📦 Publishing React Utility to JFrog Artifactory (npm Module)

This guide explains how to publish a React utility module (bundled using Webpack) to JFrog Artifactory, and how to securely manage npm credentials in CI/CD pipelines (GitLab). It includes both `.npmrc` and non-`.npmrc` methods, best practices, and official references.

# 🛠️ Project Structure Overview

Your project should look like:

your-utils/  
├── src/  
│ └── index.js  
├── dist/  
├── package.json  
├── webpack.config.js  
└── .babelrc

# ⚙️ Webpack Setup

## 1. webpack.config.js

const path = require("path");  
  
module.exports = {  
 entry: "./src/index.js",  
 output: {  
 path: path.resolve(\_\_dirname, "dist"),  
 filename: "index.js",  
 library: {  
 name: "ReactUtils",  
 type: "umd"  
 },  
 globalObject: "this",  
 clean: true  
 },  
 externals: {  
 react: "react"  
 },  
 module: {  
 rules: [  
 {  
 test: /\.jsx?$/,  
 exclude: /node\_modules/,  
 use: "babel-loader"  
 }  
 ]  
 },  
 resolve: {  
 extensions: [".js", ".jsx"]  
 }  
};

# 🔐 Authentication Methods for JFrog

## Option 1: Using .npmrc (Not Recommended for Repo)

Do not commit `.npmrc` to the repository. Instead, create it dynamically during the pipeline.  
Example content (for local use only):

registry=https://your-company.jfrog.io/artifactory/api/npm/npm-local/  
  
//your-company.jfrog.io/artifactory/api/npm/npm-local/:\_authToken=YOUR\_API\_KEY

## Option 2: Using npm config set (Recommended)

Add the following to your GitLab CI job instead of committing `.npmrc`:

npm config set //your-company.jfrog.io/artifactory/api/npm/npm-local/:\_authToken=$ARTIFACTORY\_API\_KEY  
npm publish --registry=https://your-company.jfrog.io/artifactory/api/npm/npm-local/

## Option 3: Using NODE\_AUTH\_TOKEN (Scoped packages)

Works with private registries if your setup supports it:

variables:  
  
 NODE\_AUTH\_TOKEN: $ARTIFACTORY\_API\_KEY

# ✅ Example GitLab CI Configuration

publish:  
  
 stage: publish  
  
 image: node:20  
  
 script:  
  
 - npm ci  
  
 - npm run build  
  
 - npm config set //your-company.jfrog.io/artifactory/api/npm/npm-local/:\_authToken=$ARTIFACTORY\_API\_KEY  
  
 - npm publish --registry=https://your-company.jfrog.io/artifactory/api/npm/npm-local/  
  
 only:  
  
 - main

# 📚 References

1. JFrog npm Registry Docs: https://www.jfrog.com/confluence/display/JFROG/npm+Registry

2. JFrog Deploying npm Packages: https://www.jfrog.com/confluence/display/JFROG/npm+Registry#npmRegistry-DeployingnpmPackages

3. JFrog NpmPublish Step (Pipelines): https://www.jfrog.com/confluence/display/JFROG/NpmPublish+Pipeline+Step

4. HMRC GitHub Example (`x-govuk-component-renderer`): https://github.com/hmrc/x-govuk-component-renderer