kind, one element in the array per player

map: map generator output

New agent

POST /api/agent/create

{ player_id: 1, agent_id: 3, tile: { x: 1, y: 1 } }

Move agent

POST /api/agent/move

{ agent_id: 3, tile: { x: 1, y: 1 } }

Agent dies

POST /api/agent/die

{ agent_id: 3 }

Start action

POST /api/agent/start

{ agent_id: 3, type: "exploit" }

type: "exploit" || "negotiate"

Cancel action

POST /api/agent/cancel

{ agent_id: 3 }

Gain resource

POST /api/resource/gain

{ player_id: 3, agent_id: 1, resource: "wood", amount: 10 }

resource: "food" || "wood" || "stone" || "gold"

agent_id: agent id or -1 if food from a farm

Lose resource

POST /api/resource/lose

{ player_id: 3, agent_id: 1, resource: "wood", amount: 10 }

resource: "food" || "wood" || "stone" || "gold"

agent_id: agent id or -1 if food from a farm

Deplete resource

POST /api/resource/deplete

{ tile: { x: 1, y: 1 } }

Build

POST /api/building/create

{ agent_id: 3, type: "Town Hall" }

type: "Town Hall" || "Farm" || "Store"

Game finished

POST /api/end

{}