

**D O M
I N O
V 1 0**

Setting up the right Environment
for using the new

**Domino v10 NodeRED
nodes**



WARNING !

This process is ONLY required until the HCL AppDev pack will be made publicly available as an NPM installable package



Local Machine settings

Domino v10 NodeRED nodes



Assumptions

- You have access to the HCL App Dev Pack
- You have node v10 installed on your local machine.
There are problems using V11 !!
In case you run node v11, please downgrade to V10

Check the local NodeJS node path

- We want to install the AppDev pack globally, so that it will be available to all the NodeJS applications running on the local machine
- From your \$HOME directory, enter the command **node**
- Once in the nod application, enter the command **module.paths**
- You may see an output like the following:

```
stefanomac:~ stefano$ node
> module.paths
[ '/Users/stefano/repl/node_modules',
  '/Users/stefano/node_modules',
  '/Users/node_modules',
  '/node_modules',
  '/Users/stefano/.node_modules',
  '/Users/stefano/.node_libraries',
  '/usr/local/lib/node' ]
```



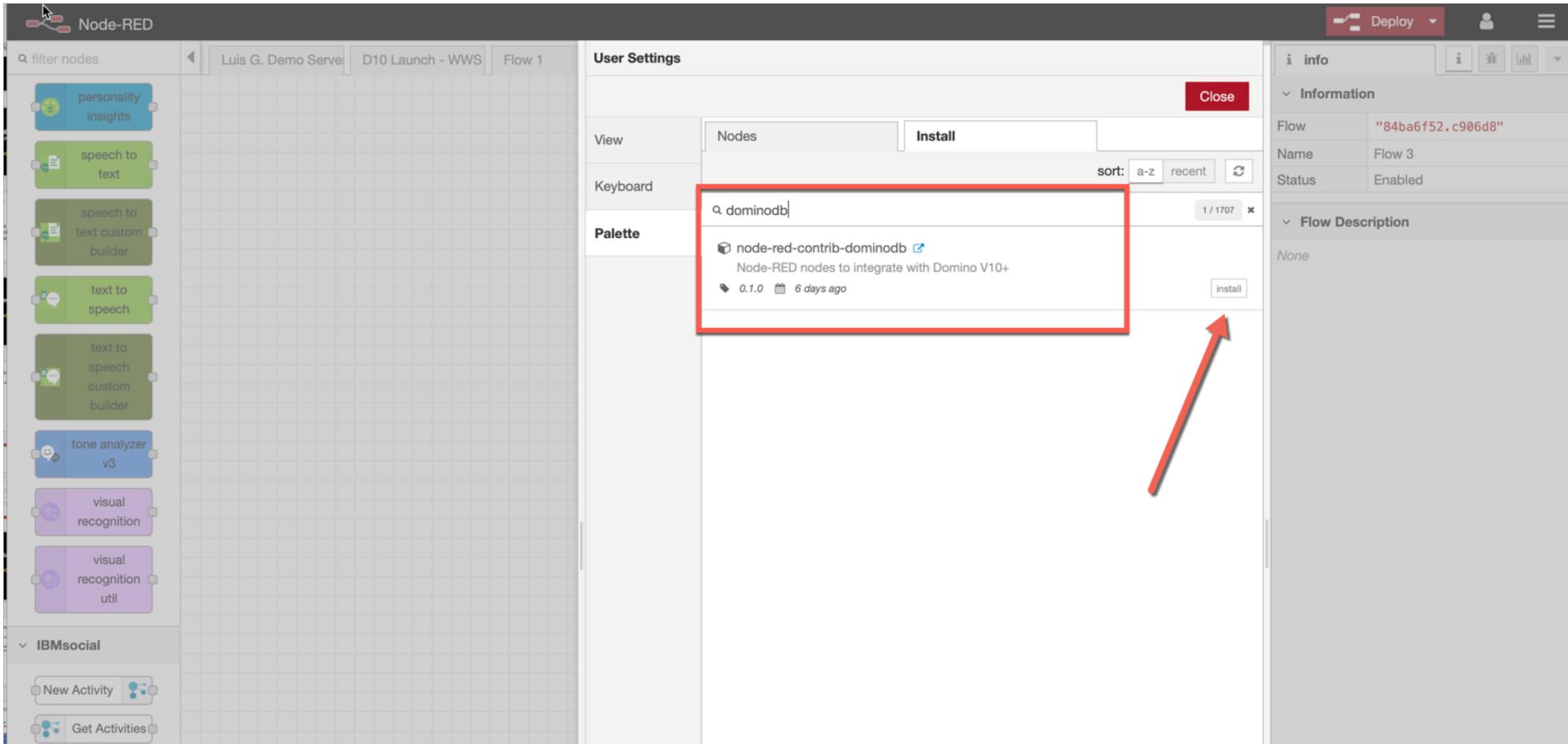
Check the local NodeJS node path – cont'd

- The problem is that the “/Users/node_modules” , “/node_modules” and “/usr/local/lib/node” directories **do not exist** !!
- On my system a /usr/local/lib/node_modules directory exist which contains the global nodejs modules available for my local machine
- Exit from the **node** application
- On Mac/Unix, issue the command
`export NODE_PATH=/usr/local/lib/node_modules .`
 - You may also want to set this new environment variable in your shell initialization file !!!!

Unzip the AppDev Pack from HCL

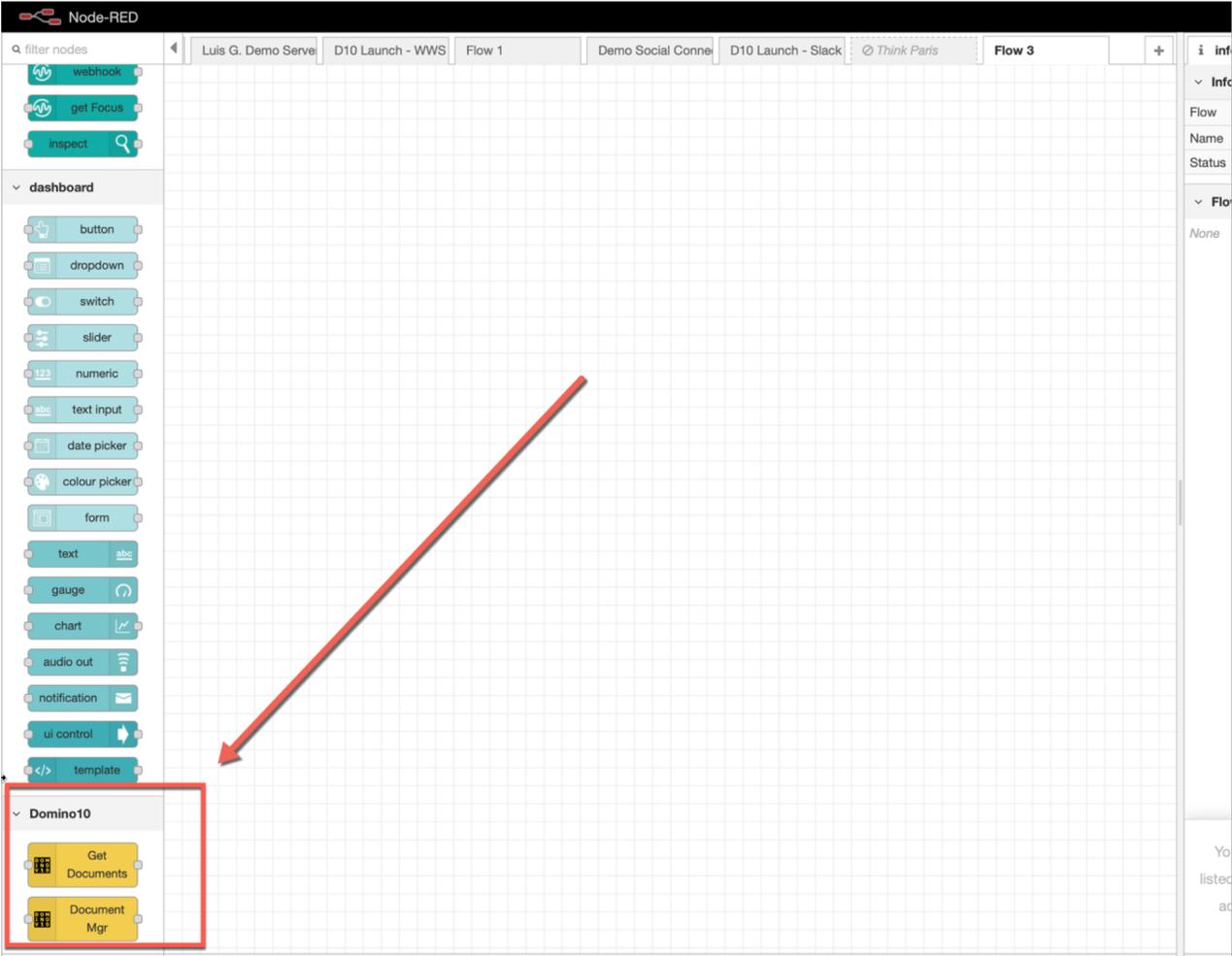
- Unzip the AppDev Pack in a directory of your choice
- Go to the directory which contains the `package` subdirectory
- Issue the command
`npm install -g package`
- If everything is ok, you will see a new directory being created at a `/usr/local/lib/node_modules/@domino` directory
 - A `/usr/local/lib/node_modules/@domino/domino-db` subdirectory is also created which is a symbolic link to where the `package` subdirectory is located
 - You may want to avoid the symbolic link and have the content of the `package` directory physically deployed inside the new `/usr/local/lib/node_modules/@domino/domino-db` directory
- Now, the HCL AppDev Pack is installed on your local machine

Open your local NodeRED Editor



Install **node-red-contrib-dominodb** using the standard “Manage Palette” functionality in NodeRed

The NodeRED package is installed and ready to be used





IBM Cloud settings

Domino v10 NodeRED nodes



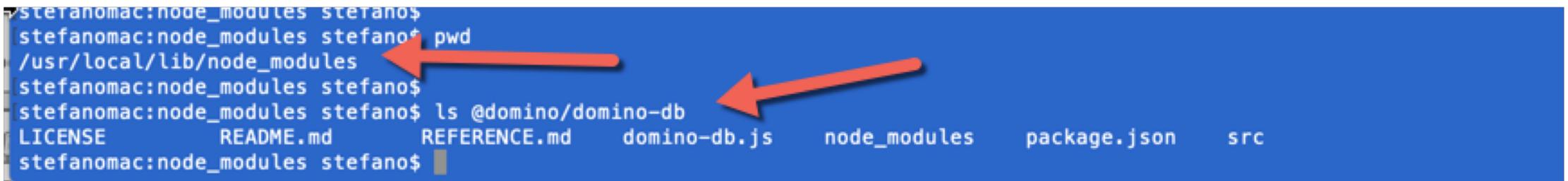
Assumptions

- You have an IBM Cloud NodeRed instance already setup
- You have installed the HCL App Dev Pack on your local system
 - The AppDev Pack is available as **@domino/domino-db** on your local system

Go to your LOCAL installation of the AppDev Pack

- Suppose that you installed the HCL AppDev Pack in the **@domino/domino-db** under the **/usr/local/lib/node_modules** directory

```
stefanomac:node_modules stefano$  
stefanomac:node_modules stefano$ pwd  
/usr/local/lib/node_modules  
stefanomac:node_modules stefano$  
stefanomac:node_modules stefano$ ls @domino/domino-db  
LICENSE          README.md        REFERENCE.md     domino-db.js    node_modules    package.json     src  
stefanomac:node_modules stefano$
```



- Move to the domino-db directory : **cd @domino/domino-db**

```
stefanomac:node_modules stefano$ cd \@domino/domino-db/  
stefanomac:domino-db stefano$  
stefanomac:domino-db stefano$  
stefanomac:domino-db stefano$ pwd  
/usr/local/lib/node_modules/@domino/domino-db  
stefanomac:domino-db stefano$
```



”Pack” the AppDev Pack

- From that directory issue the command : **npm pack**

```
stefanomac:domino-db stefano$ npm pack
npm notice
npm notice 📦 @domino/domino-db@1.0.0
npm notice === Tarball Contents ===
npm notice 1.4kB package.json
npm notice 220B domino-db.js
npm notice 0 LICENSE
npm notice 11.1kB README.md
npm notice 36.2kB REFERENCE.md
npm notice 954B src/constants.js
npm notice 5.8kB src/database.js
npm notice 3.1kB src/document.js
npm notice 317B src/domino-db-error.js
npm notice 7.9kB src/requests/grpc/database.js
npm notice 4.0kB src/requests/grpc/document.js
npm notice 2.0kB src/requests/grpc/generated/domino_grpc_pb.js
npm notice 93.4kB src/requests/grpc/generated/domino_pb.js
npm notice 112.8kB src/requests/grpc/generated/errorcodes.js
npm notice 70B src/requests/grpc/generated/version.js
npm notice 2.0kB src/requests/grpc/index.js
npm notice 4.0kB src/requests/grpc/utls/bulk-document.js
npm notice 6.7kB src/requests/grpc/utls/convert-from-proto.js
npm notice 6.4kB src/requests/grpc/utls/convert-to-proto.js
npm notice 3.3kB src/requests/grpc/utls/grpc-helpers.js
npm notice 114B src/requests/http/database.js
npm notice 114B src/requests/http/document.js
npm notice 684B src/requests/http/index.js
npm notice 112B src/requests/http/server.js
npm notice 3.9kB src/requests/http/utls/das-query-params.js
npm notice 4.2kB src/requests/http/utls/http-helpers.js
npm notice 1.9kB src/requests/index.js
npm notice 4.2kB src/server.js
npm notice 1.9kB src/strings/errors.js
npm notice 117B src/strings/index.js
npm notice 90B src/utls/getter-factory.js
npm notice 121B src/utls/is-dev-mode.js
npm notice === Tarball Details ===
npm notice name: @domino/domino-db
npm notice filename: domino-domino-db-1.0.0.tgz
npm notice unpacked size: 319.2 kB
npm notice shasum:
npm notice integrity:
npm notice total files: 32
domino-domino-db-1.0.0.tgz
```

”Pack” the AppDev Pack – cont’d

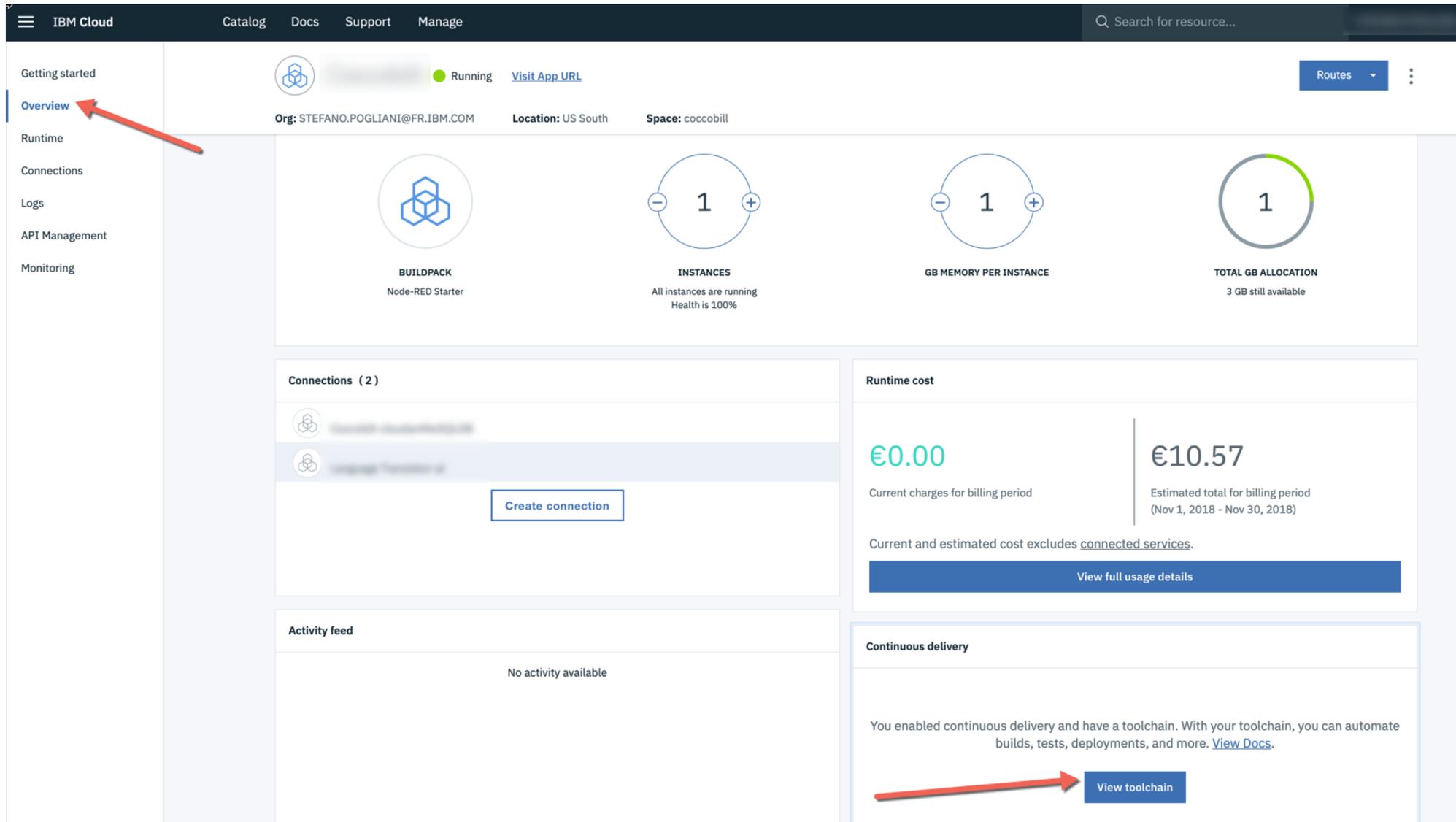
- A File is generated in the same directory named **domino-domino-db-1.0.0.tgz**

```
stefanomac:domino-db stefano$ ls -lt
total 240
-rw-r--r--  1 stefano  staff  63439 Nov  6 18:47 domino-domino-db-1.0.0.tgz
drwxr-xr-x  50 stefano  wheel   1600 Oct 18 18:15 node_modules
drwxr-xr-x@ 10 stefano  wheel    320 Oct 18 16:19 src
-rw-r--r--@  1 stefano  wheel     0 Oct 26  1985 LICENSE
-rw-r--r--@  1 stefano  wheel  11102 Oct 26  1985 README.md
-rw-r--r--@  1 stefano  wheel  36189 Oct 26  1985 REFERENCE.md
-rw-r--r--@  1 stefano  wheel    220 Oct 26  1985 domino-db.js
-rw-r--r--@  1 stefano  wheel   1401 Oct 26  1985 package.json
stefanomac:domino-db stefano$
```



- Move this file to a temporary directory. We will use it in a moment

Go to IBM Cloud and open your Toolchain



IBM Cloud Catalog Docs Support Manage Search for resource...

Getting started **Overview** Runtime Connections Logs API Management Monitoring

Running Visit App URL

Org: STEFANO.POGLIANI@FR.IBM.COM Location: US South Space: coccobill

BUILDPACK
Node-RED Starter

INSTANCES
All instances are running
Health is 100%

GB MEMORY PER INSTANCE

TOTAL GB ALLOCATION
3 GB still available

Connections (2)

Create connection

Runtime cost

€0.00 Current charges for billing period

€10.57 Estimated total for billing period (Nov 1, 2018 - Nov 30, 2018)

Current and estimated cost excludes [connected services](#).

View full usage details

Activity feed

No activity available

Continuous delivery

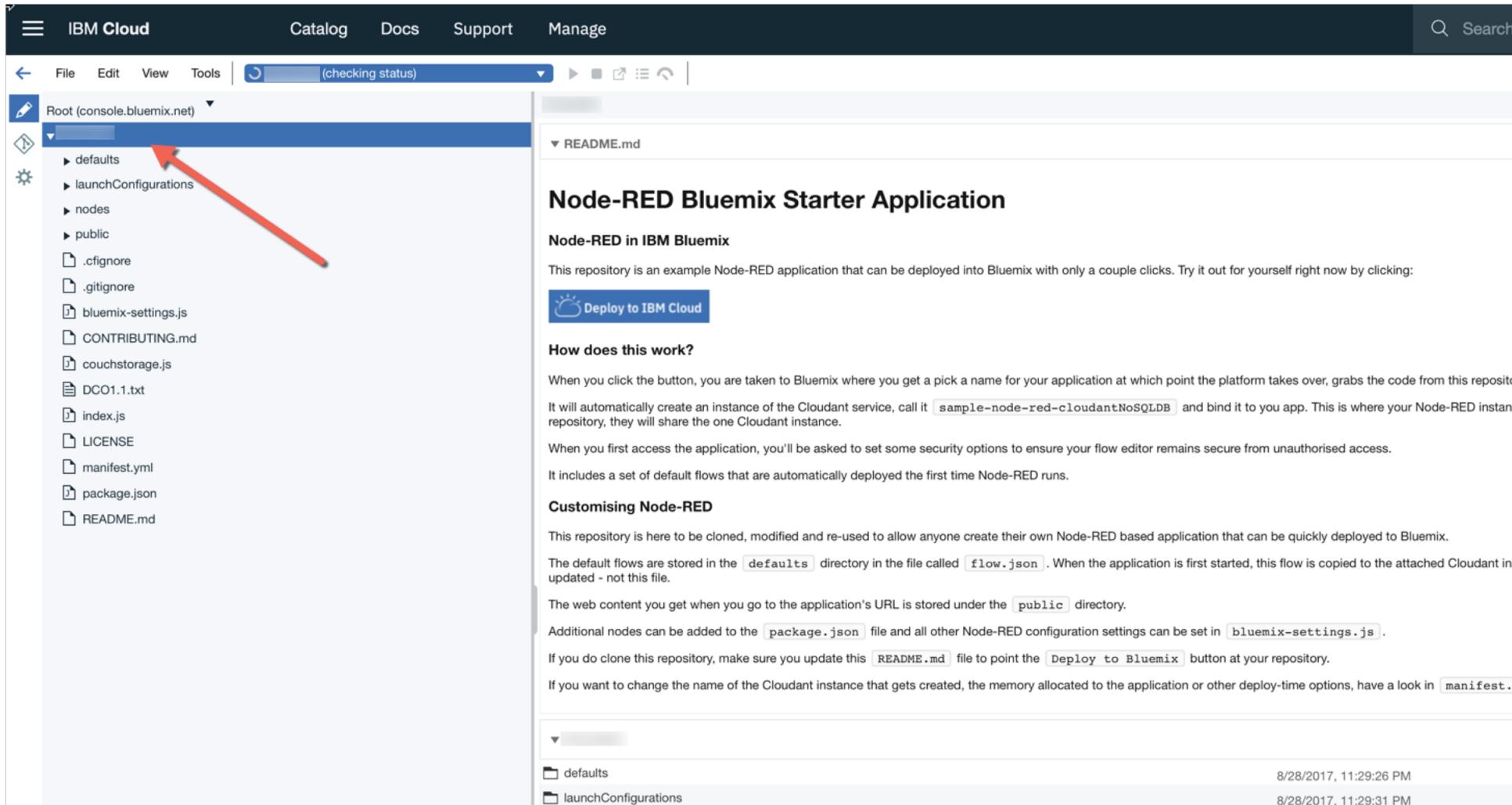
You enabled continuous delivery and have a toolchain. With your toolchain, you can automate builds, tests, deployments, and more. [View Docs](#).

View toolchain

Click on the “Eclipse Orion Web IDE” icon

The screenshot displays the IBM Cloud Toolchains management console. The top navigation bar includes 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. The left sidebar contains 'Overview', 'Connections', and 'Manage'. The main content area shows a toolchain configuration for 'US South' with three stages: 'THINK' (Issues), 'CODE' (Git), and 'DELIVER' (Delivery Pipeline). A fourth stage, 'Eclipse Orion Web IDE', is shown below the others and is highlighted with a red arrow. Each stage card includes a checkmark and the text 'Configured'.

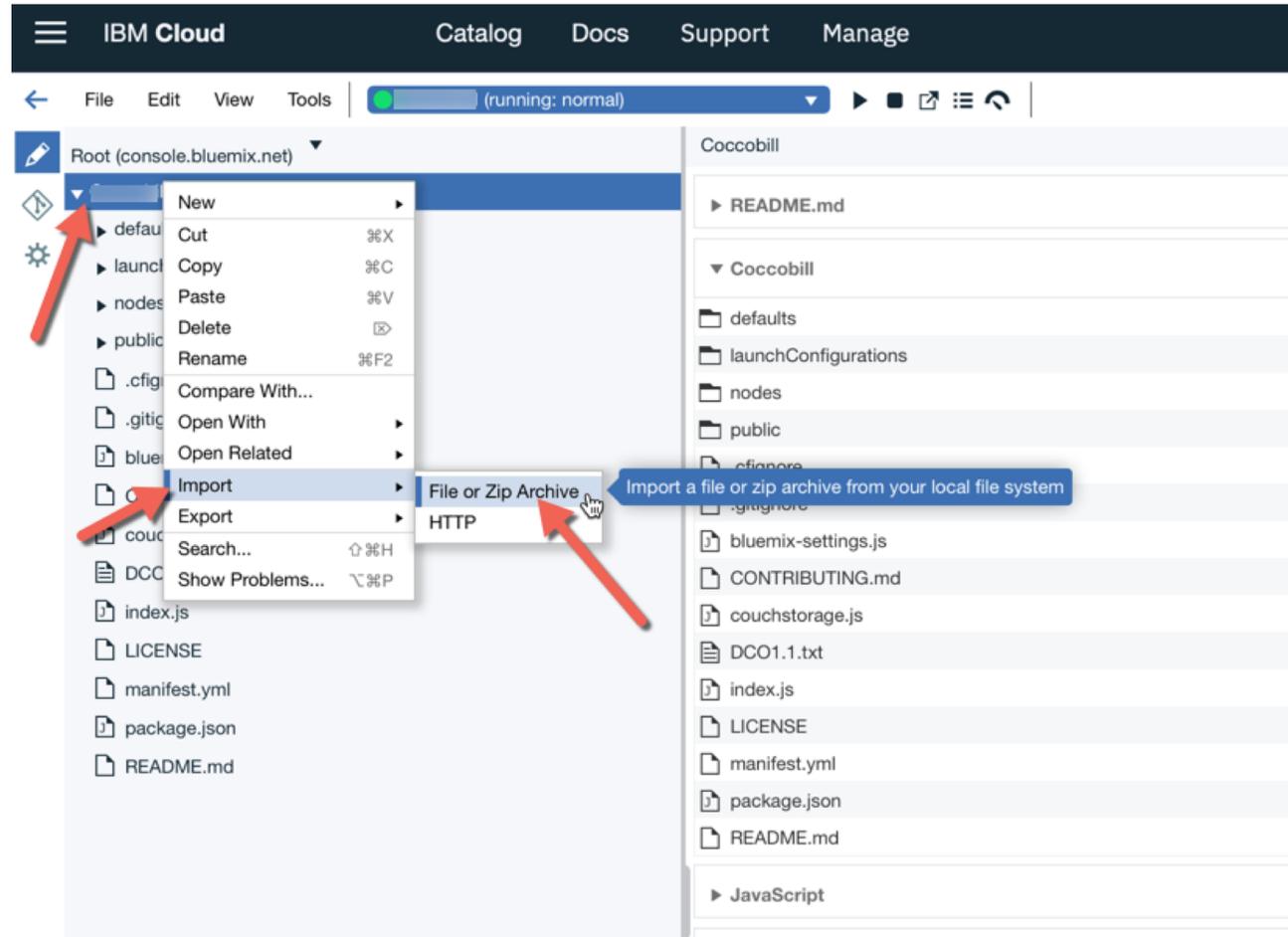
Expand the Directory Structure



The screenshot displays the IBM Cloud console interface. At the top, there is a navigation bar with 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. Below this is a toolbar with 'File', 'Edit', 'View', and 'Tools' options. The main area is split into two panes. The left pane shows a file explorer for the repository 'Root (console.bluemix.net)'. It lists several directories and files: 'defaults', 'launchConfigurations', 'nodes', 'public', '.cfignore', '.gitignore', 'bluemix-settings.js', 'CONTRIBUTING.md', 'couchstorage.js', 'DCO1.1.txt', 'index.js', 'LICENSE', 'manifest.yml', 'package.json', and 'README.md'. A red arrow points to the 'defaults' directory. The right pane shows the content of the 'README.md' file, titled 'Node-RED Bluemix Starter Application'. It includes a 'Deploy to IBM Cloud' button and sections for 'Node-RED in IBM Bluemix', 'How does this work?', and 'Customising Node-RED'. At the bottom of the right pane, there is a table listing the contents of the 'defaults' and 'launchConfigurations' directories.

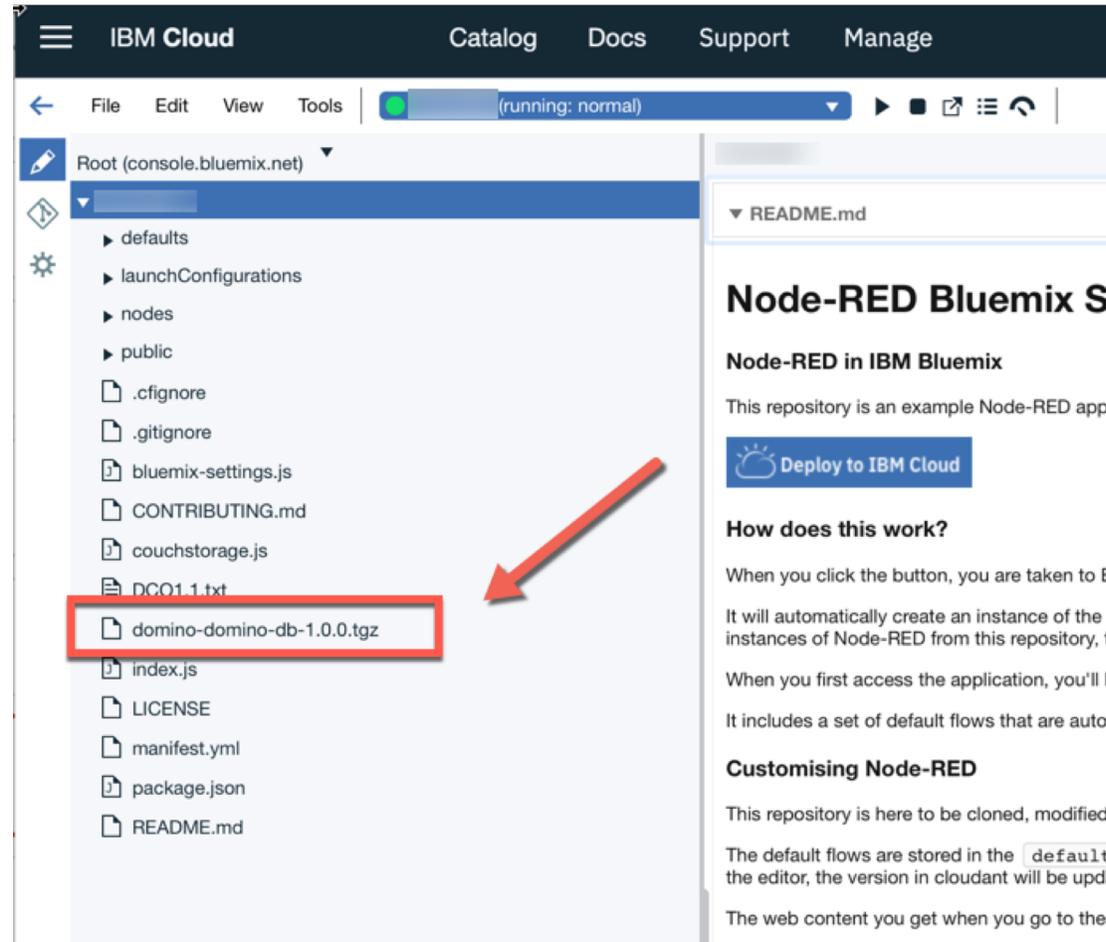
Directory	Last Modified
defaults	8/28/2017, 11:29:26 PM
launchConfigurations	8/28/2017, 11:29:31 PM

Import the tarball

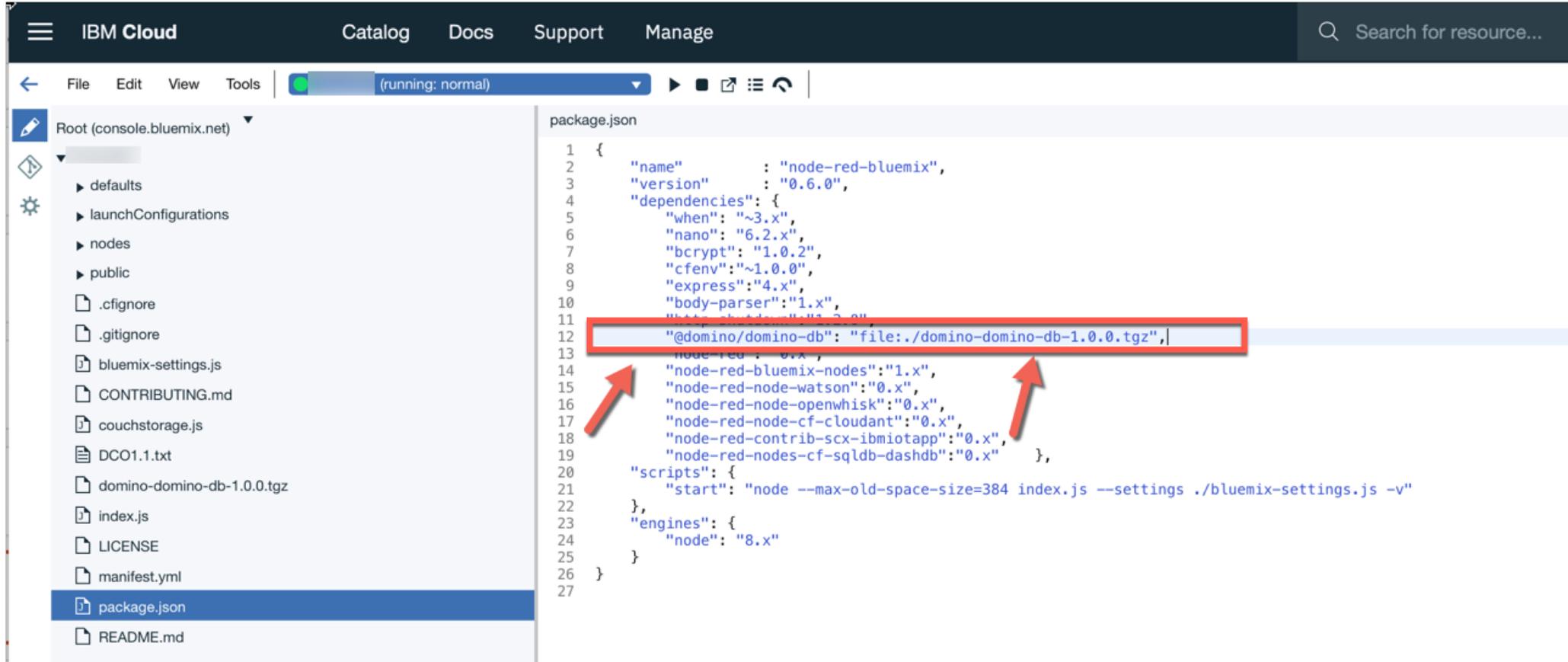


Import the file in the root directory !!!!

Import the tarball – cont'd



Modify the package.json file

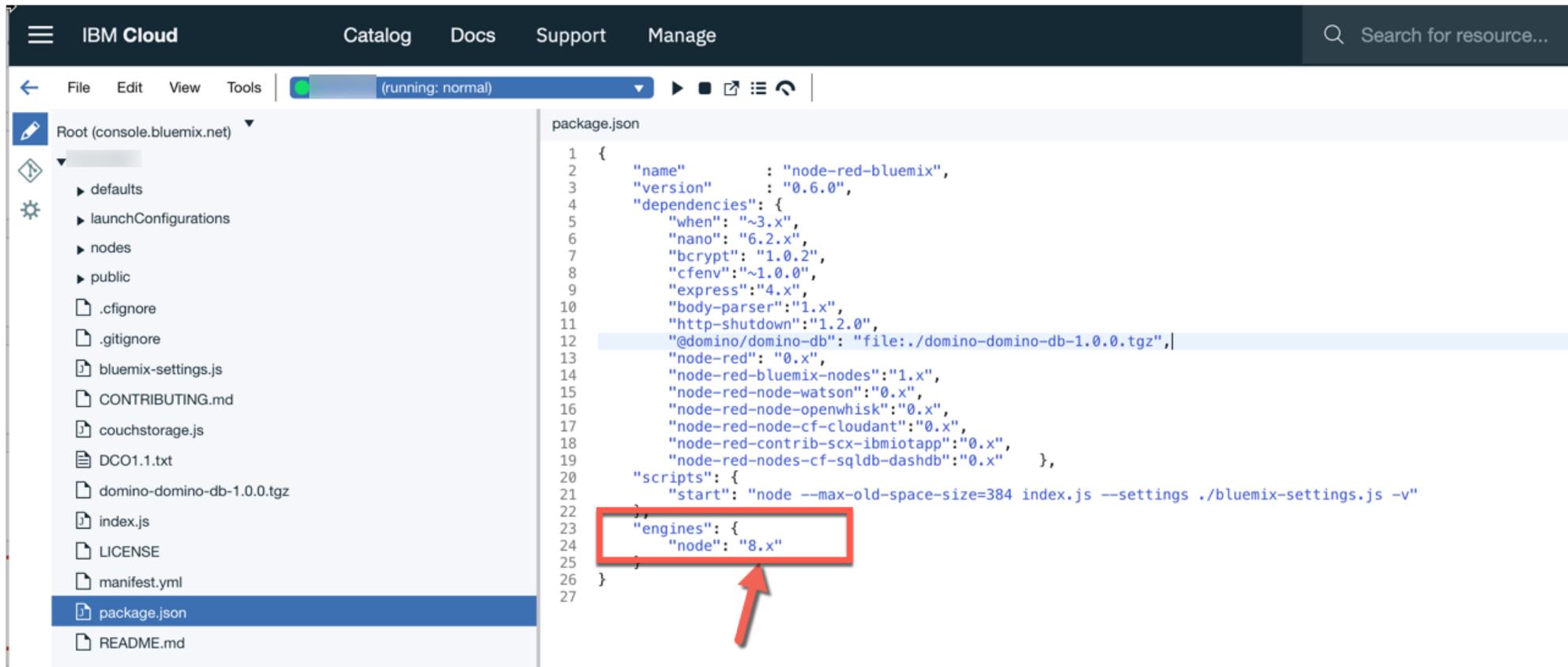


```
1 {
2   "name"      : "node-red-bluemix",
3   "version"   : "0.6.0",
4   "dependencies": {
5     "when": "~3.x",
6     "nano": "6.2.x",
7     "bcrypt": "1.0.2",
8     "cfenv": "~1.0.0",
9     "express": "4.x",
10    "body-parser": "1.x",
11    "domino-domino-db": "1.0.0",
12    "@domino/domino-db": "file:./domino-domino-db-1.0.0.tgz",
13    "node-red": "0.x",
14    "node-red-bluemix-nodes": "1.x",
15    "node-red-node-watson": "0.x",
16    "node-red-node-openwhisk": "0.x",
17    "node-red-node-cf-cloudant": "0.x",
18    "node-red-contrib-scx-ibmiotapp": "0.x",
19    "node-red-nodes-cf-sqldb-dashdb": "0.x"
20  },
21   "scripts": {
22     "start": "node --max-old-space-size=384 index.js --settings ./bluemix-settings.js -v"
23  },
24   "engines": {
25     "node": "8.x"
26  }
27 }
```

Add the following line :

```
"@domino/domino-db": "file:./domino-domino-db-1.0.0.tgz",
```

Modify the package.json file – cont'd



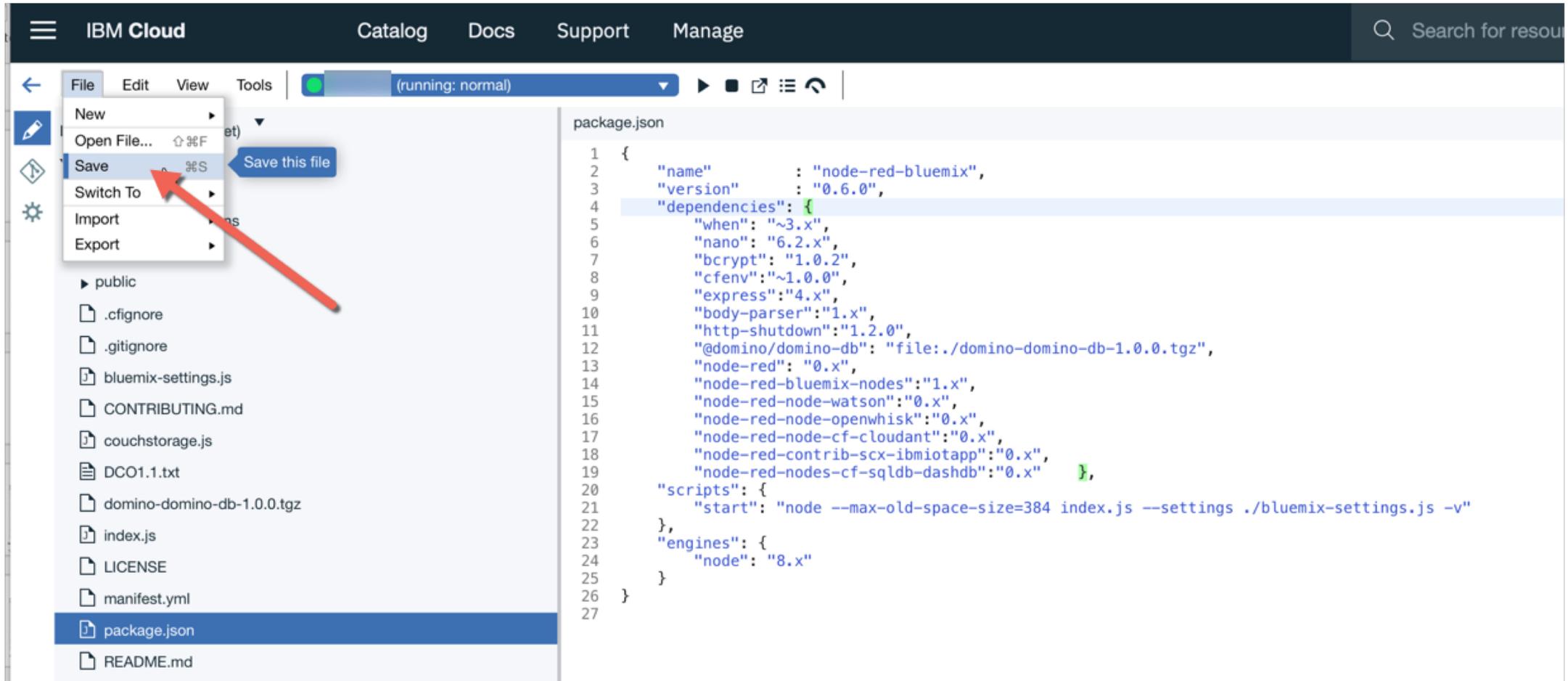
The screenshot shows the IBM Cloud IDE interface. The top navigation bar includes 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. A search bar is on the right. The left sidebar shows a file explorer with 'Root (console.bluemix.net)' and various files and folders. The main editor area displays the 'package.json' file with the following content:

```
1 {
2   "name"      : "node-red-bluemix",
3   "version"   : "0.6.0",
4   "dependencies": {
5     "when": "~3.x",
6     "nano": "6.2.x",
7     "bcrypt": "1.0.2",
8     "cfenv": "~1.0.0",
9     "express": "4.x",
10    "body-parser": "1.x",
11    "http-shutdown": "1.2.0",
12    "@domino/domino-db": "file:./domino-domino-db-1.0.0.tgz",
13    "node-red": "0.x",
14    "node-red-bluemix-nodes": "1.x",
15    "node-red-node-watson": "0.x",
16    "node-red-node-openwhisk": "0.x",
17    "node-red-node-cf-cloudant": "0.x",
18    "node-red-contrib-scx-ibmiotapp": "0.x",
19    "node-red-nodes-cf-sqldb-dashdb": "0.x"
20  },
21  "scripts": {
22    "start": "node --max-old-space-size=384 index.js --settings ./bluemix-settings.js -v"
23  },
24  "engines": {
25    "node": "8.x"
26  }
27 }
```

The 'engines' section, specifically the line `"node": "8.x"`, is highlighted with a red box and a red arrow pointing to it.

Do NOT forget to **modify the NodeJS version** (to Version 8)

Save the package.json file



The screenshot shows the IBM Cloud IDE interface. The top navigation bar includes 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. A search bar is on the right. The main workspace is split into a file explorer on the left and a code editor on the right. The file explorer shows a project structure with files like 'package.json' selected. The code editor displays the content of 'package.json'. The 'File' menu is open, and the 'Save' option is highlighted with a red arrow. A blue callout box says 'Save this file'.

IBM Cloud Catalog Docs Support Manage Search for resources

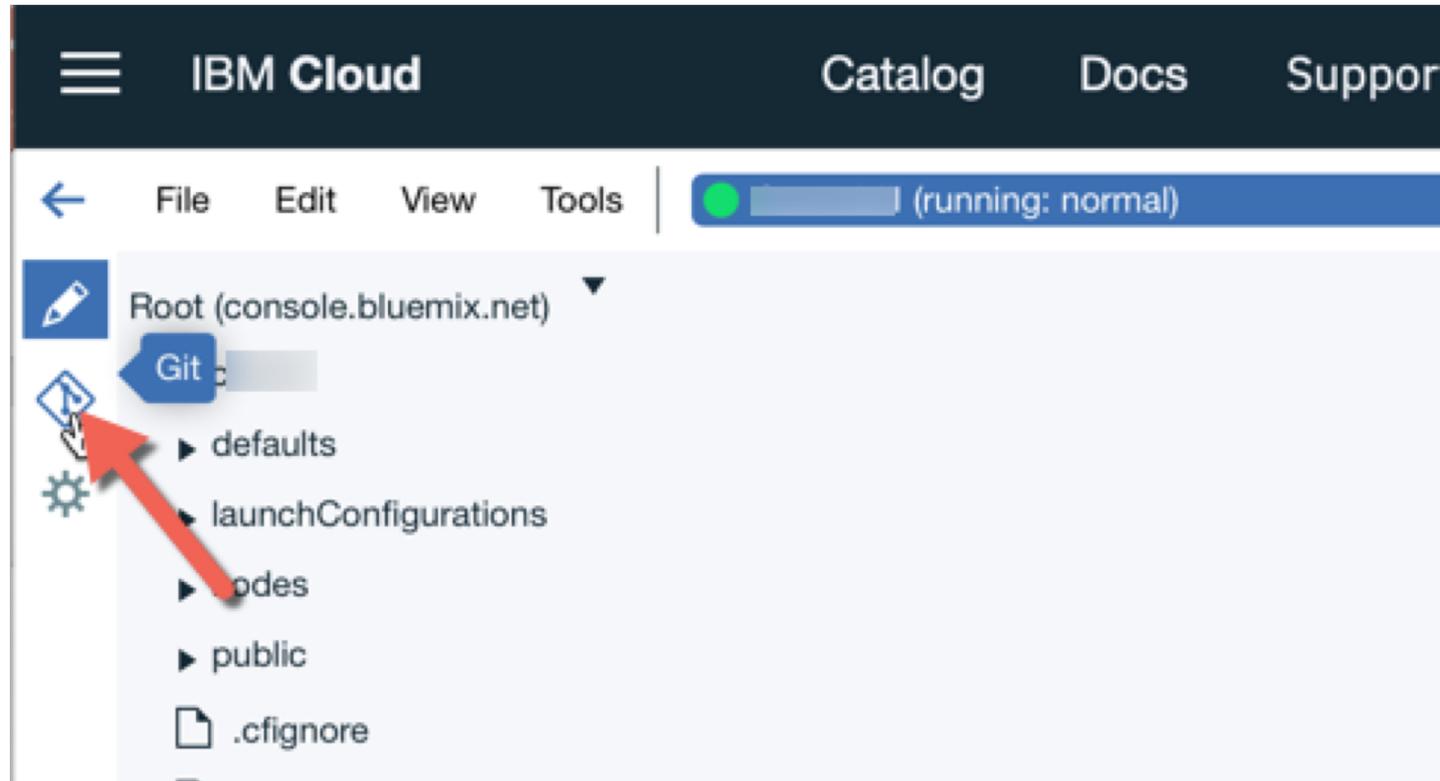
File Edit View Tools (running: normal)

- New
- Open File... ⌘F
- Save ⌘S **Save this file**
- Switch To
- Import
- Export

public
.cfignore
.gitignore
bluemix-settings.js
CONTRIBUTING.md
couchstorage.js
DCO1.1.txt
domino-domino-db-1.0.0.tgz
index.js
LICENSE
manifest.yml
package.json
README.md

```
package.json
1 {
2   "name"      : "node-red-bluemix",
3   "version"   : "0.6.0",
4   "dependencies": {
5     "when": "~3.x",
6     "nano": "6.2.x",
7     "bcrypt": "1.0.2",
8     "cfenv": "~1.0.0",
9     "express": "4.x",
10    "body-parser": "1.x",
11    "http-shutdown": "1.2.0",
12    "@domino/domino-db": "file:./domino-domino-db-1.0.0.tgz",
13    "node-red": "0.x",
14    "node-red-bluemix-nodes": "1.x",
15    "node-red-node-watson": "0.x",
16    "node-red-node-openwhisk": "0.x",
17    "node-red-node-cf-cloudant": "0.x",
18    "node-red-contrib-scx-ibmiotapp": "0.x",
19    "node-red-nodes-cf-sqlldb-dashdb": "0.x"  },
20    "scripts": {
21      "start": "node --max-old-space-size=384 index.js --settings ./bluemix-settings.js -v"
22    },
23    "engines": {
24      "node": "8.x"
25    }
26  }
27
```

Now go to the GIT tab of your Toolchain



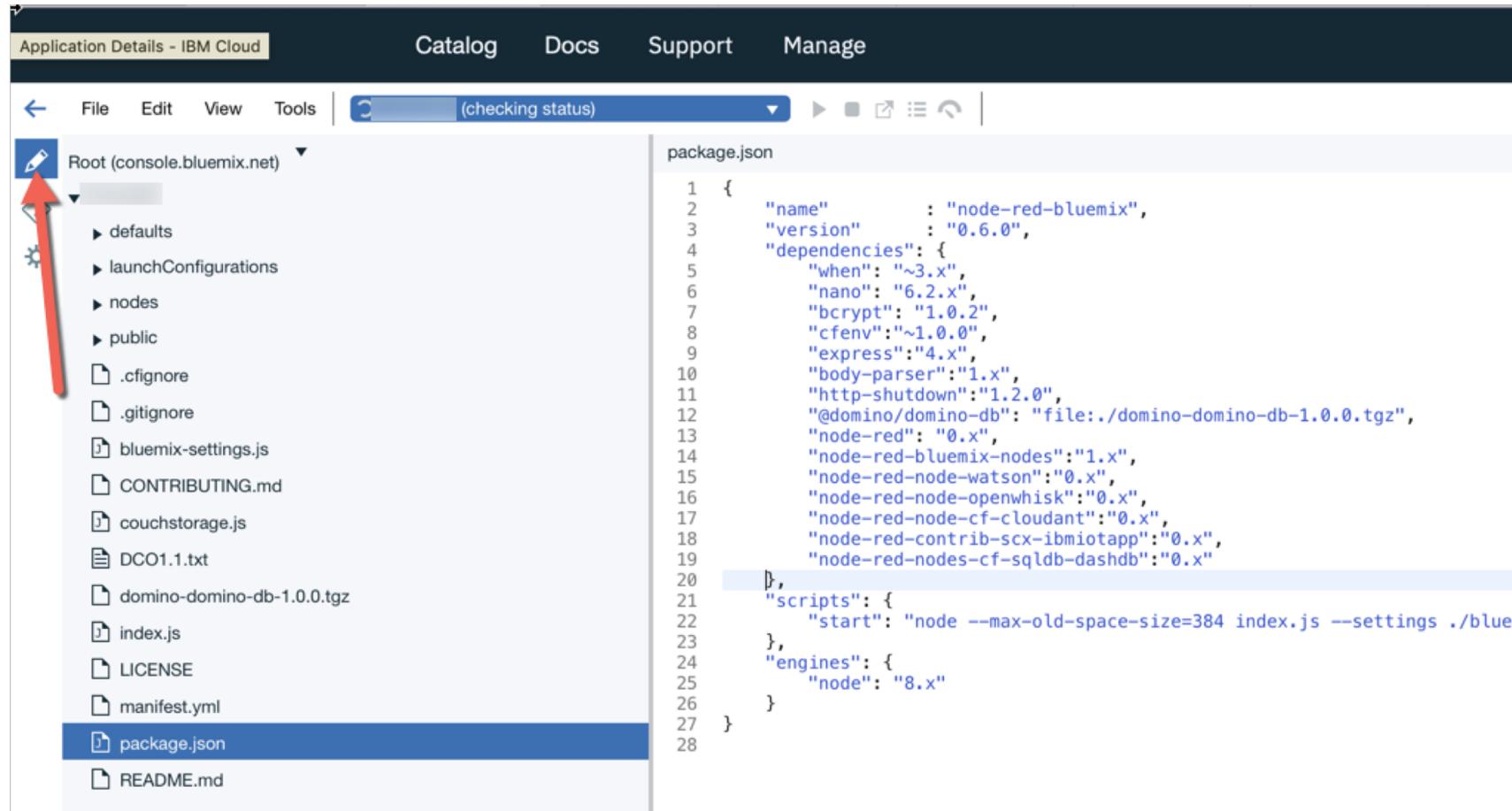
Add a Comment and click COMMIT

The screenshot displays the IBM Cloud DevOps interface for a repository. At the top, there is a navigation bar with 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. A search bar and the user profile 'STEFANO POGLIANI's ...' are also visible. Below the navigation bar, the interface shows the 'Active Branch (master)' and 'Reference: master => origin/master'. The main area is divided into two panels: 'Working Directory Changes' on the left and 'Commit message' on the right. The 'Working Directory Changes' panel shows a folder named 'Working Directory Changes' with '2 files changed. 2 files ready to commit.' Below this, there are sections for 'Outgoing (0)' and 'Incoming (0)', both showing 'No Changes'. A 'Push' button is located next to the 'Outgoing' section, and a 'Fetch' button is next to the 'Incoming' section. A red arrow labeled '1' points to the 'Push' button. The 'Commit message' panel has a text input field containing 'Domino AppDev Pack'. Below the input field, there is a checkbox for 'Amend previous commit' which is currently unchecked. A 'Commit' button is located at the top right of the 'Commit message' panel, with a red arrow labeled '2' pointing to it. At the bottom of the interface, there is a status bar showing 'Select All' and '2 files selected'.

Push All the Changes to IBM Cloud

The screenshot displays the IBM Cloud interface for a repository. At the top, there is a navigation bar with 'IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. Below this, the 'Repository:' dropdown is set to a specific repository, and the 'Reference:' dropdown is set to 'master => origin/master'. The main area is divided into two panels. The left panel, titled 'Active Branch (master)', shows 'Working Directory Changes' with '1 file changed. 0 files ready to commit.' Below this, there is a 'Push' button. A red arrow points from this button to a dropdown menu that is open, showing four options: 'Push All', 'Force Push All', 'Push Branch', and 'Force Push Branch'. Another red arrow points to the 'Push All' option. A blue callout box with a white arrow points to the 'Push All' option, containing the text: 'Push commits and tags from your local branch into the remote branch'. The right panel, titled 'Working Directory Changes', shows a 'Commit message:' field with the placeholder text 'Enter the commit message' and a 'Push' button. Below this, there is a 'Fetch' button and a list of incoming changes, including one from 'STEFANO POGLIANI' on 6/18/2018.

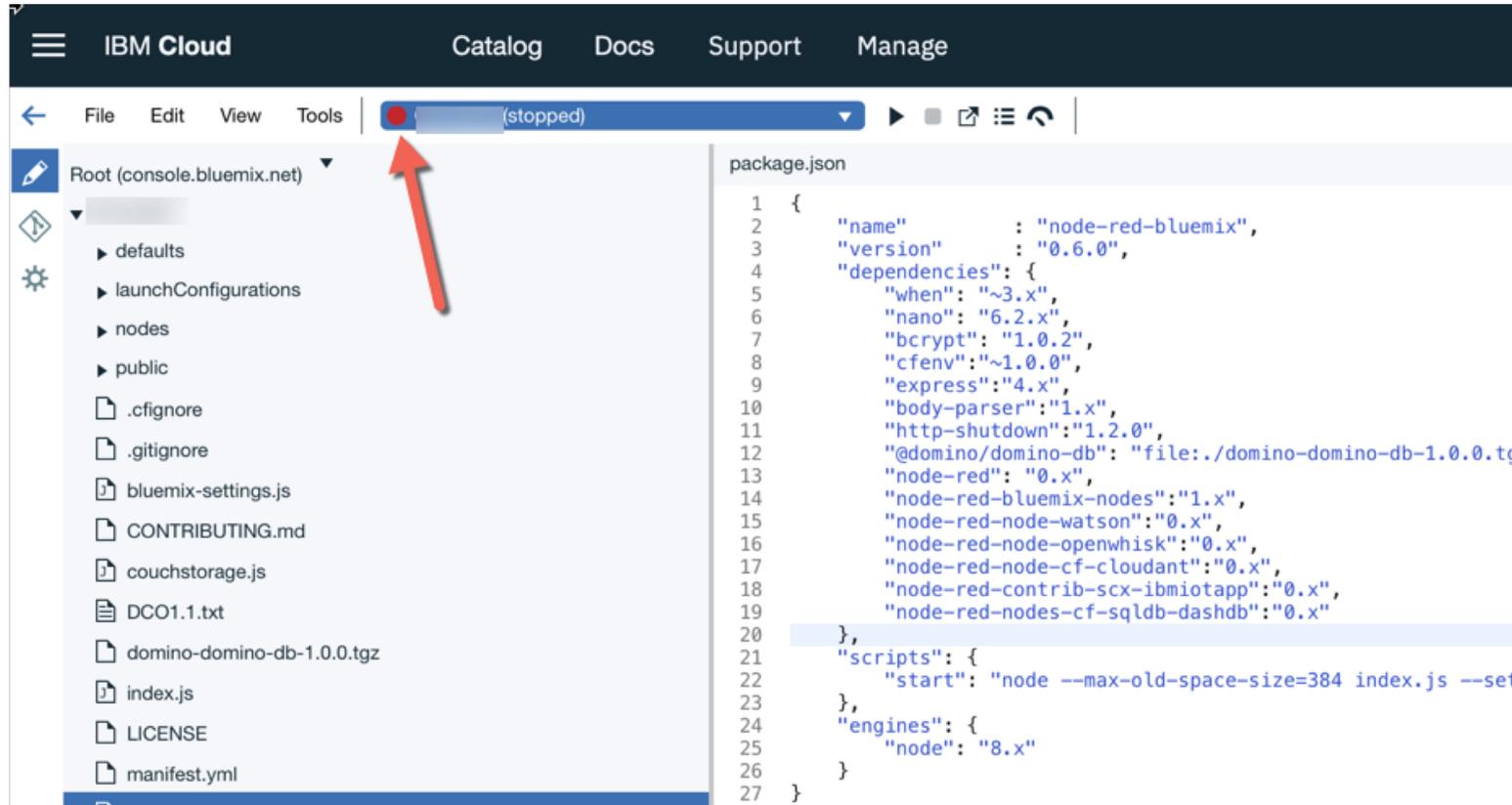
Going back to the editor, you should see your instance



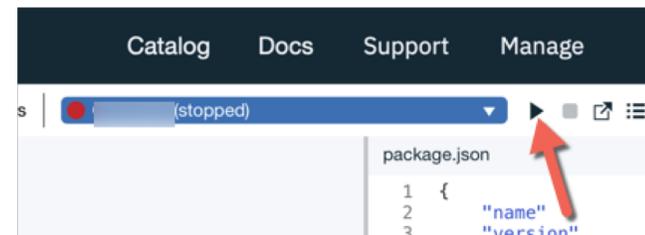
The screenshot shows the IBM Cloud console editor interface. The top navigation bar includes 'Application Details - IBM Cloud', 'Catalog', 'Docs', 'Support', and 'Manage'. Below this is a toolbar with 'File', 'Edit', 'View', and 'Tools' menus, and a status bar indicating '(checking status)'. The left sidebar shows a file tree for 'Root (console.bluemix.net)' with folders like 'defaults', 'launchConfigurations', 'nodes', and 'public', and files like '.cfignore', '.gitignore', 'bluemix-settings.js', 'CONTRIBUTING.md', 'couchstorage.js', 'DCO1.1.txt', 'domino-domino-db-1.0.0.tgz', 'index.js', 'LICENSE', 'manifest.yml', 'package.json', and 'README.md'. A red arrow points to the 'package.json' file in the sidebar. The main editor area displays the content of 'package.json' with line numbers 1 through 28. The code is as follows:

```
1 {
2   "name"      : "node-red-bluemix",
3   "version"   : "0.6.0",
4   "dependencies": {
5     "when": "~3.x",
6     "nano": "6.2.x",
7     "bcrypt": "1.0.2",
8     "cfenv": "~1.0.0",
9     "express": "4.x",
10    "body-parser": "1.x",
11    "http-shutdown": "1.2.0",
12    "@domino/domino-db": "file:./domino-domino-db-1.0.0.tgz",
13    "node-red": "0.x",
14    "node-red-bluemix-nodes": "1.x",
15    "node-red-node-watson": "0.x",
16    "node-red-node-openwhisk": "0.x",
17    "node-red-node-cf-cloudant": "0.x",
18    "node-red-contrib-scx-ibmiotapp": "0.x",
19    "node-red-nodes-cf-sqldb-dashdb": "0.x"
20  },
21  "scripts": {
22    "start": "node --max-old-space-size=384 index.js --settings ./blue
23  },
24  "engines": {
25    "node": "8.x"
26  }
27 }
28
```

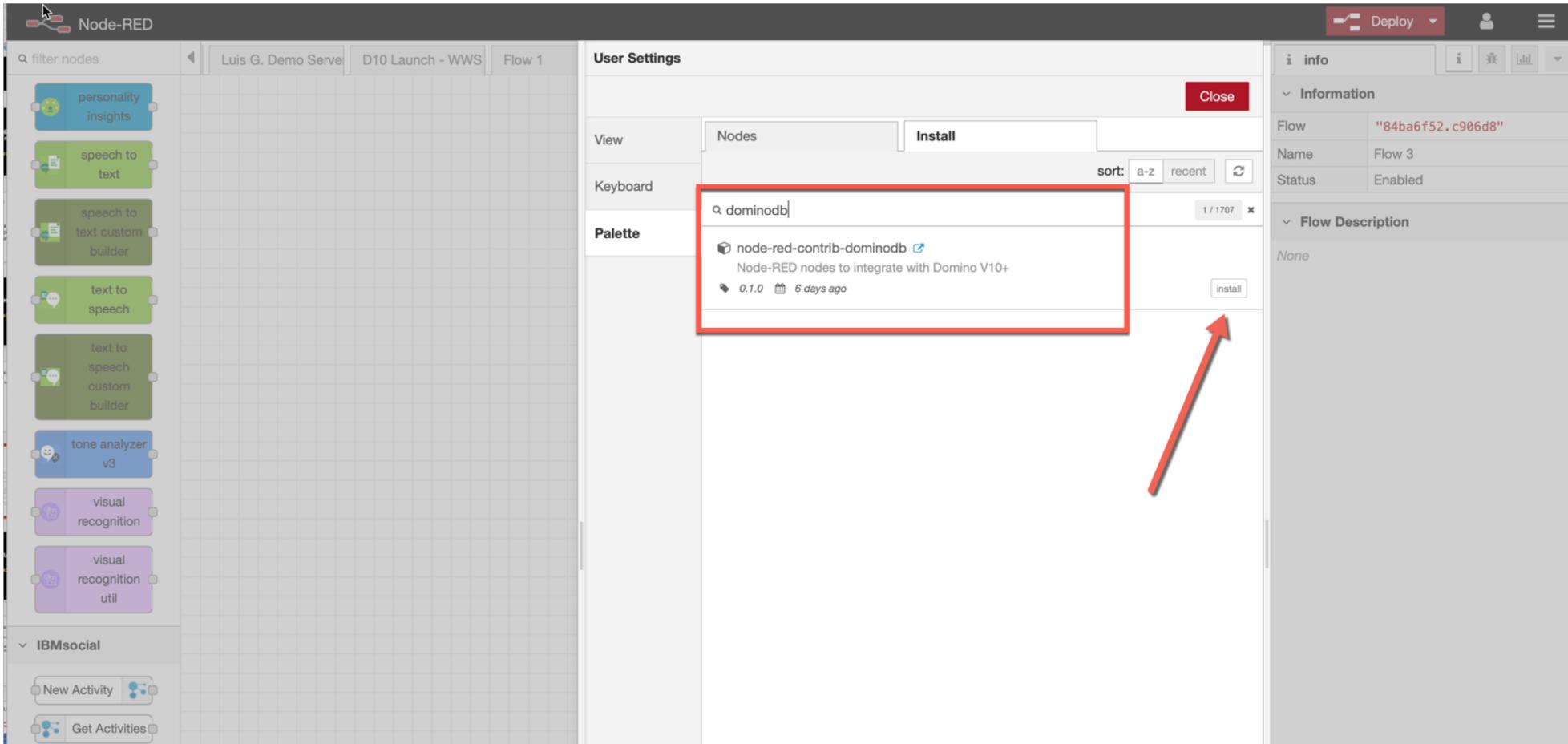
The instance should redeploy automatically



In case it does not, you can redeploy manually using this arrow:



Open your NodeRED Editor



Install **node-red-contrib-dominodb** using the standard “Manage Palette” functionality in NodeRed

The NodeRED package is installed and ready to be used

