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[#Copy link](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/3-external-gui.html#get-an-external-gui) **Get an External GUI**



Make sure you have everything you need before proceeding:

* You have created the Protobuf types and objects for [queries](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/1-cosmjs-objects.html) and [messages](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/2-cosmjs-messages.html) in the previous two steps. If not, you can go ahead and clone and checkout [this branch (opens new window)↗](https://github.com/cosmos/academy-checkers-ui/tree/signing-stargate) to get the version needed for this tutorial.

The purpose of this section is to obtain a working and fairly recent checkers GUI. If you already have one, you can skip to the [next section](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/4-cosmjs-gui.html) on how to integrate it with CosmJS.   
  
This section does not introduce anything related to CosmJS, but sets you up with a template of a graphical user interface which you will later wire to CosmJS.

In the previous sections, you created the objects, messages, and clients that allow you to interface with your checkers blockchain. The point of this exercise is not to create a GUI from the ground up for the game of checkers. Instead, you will integrate an existing frontend project with the previous CosmJS work you've done so far.

Clone the following [repo (opens new window)↗](https://github.com/b9lab/react-checkers) that was originally made by [nablsi14 (opens new window)↗](https://github.com/nablsi14) and now updated to a recent React version:



Copy

$ git clone https://github.com/b9lab/react-checkers

[#Copy link](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/3-external-gui.html#prepare-the-files-and-folders) Prepare the files and folders

In order to integrate this project, you will have to move the relevant files into your own repository. But first test if the app works on your machine.

[#Copy link](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/3-external-gui.html#testing-the-app) Testing the app

Go to the react-checkers folder and install the correct packages:

**Local**

**Docker**



Copy

$ cd react-checkers

$ npm install

Copy

$ cd react-checkers

$ docker run --rm -it \

-v $(pwd):/react-checkers \

-w /react-checkers \

node:18.7-slim \

npm install

Confirm that the app works normally by running it:

**Local**

**Docker**



Copy

$ npm start

Copy

$ docker run --rm -it \

-v $(pwd):/client \

-w /client \

-p 3000:3000 \

node:18.7-slim \

npm start

It should automatically open the browser and you should see a simple page. If not, open [http://localhost:3000 (opens new window)↗](http://localhost:3000/).

[#Copy link](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/3-external-gui.html#copy-the-react-app-files) Copy the React app files

Move the files from the react-checkers folder into the repo that contains your CosmJS work so far. If you followed from the previous section or cloned the branch mentioned above, then:

* The tsconfig.json, images.d.ts, and json.d.ts files, and the public and src folders should have no conflicts.
* For .gitignore [just add the content (opens new window)↗](https://github.com/cosmos/academy-checkers-ui/blob/unwired-gui/.gitignore) to your own .gitignore.
* For package.json there are some more things to consider:
  + Copy and paste the "scripts". Rename the incoming "test" to "test-react".
  + Copy and paste the "browserslist".
  + Remove the ["homepage" (opens new window)↗](https://github.com/cosmos/academy-checkers-ui/blob/signing-stargate/package.json#L18) field or it will confuse React.
  + Copy only the missing dependencies and devDependencies. If there is a conflict between versions, overwrite with the highest version.

Everything should now be integrated.

[#Copy link](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/3-external-gui.html#testing-your-own-repo) Testing your own repo

Go to your own repo folder that contains your CosmJS work and the newly copied and edited files, and install the correct packages:

**Local**

**Docker**



Copy

$ npm install

Copy

$ docker run --rm -it \

-v $(pwd):/client \

-w /client \

node:18.7-slim \

npm install

Confirm that the app works normally by running it:

**Local**

**Docker**



Copy

$ npm start

Copy

$ docker run --rm -it \

-v $(pwd):/client \

-w /client \

-p 3000:3000 \

node:18.7-slim \

npm start

The application should now open again in the browser at [http://localhost:3000 (opens new window)↗](http://localhost:3000/).

synopsis

To summarize, this section has explored:

* How to obtain a functioning and fairly recent external GUI for your checkers blockchain, including how to prepare your files and folders, testing the app to ensure it functions on your machine, where to move or copy files, and testing the app on your own repo after installation.

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**[Create Custom Messages](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/2-cosmjs-messages.html)**

up next

**[Integrate CosmJS and Keplr](https://ida.interchain.io/hands-on-exercise/3-cosmjs-adv/4-cosmjs-gui.html)**

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