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Aim : You have a requirement for deploying an existing Python based application to IBM Cloud. There is a need for automatic scaling for the underlying environment. Implement the IBM Cloud service and resource used to deploy this environment in the quickest way possible.

Go through the scenario of development and deployment and perform the following tasks :

1. Developing Python flask application and upload it on github for version management

2. Deploying the application through the IBM Cloud Code engine dashboard.

3. Explore the Autoscaling policies for your application and set the required policies

4. Deploy Node js application on Code engine using Cloud Native Builpacks.

TASK : Deploy your portfolio Project or Practical-1 of EADC on Code-Engine

Steps and Screenshots :

1. Create nodejs app to host a web application

Code :

```
let express = require('express');
let app = express();

let port = process.env.PORT || 3000;
app.use(express.static('public'));

app.listen(port, function () {
   console.log('Server is listening on port 3000. Ready to accept
requests!');
});
```

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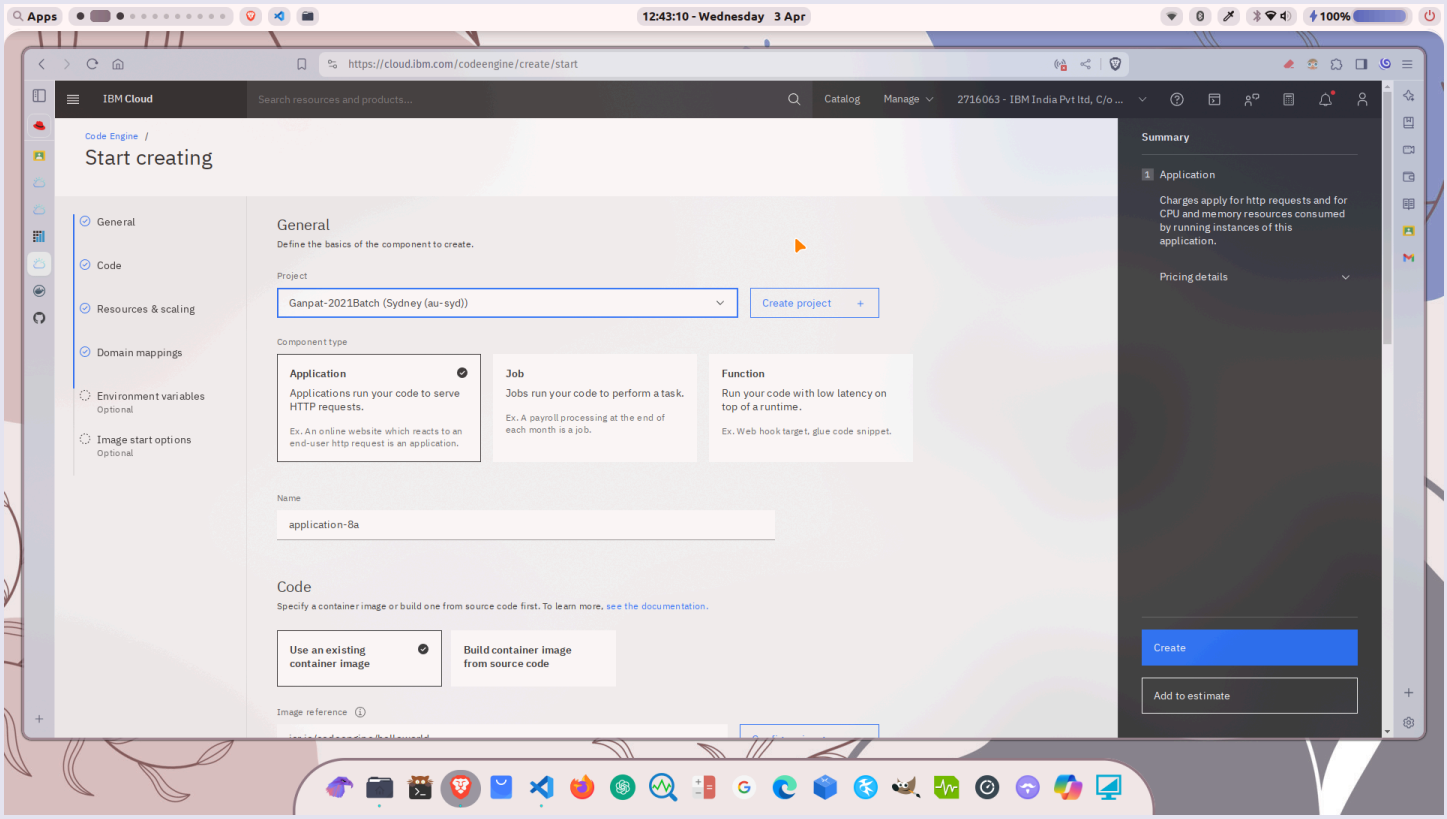
Rest code of website available at : https://github.com/yashslakhtariya/eadc-p9.git

2. Create new or use existing project to create a new application on IBM Code Engine service



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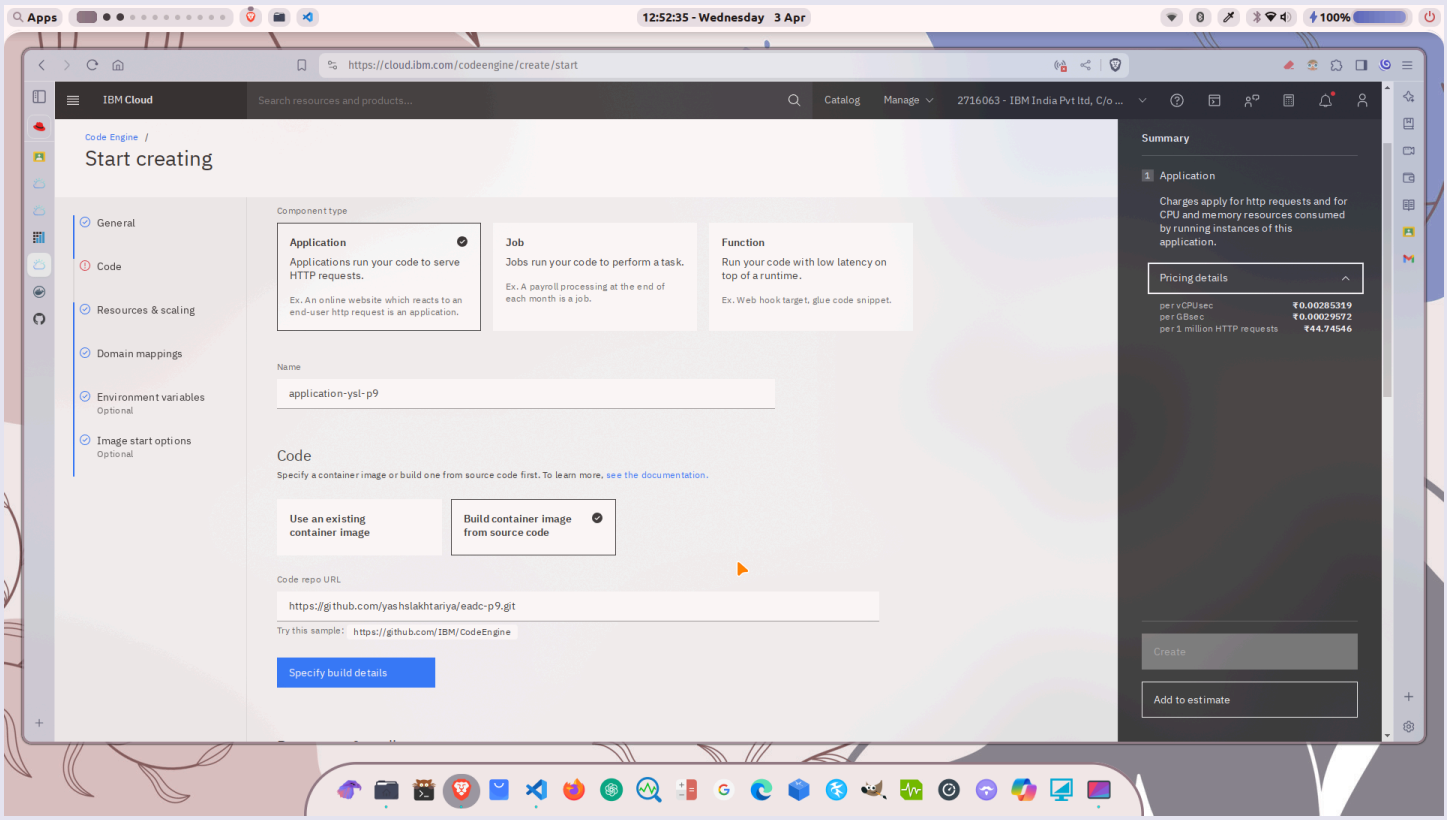
3. Specify to build container image from source as we don't have prebuilt image and also Git repo as source



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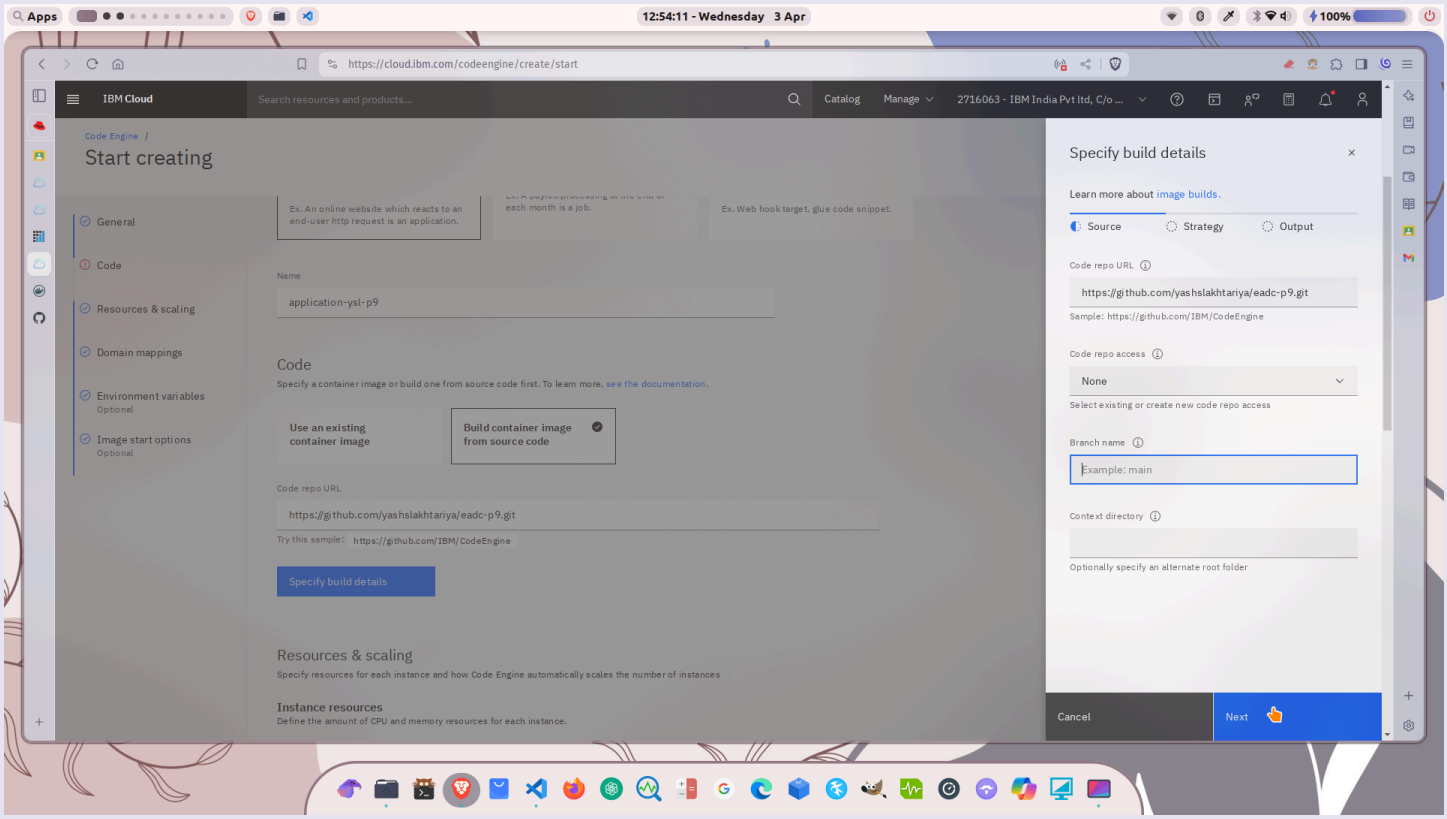
4. Specify build details source as Git repository and respective branch



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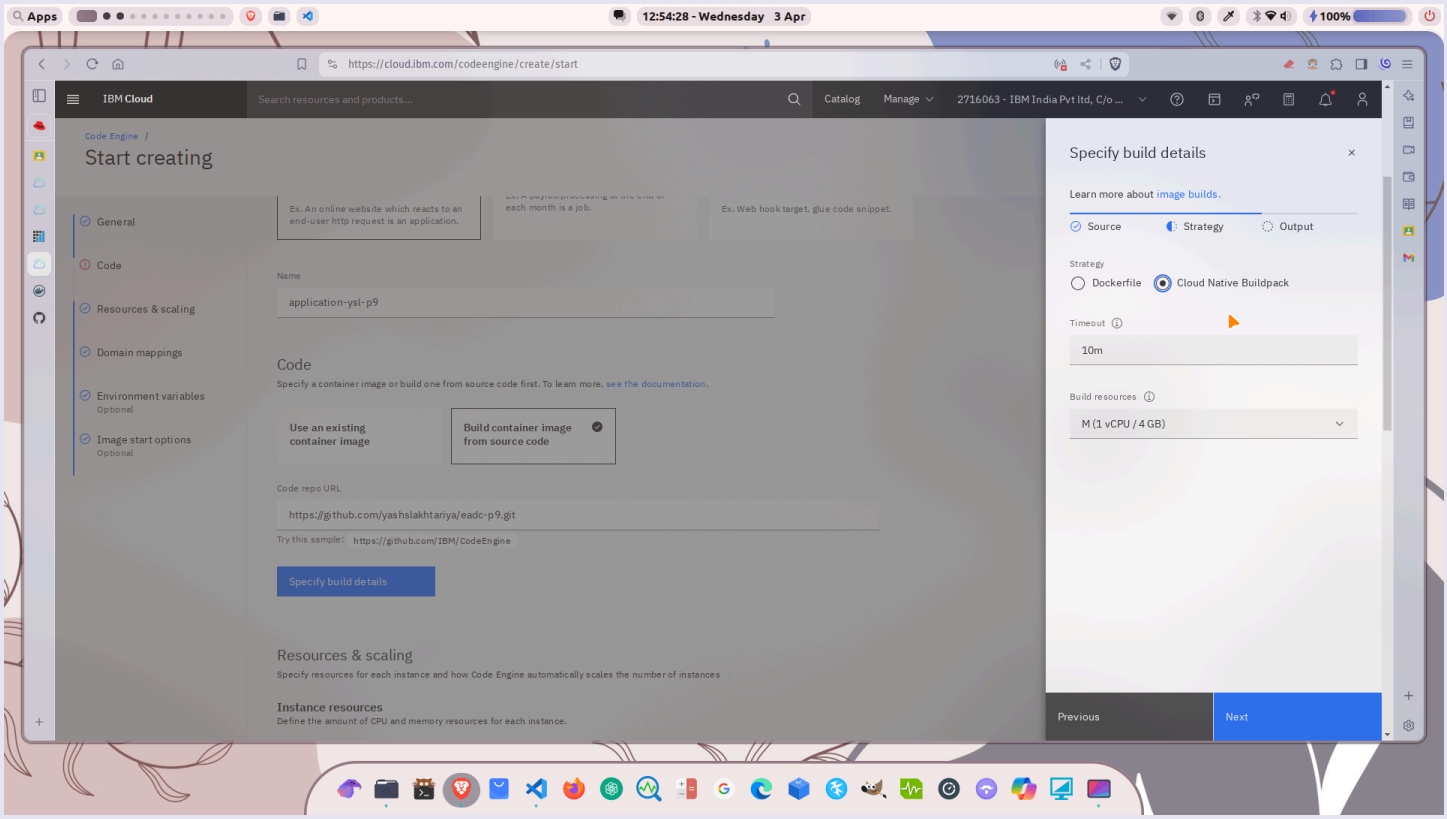
5. Strategy, first as Cloud Native Buildpack



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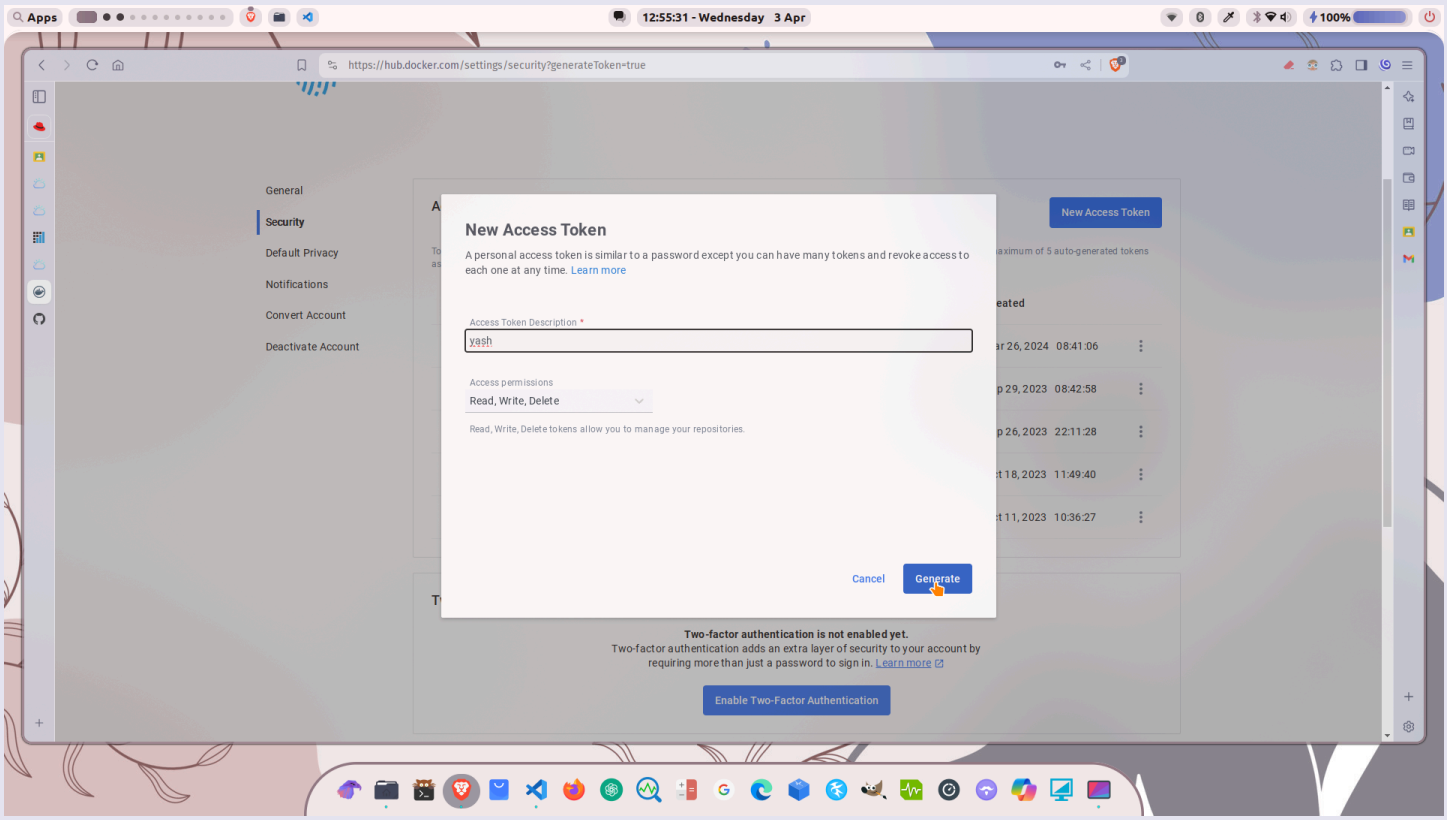
6. For hosting image on Docker hub, create access token from Account Settings on hub.docker.com with all permissions



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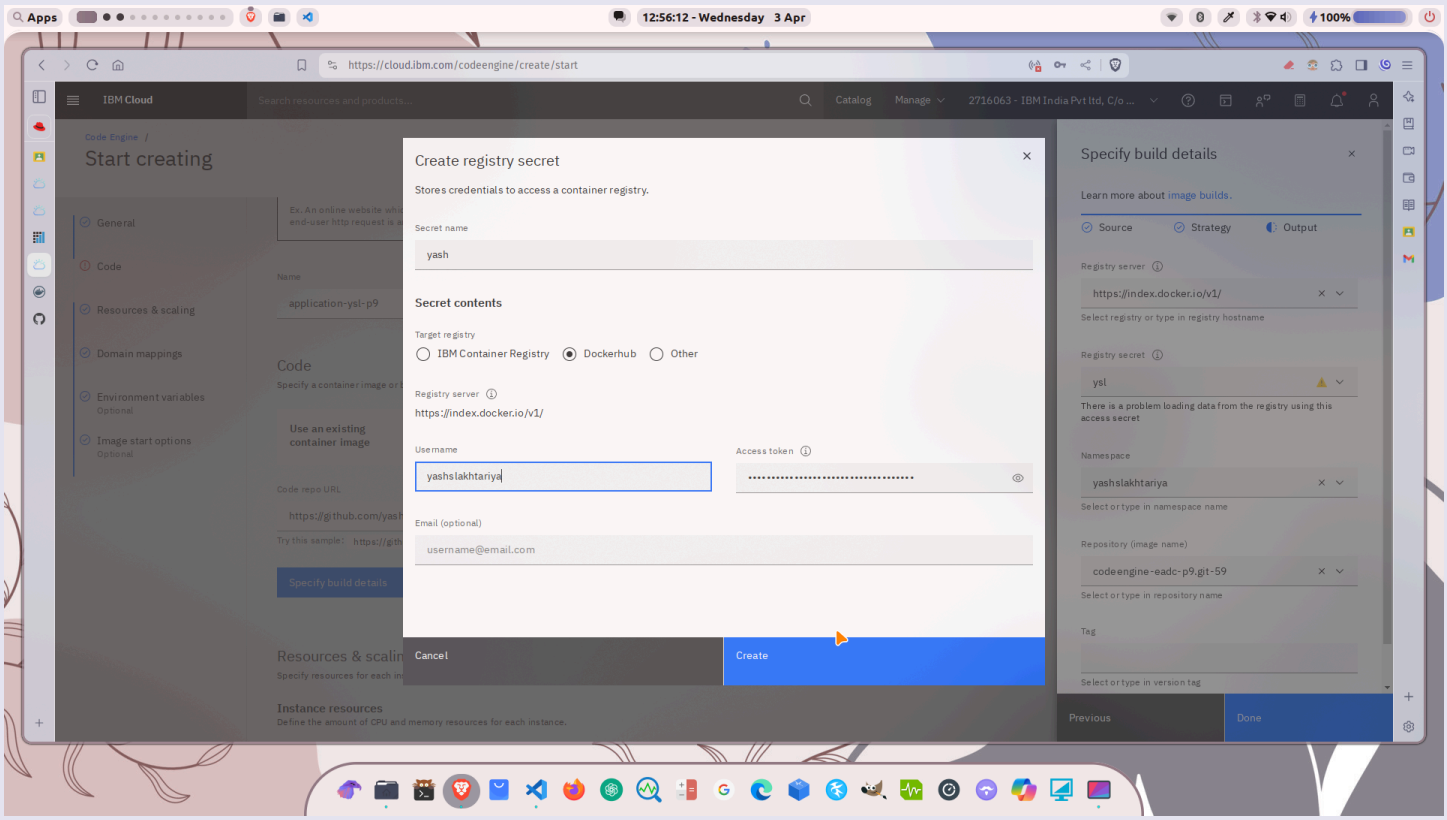
7. Create new registry secret in Output section, with dockerhub access token details and username



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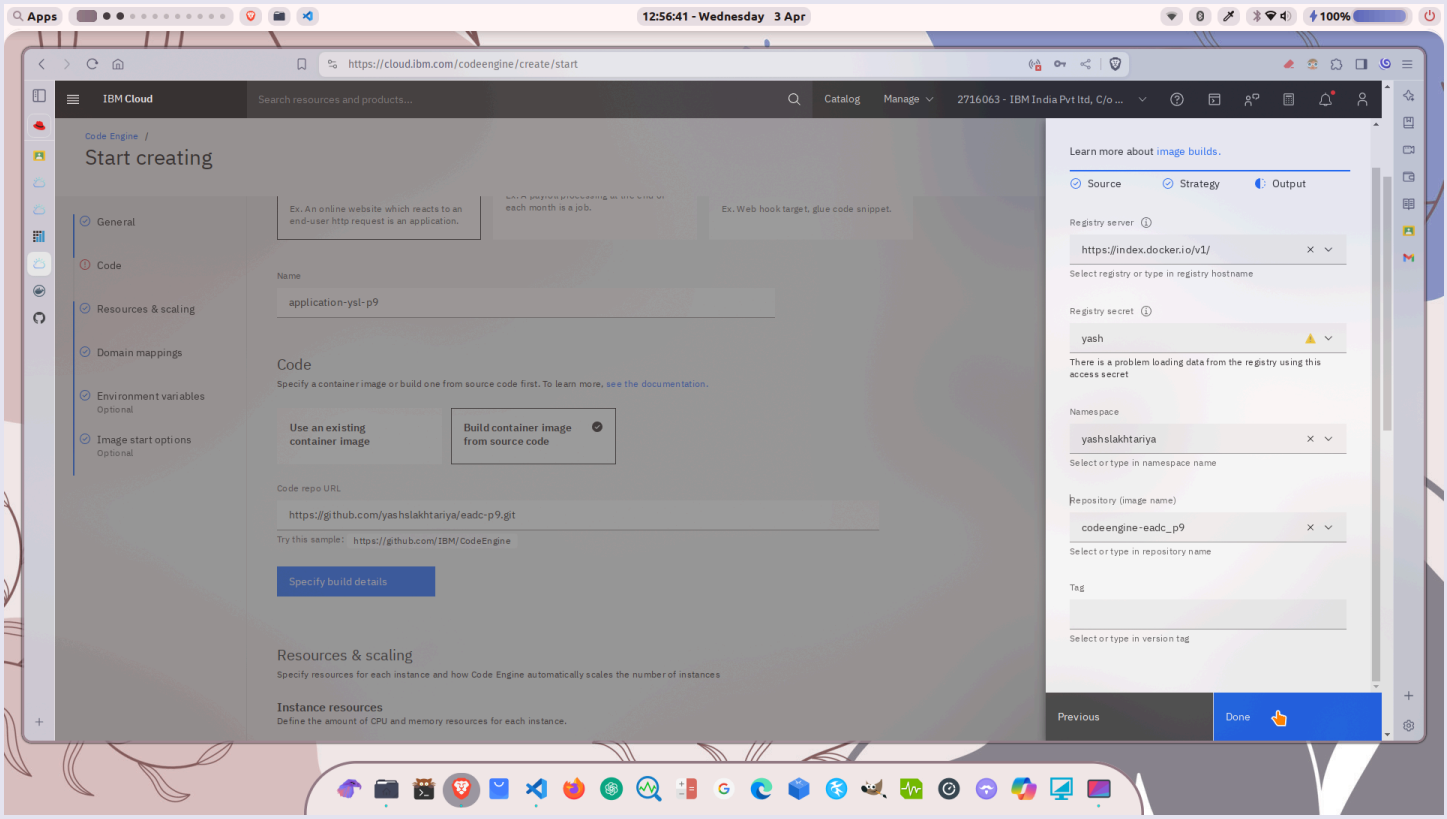
8. Specify image name if required else keep default



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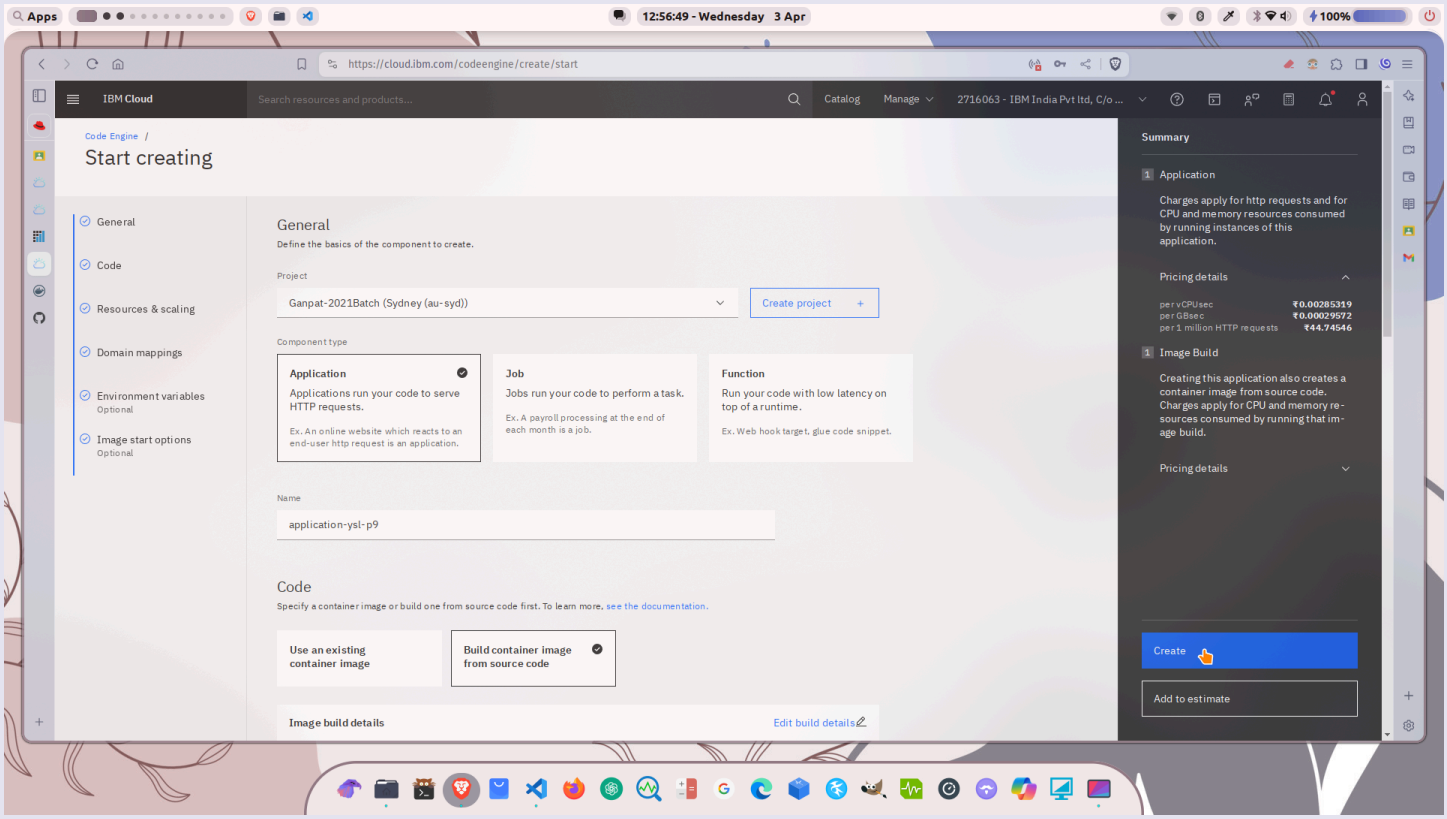
9. Now, create the application



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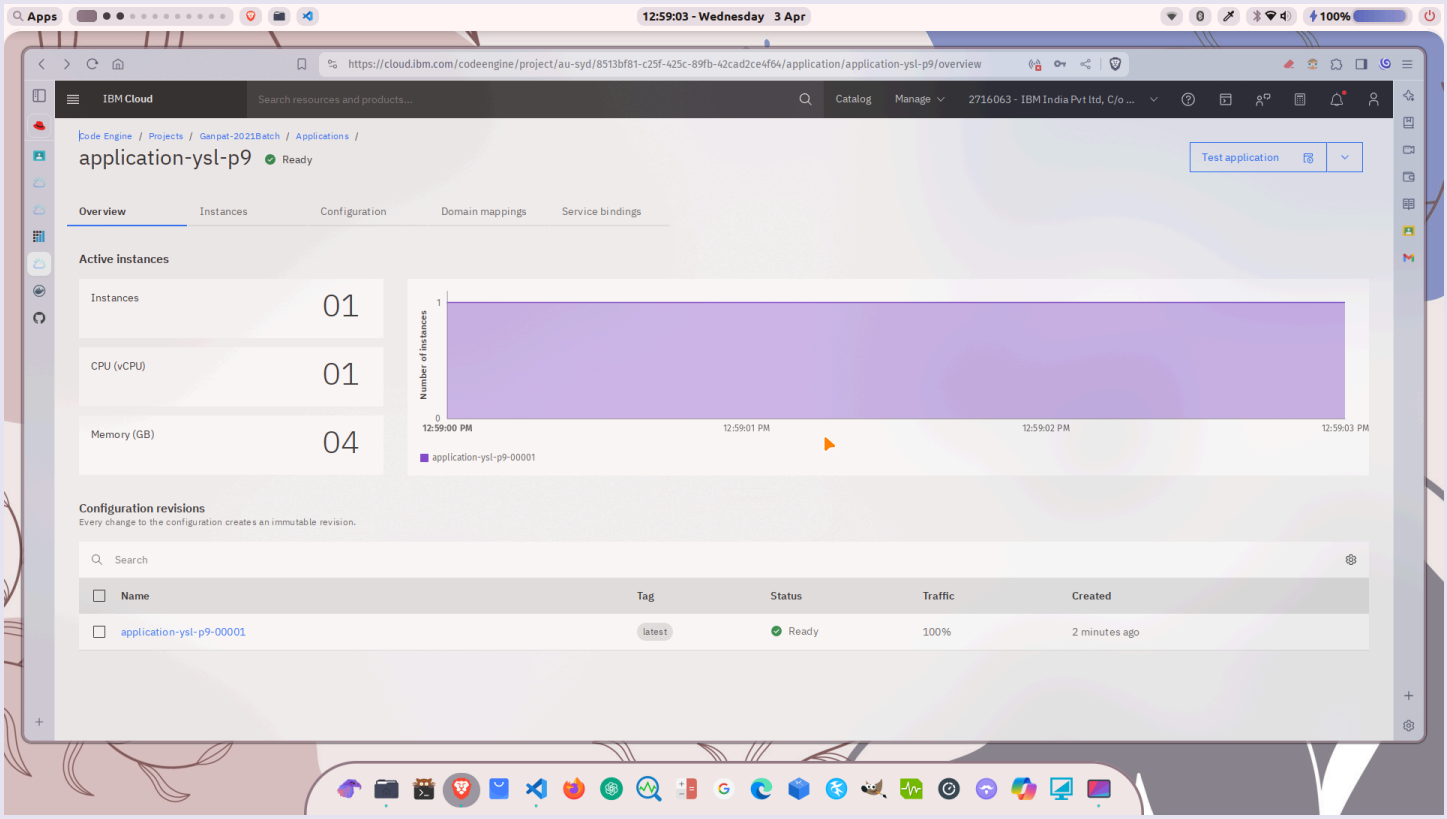
10. Wait for instances to be ready



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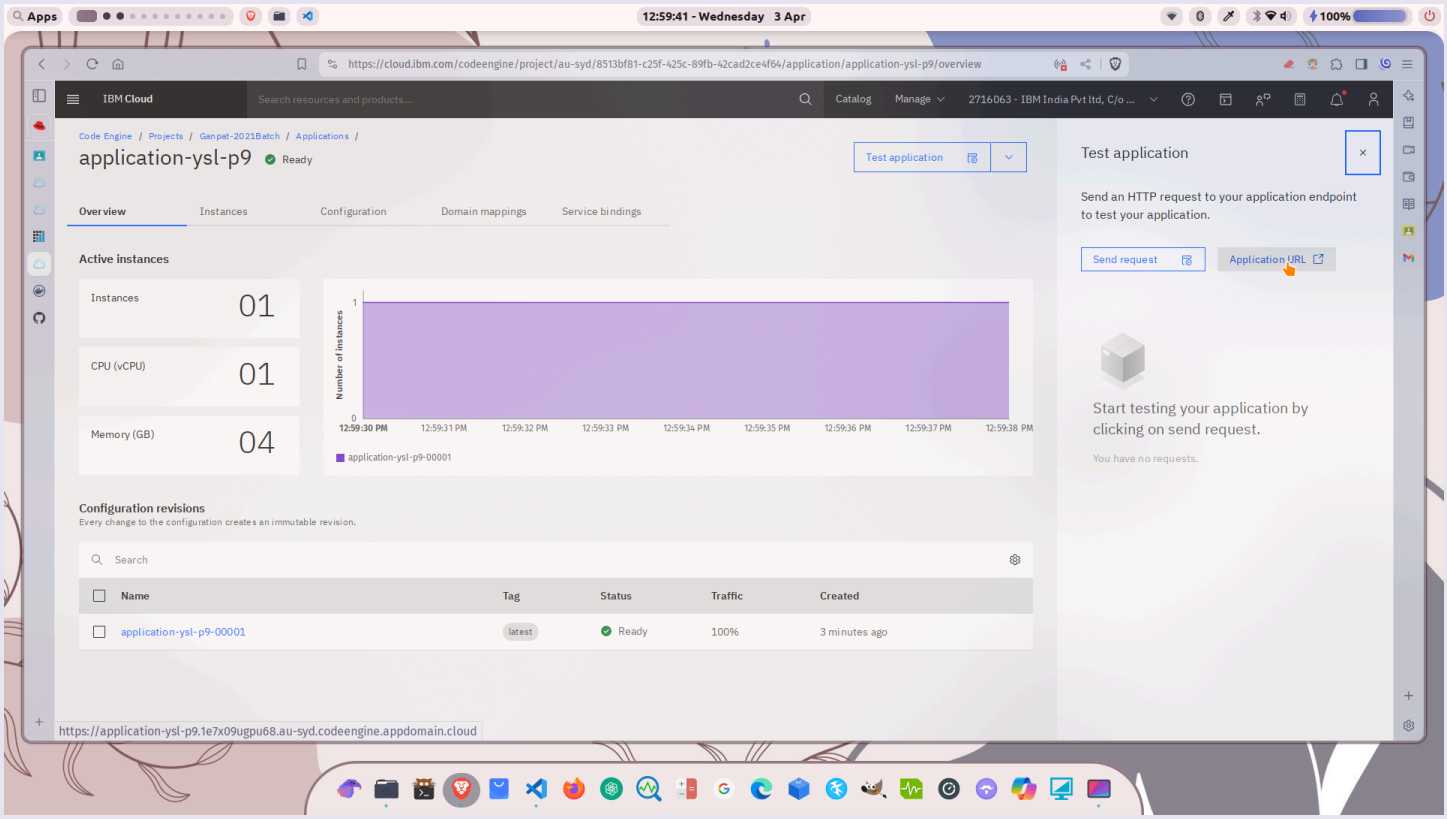
11. Afterwards, select Test Application option and open with URL



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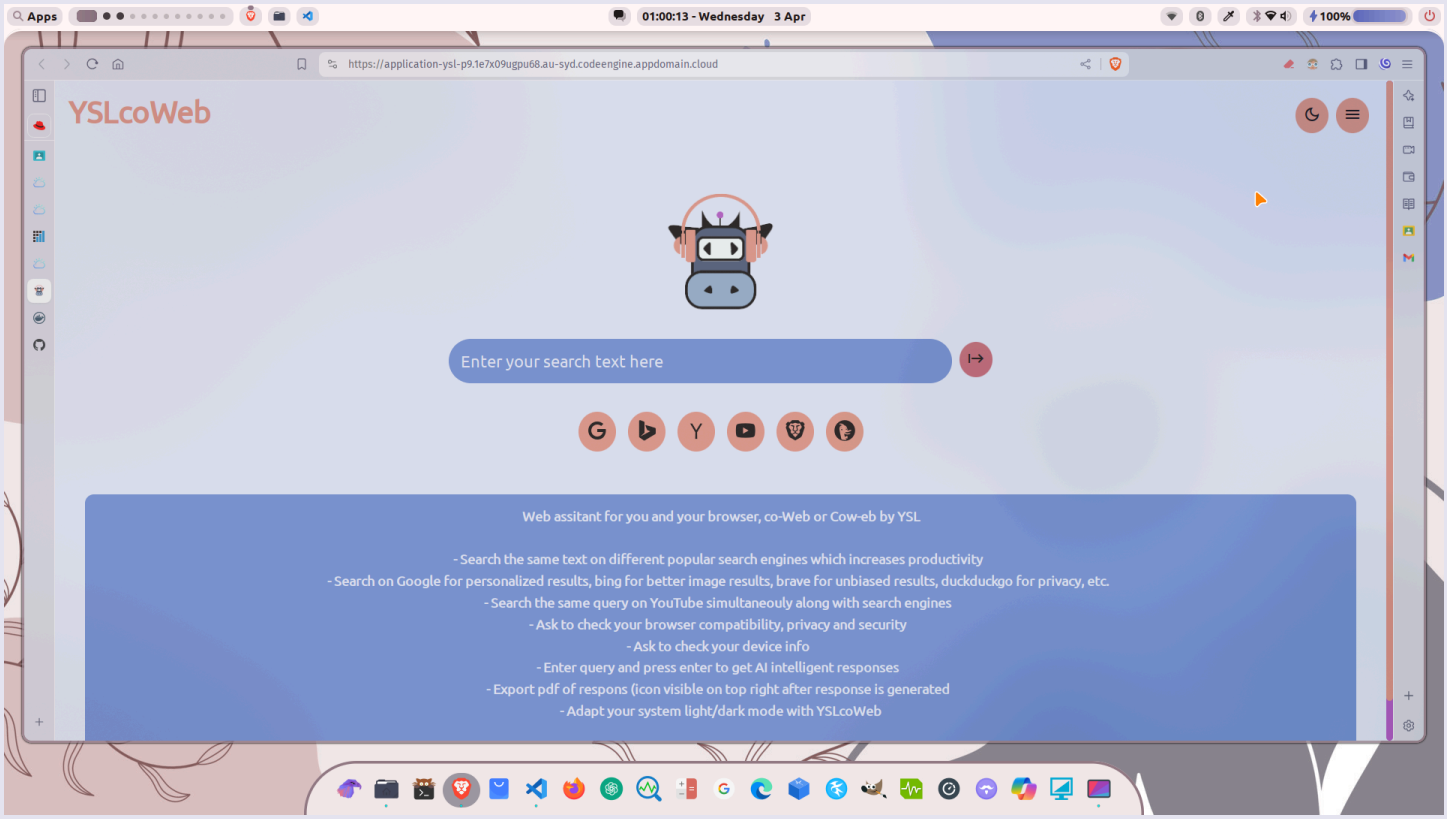
12. Our web application is ready as seen below



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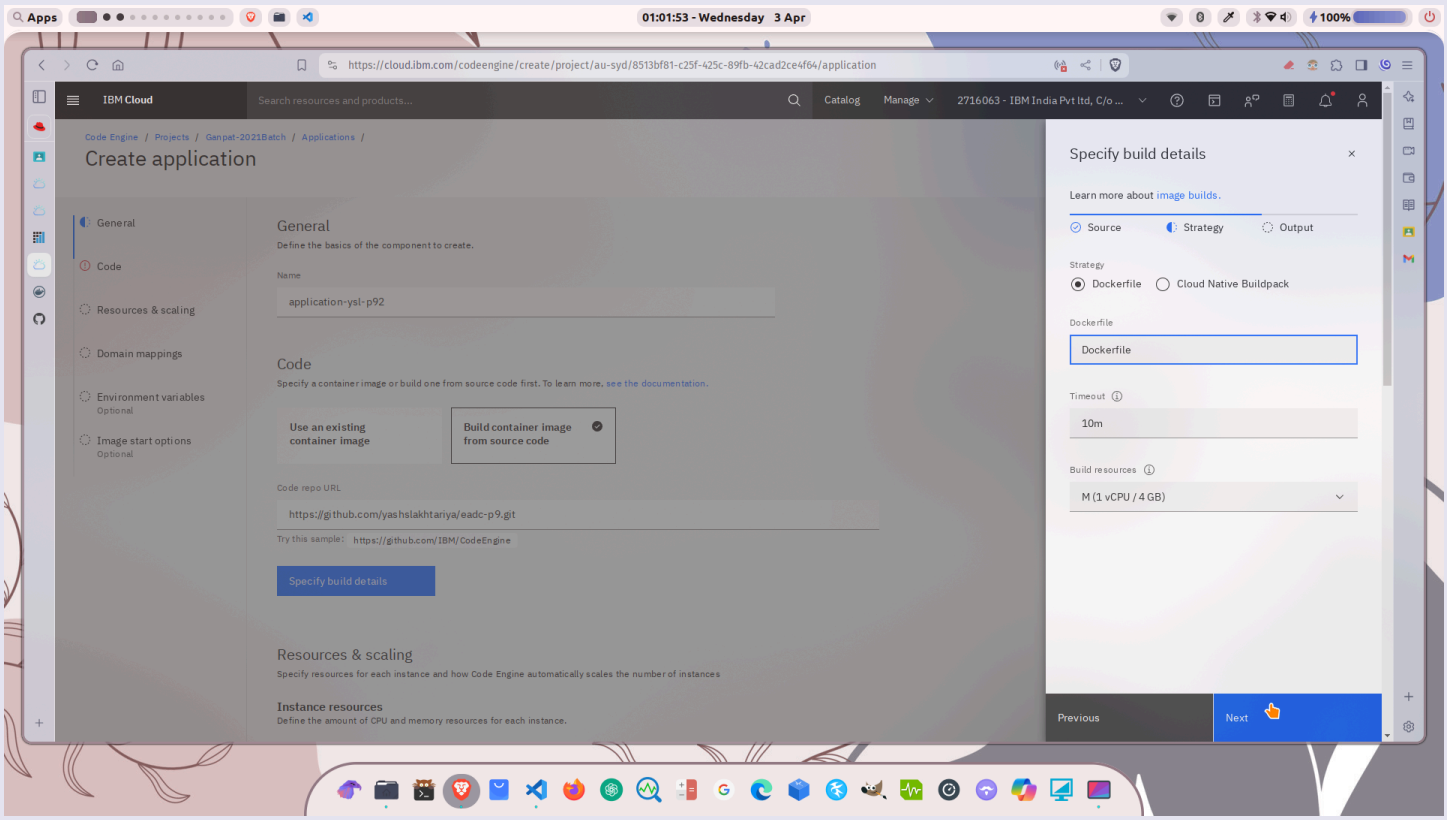
→ If Dockerfile is used to build image the the steps would be same accept the change in strategy tab :

1. Select Dockerfile in Strategy to build, making sure that Dockerfile exists in the root folder of the repository



Dockerfile used here :

```
FROM node:14
WORKDIR /app
COPY package*.json ./
RUN npm install express
COPY . .
EXPOSE 3000
CMD [ "node", "app.js" ]
```

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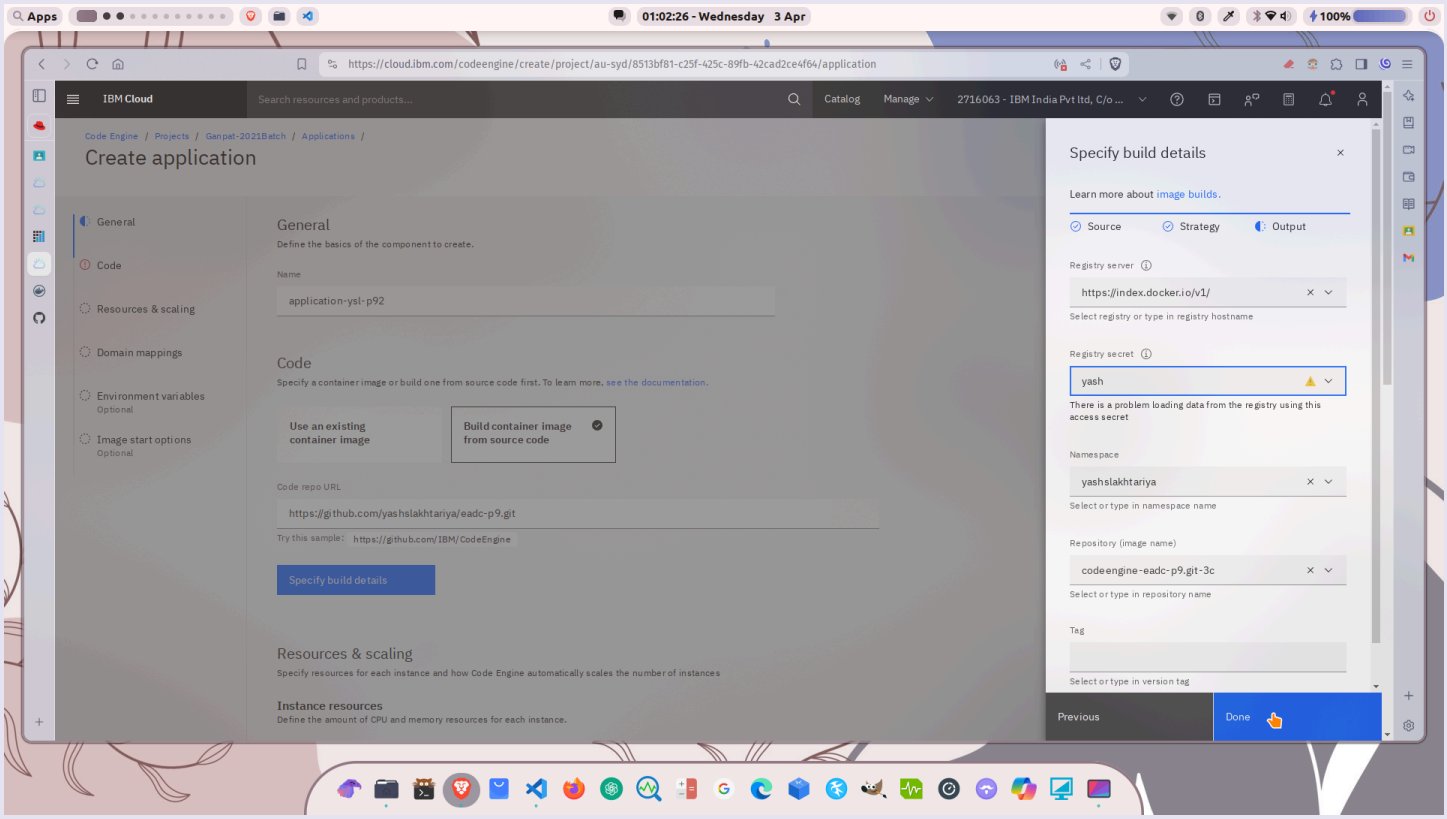
2. Follow same steps to specify output and image name



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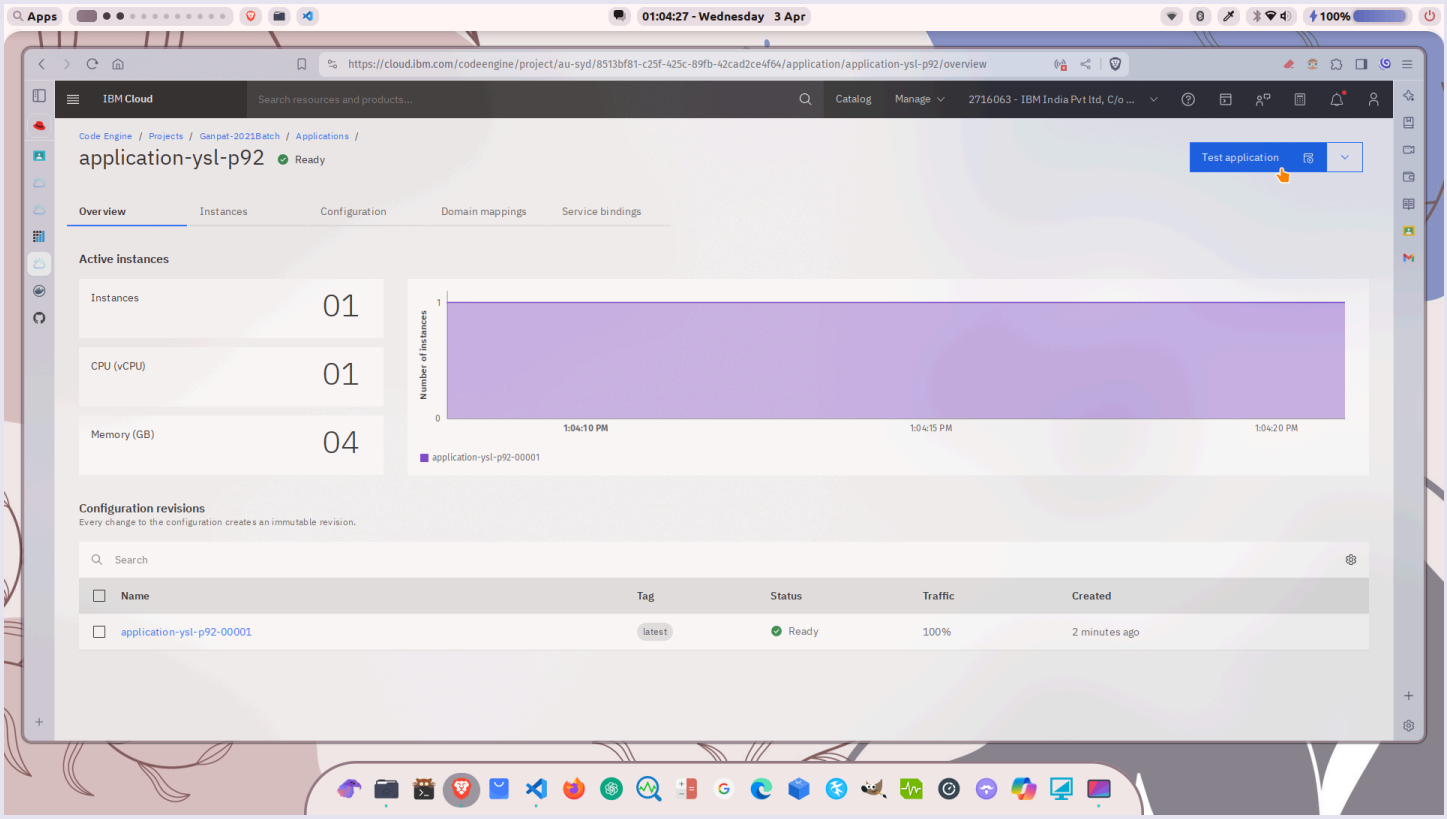
3. Wait for instance to be ready



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4. Now, test application and visit URL, below is the same application built using dockerfile