

Next.js Application create and build process using CI/CD pipeline

1. Created EC2 instance

The screenshot displays the AWS Management Console interface for the 'Instances' page in the 'ap-south-1' region. The console shows a single EC2 instance named 'nextjs-server' with the ID 'i-0aca906b2d03845e8', which is currently in a 'Running' state. The instance is of type 't2.medium' and is located in the 'ap-south-1a' availability zone. Below the instance list, the 'Security groups' section is expanded, showing the security group 'sg-0cf0ea88084d46a63' (launch-wizard-9). The inbound rules section lists four rules: 'sgr-0f94dcd27673444fe' (port 8080), 'sgr-0f24823f47ea00ac5' (port 3000), 'sgr-0c641042a05dee676' (port 80), and 'sgr-0a71f9b40ed06531e' (port 22), all of which are associated with the 'launch-wizard-' security group. The outbound rules section shows a single rule 'sgr-0f12406f6ae85121f' (all ports) associated with the 'launch-wizard-' security group.

Name	Security group rule ID	Port range	Protocol	Source	Security group
-	sgr-0f94dcd27673444fe	8080	TCP	0.0.0.0/0	launch-wizard-
-	sgr-0f24823f47ea00ac5	3000	TCP	0.0.0.0/0	launch-wizard-
-	sgr-0c641042a05dee676	80	TCP	0.0.0.0/0	launch-wizard-
-	sgr-0a71f9b40ed06531e	22	TCP	0.0.0.0/0	launch-wizard-

Name	Security group rule ID	Port range	Protocol	Destination	Security group
-	sgr-0f12406f6ae85121f	All	All	0.0.0.0/0	launch-wizard-

2. Install Node.js, npm, jenkins


```
Last login: Sat Jun 14 05:25:44 2025 from 106.205.170.70
ubuntu@ip-192-168-3-50:~$ node -v
v18.19.1
ubuntu@ip-192-168-3-50:~$ npm -v
9.2.0
```

← → 🔒 Not secure 15.206.73.225:8080/login?from=%2F

🔍 ☆ 🌐 ⋮

📧 Gmail 📺 YouTube 📍 Maps 🗣️ ChatGPTChatGPT

📁 All Bookmarks



Sign in to Jenkins

Username

Password

☐ Keep me signed in

Sign in

3. Created basic Next.js application locally

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-192-168-3-50:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
3a0662f5c99b4635b30e02ce8d556313
ubuntu@ip-192-168-3-50:~$ npx create-next-app@latest nextjs-ec2-app
Need to install the following packages:
  create-next-app@15.3.3
Ok to proceed? (y) y
✓ Would you like to use TypeScript? ... No / Yes
✓ Would you like to use ESLint? ... No / Yes
✓ Would you like to use Tailwind CSS? ... No / Yes
✓ Would you like your code inside a 'src/' directory? ... No / Yes
✓ Would you like to use App Router? (recommended) ... No / Yes
✓ Would you like to use Turbopack for 'next dev'? ... No / Yes
✓ Would you like to customize the import alias ('@/*' by default)? ... No / Yes
Creating a new Next.js app in /home/ubuntu/nextjs-ec2-app.

Using npm.

Initializing project with template: app-tw

Installing dependencies:
- react
- react-dom
- next

Installing devDependencies:
- typescript
- @types/node
- @types/react
- @types/react-dom
- @tailwindcss/postcss
- tailwindcss

added 68 packages, and audited 69 packages in 20s

14 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
Success! Created nextjs-ec2-app at /home/ubuntu/nextjs-ec2-app
ubuntu@ip-192-168-3-50:~$
```

```
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ sudo mkdir /var/www/nextjs-app
mkdir: cannot create directory '/var/www/nextjs-app': No such file or directory
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ sudo mkdir -p /var/www/nextjs-app
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ sudo chown -R ubuntu:ubuntu /var/www/nextjs-app
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ |
```

```
app      next.config.ts  package-lock.json  postcss.config.mjs  tsconfig.json
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ npm run build
> nextjs-ec2-app@0.1.0 build
> next build

Attention: Next.js now collects completely anonymous telemetry regarding usage.
This information is used to shape Next.js' roadmap and prioritize features.
You can learn more, including how to opt-out if you'd not like to participate in this anonymous program, by visiting the following URL:
https://nextjs.org/telemetry

  ▲ Next.js 15.3.3

  Creating an optimized production build ...
  ✓ Compiled successfully in 9.0s
  ✓ Linting and checking validity of types
  ✓ Collecting page data
  ✓ Generating static pages (5/5)
  ✓ Collecting build traces
  ✓ Finalizing page optimization

Route (app) | Size | First Load JS
┌ ○ / | 5.62 kB | 107 kB
└ ○ /_not-found | 978 B | 102 kB
+ First Load JS shared by all | 101 kB
  ├ chunks/4bd1b606-67ae12fb04071d3b.js | 53.2 kB
  ├ chunks/684-c85650275c47a38c.js | 46 kB
  └ other shared chunks (total) | 1.88 kB

o (Static) prerendered as static content
ubuntu@ip-192-168-3-50:~/nextjs-ec2-app$ |
```

4. Push code to GitHub

```
nextjs-ec2-app
nextjs-ec2-app
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ ls
README.md app next-env.d.ts next.config.ts node_modules package-lock.json package.json postcss.config.mjs public tsconfig.json
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git push -u origin main
Username for 'https://github.com': tinabhatnagar27
Password for 'https://tinabhatnagar27@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/about-remote-repositories/cloning-with-https-urls for information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/tinabhatnagar27/nextjs-ec2-app.git/'
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git push -u origin main
Username for 'https://github.com': tinabhatnagar27
Password for 'https://tinabhatnagar27@github.com':
remote: Repository not found.
fatal: repository 'https://github.com/tinabhatnagar27/nextjs-ec2-app.git/' not found
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ https://github.com/tinabhatnagar27/nextjs-ec2-app
-bash: https://github.com/tinabhatnagar27/nextjs-ec2-app: No such file or directory
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git remote add origin https://github.com/tinabhatnagar27/nextjs-ec2-app.git
error: remote origin already exists.
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git remote remove origin
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git remote add origin https://github.com/tinabhatnagar27/nextjs-ec2-app.git
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git branch -M main
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git push -u origin main
Username for 'https://github.com': tinabhatnagar27
Password for 'https://tinabhatnagar27@github.com':
To https://github.com/tinabhatnagar27/nextjs-ec2-app.git
 ! [rejected]        main -> main (fetch first)
error: failed to push some refs to 'https://github.com/tinabhatnagar27/nextjs-ec2-app.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git push -u origin main --force
Username for 'https://github.com': '2'
[i]+ Stopped git push -u origin main --force
ubuntu@ip-192-168-3-58:~/nextjs-ec2-app$ git push -u origin main --force
Username for 'https://github.com': tinabhatnagar27
Password for 'https://tinabhatnagar27@github.com':
Enumerating objects: 28, done.
Counting objects: 100% (28/28), done.
Delta compression using up to 2 threads
Compressing objects: 100% (28/28), done.
Writing objects: 100% (28/28), 26.95 KiB | 6.74 MiB/s, done.
Total 28 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/tinabhatnagar27/nextjs-ec2-app.git
+ 9f9dec5..7894b1b main -> main (forced update)
branch 'main' set up to track 'origin/main'.
```

5. Configure Jenkins: install plugins: - git, node, pipeline: - then create a new job

Script ?

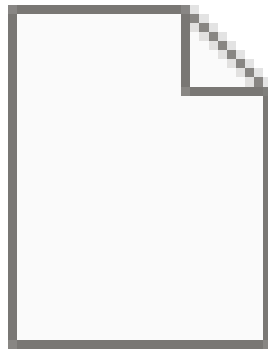
```
1 pipeline {
2   agent any
3
4   environment {
5     APP_DIR = '/var/lib/jenkins/workspace/nextjs-deploy'
6   }
7
8   stages {
9     stage('Clone Repository') {
10      steps {
11        git branch: 'main', url: 'https://github.com/tinabhatnagar27/nextjs-ec2-app.git'
12      }
13    }
14
15    stage('Install Dependencies') {
```

☒ Use Groovy Sandbox ?

Script ?

```
15 stage('Install Dependencies') {  
16     steps {  
17         sh '''  
18             cd $APP_DIR  
19             npm install  
20             '''  
21     }  
22 }  
23  
24 stage('Build App') {  
25     steps {  
26         sh '''  
27             cd $APP_DIR  
28             npm run build  
29             '''  
30     }  
31 }
```

☒ Use Groovy Sandbox ?



jenkins.file


```
Dashboard > nextjs-deploy > #6
Workspaces
Previous Build

> git fetch --tags --force --progress -- https://github.com/tinabhatnagar27/nextjs-ec2-app.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 7894b1b9003f7e6ff774b5a2510a23a32c9c1943 (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 7894b1b9003f7e6ff774b5a2510a23a32c9c1943 # timeout=10
> git branch -a -v --no-abbrev # timeout=10
> git branch -D main # timeout=10
> git checkout -b main 7894b1b9003f7e6ff774b5a2510a23a32c9c1943 # timeout=10
Commit message: "Initial commit"
> git rev-list --no-walk 7894b1b9003f7e6ff774b5a2510a23a32c9c1943 # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Install Dependencies)
[Pipeline] sh
+ cd /var/lib/jenkins/workspace/nextjs-deploy
+ npm install

up to date, audited 69 packages in 769ms

14 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
```

```
Dashboard > nextjs-deploy > #6

[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Build App)
[Pipeline] sh
+ cd /var/lib/jenkins/workspace/nextjs-deploy
+ npm run build

> nextjs-ec2-app@0.1.0 build
> next build

  ▲ Next.js 15.3.3

  Creating an optimized production build ...
  ✓ Compiled successfully in 2000ms
  Linting and checking validity of types ...
  Collecting page data ...
  Generating static pages (0/5) ...
  Generating static pages (1/5)
  Generating static pages (2/5)
  Generating static pages (3/5)
  ✓ Generating static pages (5/5)
  Finalizing page optimization ...
  Collecting build traces ...

Route (app)                                Size  First Load JS
┌ ○ /                                       5.62 kB           107 kB
└ ○ /_not-found                           978 B            102 kB
+ First Load JS shared by all              101 kB
```

← → ↻ Not secure 15.206.73.225:8080/jobs/nextjs-deploy/6/console ☆ All Bookmarks

Dashboard > nextjs-deploy > #6

```
Generating static pages (1/5) ...
Finalizing page optimization ...
Collecting build traces ...

Route (app)
├─ /
├─ /_not-found
├─ First Load JS shared by all
│   ├─ chunks/4bd1b696-67ee12fb04071d3b.js 53.2 kB
│   └─ chunks/684-c85650275c47a38c.js 46 kB
└─ other shared chunks (total) 1.88 kB

o (Static) prerendered as static content

[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

REST API Jenkins 2.504.2

nextjs-deploy < 6 Pipeline Changes Tests Artifacts ↺ ⚙️ 📄 Logout X

Branch: — 35s No changes
Commit: — a minute ago Started by user Tina Bhatnagar

Start Clone Repository Install Dependencies Build App End

Build App - 32s [Restart Build App](#) 📄 ⬇️

```
✓ cd $APP_DIR npm run build -- Shell Script 32s
1 + cd /var/lib/jenkins/workspace/nextjs-deploy
2 + npm run build
3
4 > nextjs-ec2-app@0.1.0 build
5 > next build
6
7 ▲ Next.js 15.3.3
8
9 Creating an optimized production build ...
10 ✓ Compiled successfully in 2080ms
11 Linking and checking validity of types ...
12 Collecting page data ...
13 Generating static pages (0/5) ...
14 Generating static pages (1/5) ...
15 Generating static pages (2/5) ...
16 Generating static pages (3/5) ...
17 Generating static pages (4/5) ...
```


7. After successful Jenkins build: then open browser access public key with port

