

Dev Containers on EKS using DevSpace

DevSpace is an open-source developer tool for Kubernetes that lets you develop and deploy cloud-native software faster. DevSpace is a very lightweight, client-only CLI tool that uses your current kube-context, just like Kubectl or Helm. DevSpace also falls in the category of dev container tools. Three of the most striking features of DevSpace are:

- configurable out-of-the-box SSH server injection, as well as the
- two-way sync capability between the local host file system and development container file system, and that
- DevSpace development containers run on Kubernetes.

Prerequisites

1. DevSpace installed.
2. Kubectl installed.

Follow this [link](#) for DevSpace installation.

Steps

Assuming that we already have access to a Kubernetes cluster and that we have pointed Kubectl to use the corresponding context. As a best practice, we should create a unique Kubernetes namespace eg. **devspace**, for our development environment and then tell DevSpace to use the targeted context and namespace.

1. Create the **devspace** directory.
2. Open the Powershell window & change directory to the above-created **devspace** directory.
3. Run the following command to create Kubernetes namespace for DevSpace.
 - `kubectl create namespace devspace`
4. Then, run the following command to make DevSpace use the above-created specific namespace.
 - `devspace use namespace devspace`
5. Now, run the following command to set the DevSpace context to Kubectl's current context.
 - `devspace use context "$(kubectl config current-context)"`
6. Run the following command to initialize the DevSpace tool in the directory.
 - `devspace init`
7. To start the **dev container** inside **Pod**, run the following command by providing the dev container image.
 - `devspace dev --var THE_DEV_CONTAINER_IMAGE="dev-container-base-image"`
Replace the *dev-container-base-image* with the actual name of the base image for the dev container.

```

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\sahilphule> cd C:\Users\sahilphule\Desktop\templates\devspace
PS C:\Users\sahilphule\Desktop\templates\devspace> devspace dev --var THE_DEV_CONTAINER_IMAGE=mcr.microsoft.com/devcontainers/dotnet:1-8.0

warn Are you using the correct namespace?
warn Current namespace: 'default'
warn Last namespace: 'devspace'

? Which namespace do you want to use? devspace
info Using namespace 'devspace'
info Using kube context 'minikube'
deploy:the-dev-container Deploying chart C:\Users\sahilphule\devspace\component-chart\component-chart-0.9.1.tgz (the-dev-container) with helm...
deploy:the-dev-container Deployed helm chart (Release revision: 1)
deploy:the-dev-container Successfully deployed the-dev-container with helm
dev:the-dev-container Waiting for pod to become ready...
dev:the-dev-container Selected pod the-dev-container-devspace-6cc56f9b94-w4gv6
dev:the-dev-container sync Sync started on: ./ <-> /home/dev
dev:the-dev-container sync Waiting for initial sync to complete
dev:the-dev-container sync Initial sync completed
dev:the-dev-container ssh Port forwarding started on: 60550 -> 8022
dev:the-dev-container ssh Use 'ssh the-dev-container.devspace.devspace' to connect via SSH

```

8. The Dev Container pod will be deployed and SSH credentials will be added to the `~/.ssh/config` file.
9. To check the deployed dev container, run the following command in the new PowerShell window:

- **kubectl get all -n devspace**

```

Windows PowerShell
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule>
PS C:\Users\sahilphule> kubectl get all -n devspace
NAME                                READY    STATUS    RESTARTS   AGE
pod/the-dev-container-devspace-6cc56f9b94-w4gv6  1/1      Running   0           49s

NAME                                READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/the-dev-container      0/0      0              0            50s
deployment.apps/the-dev-container-devspace  1/1      1              1            49s

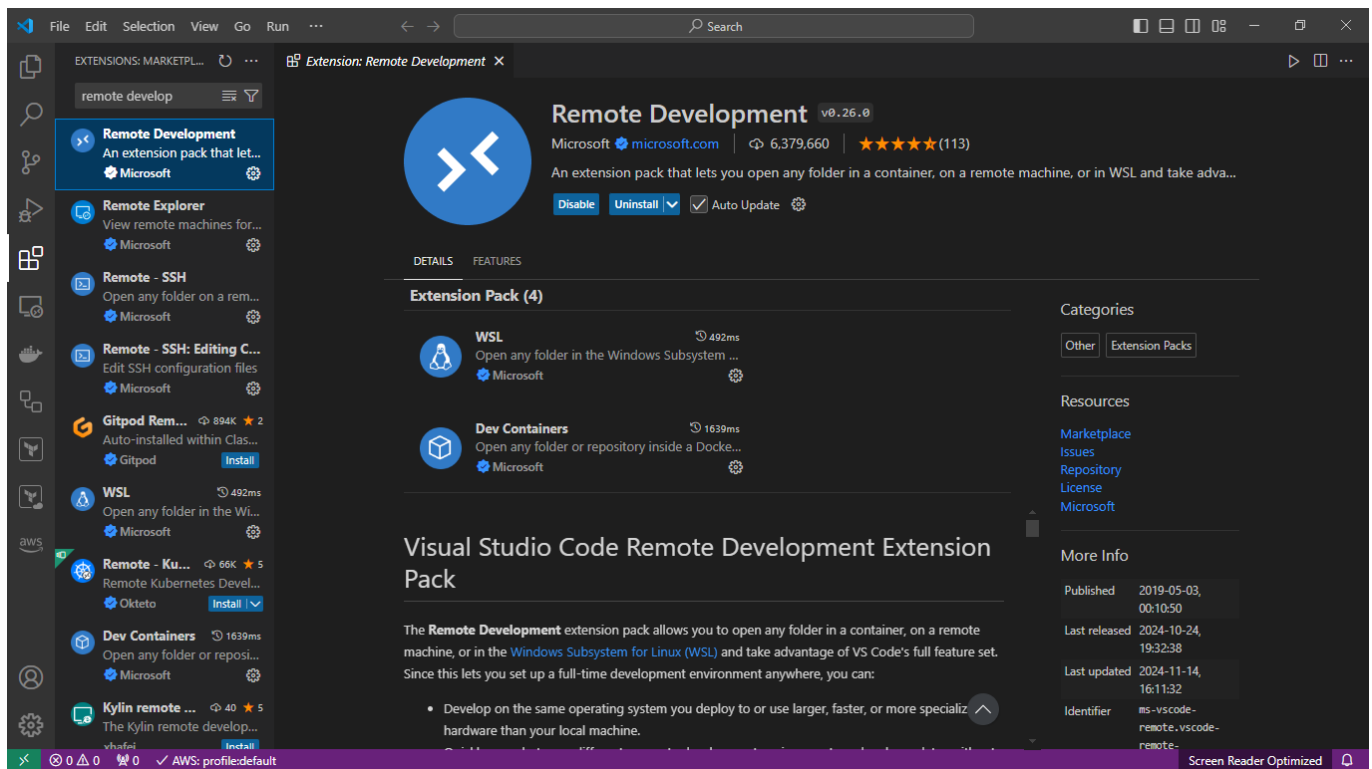
NAME                                DESIRED    CURRENT    READY    AGE
replicaset.apps/the-dev-container-6bc67bc8  0          0          0        50s
replicaset.apps/the-dev-container-devspace-6cc56f9b94  1          1          1        49s
PS C:\Users\sahilphule>

```

Install Remote Development Extension

1. Open VSCode.
2. Open *Extensions* tab.

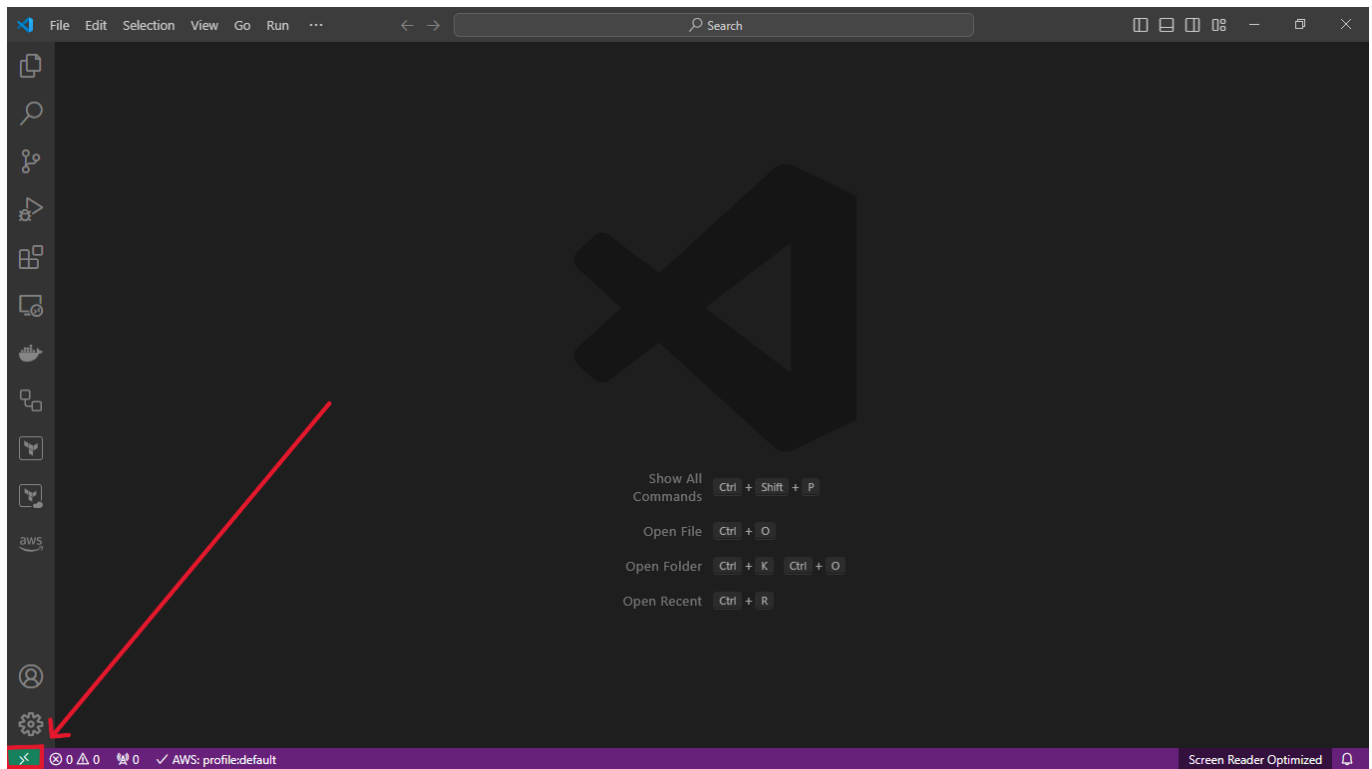
3. Type **remote development** or paste this **ms-vscode.remote.vscode-remote-extensionpack** extension id in the search bar.
4. Install this extension.



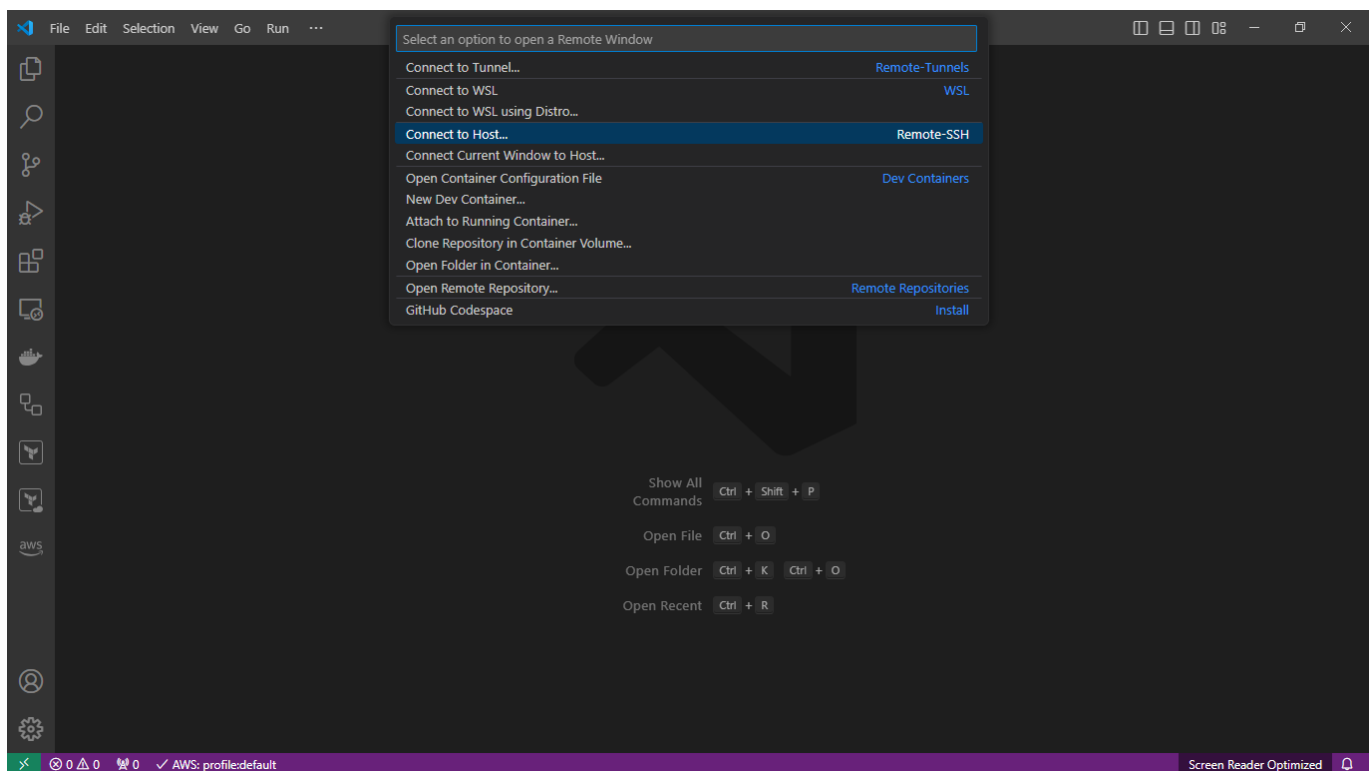
5. Once you install the Remote Development extension, a new symbol named **Remote Host** and labeled **Open a Remote Window** will be added to the VSCode status bar.

Connect the VSCode with the Dev Container Pod

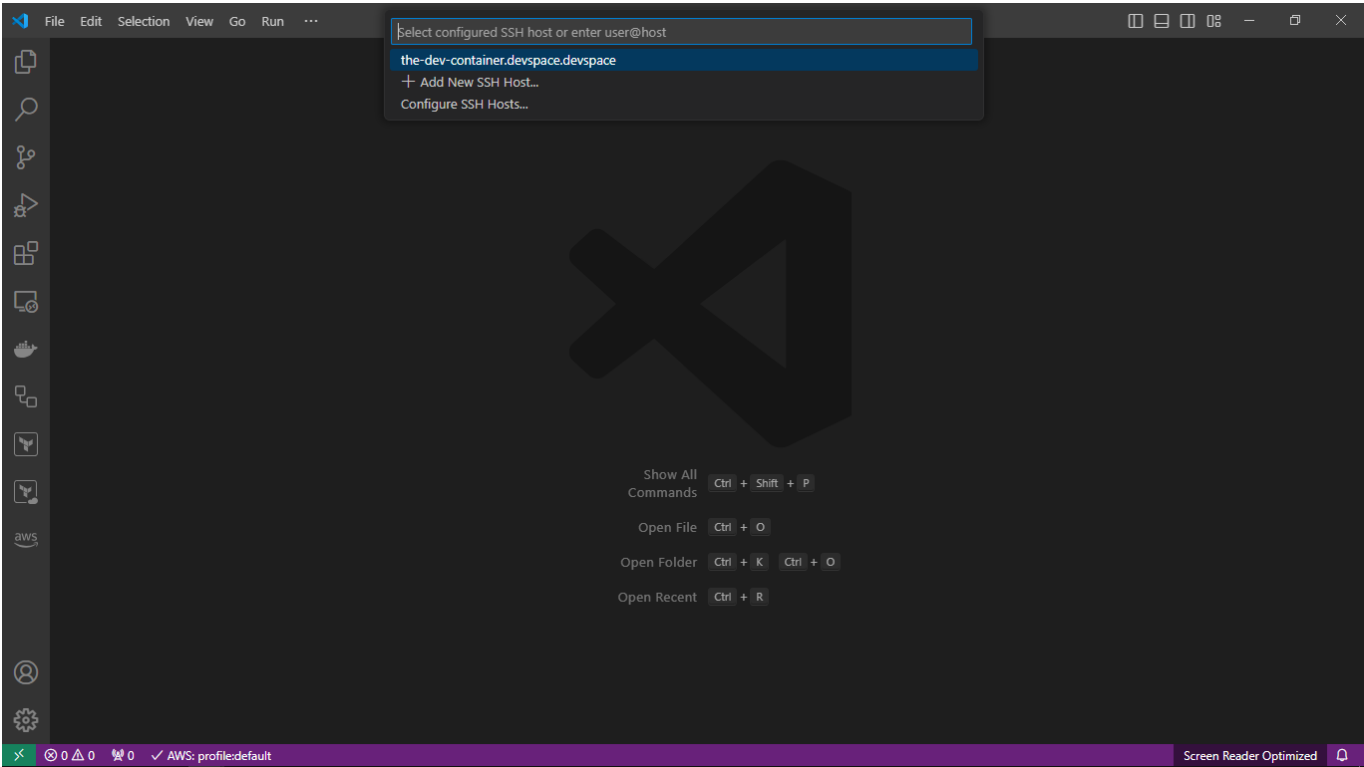
1. Open the VSCode.
2. Click on the **Remote Host** symbol present on the VSCode status bar.



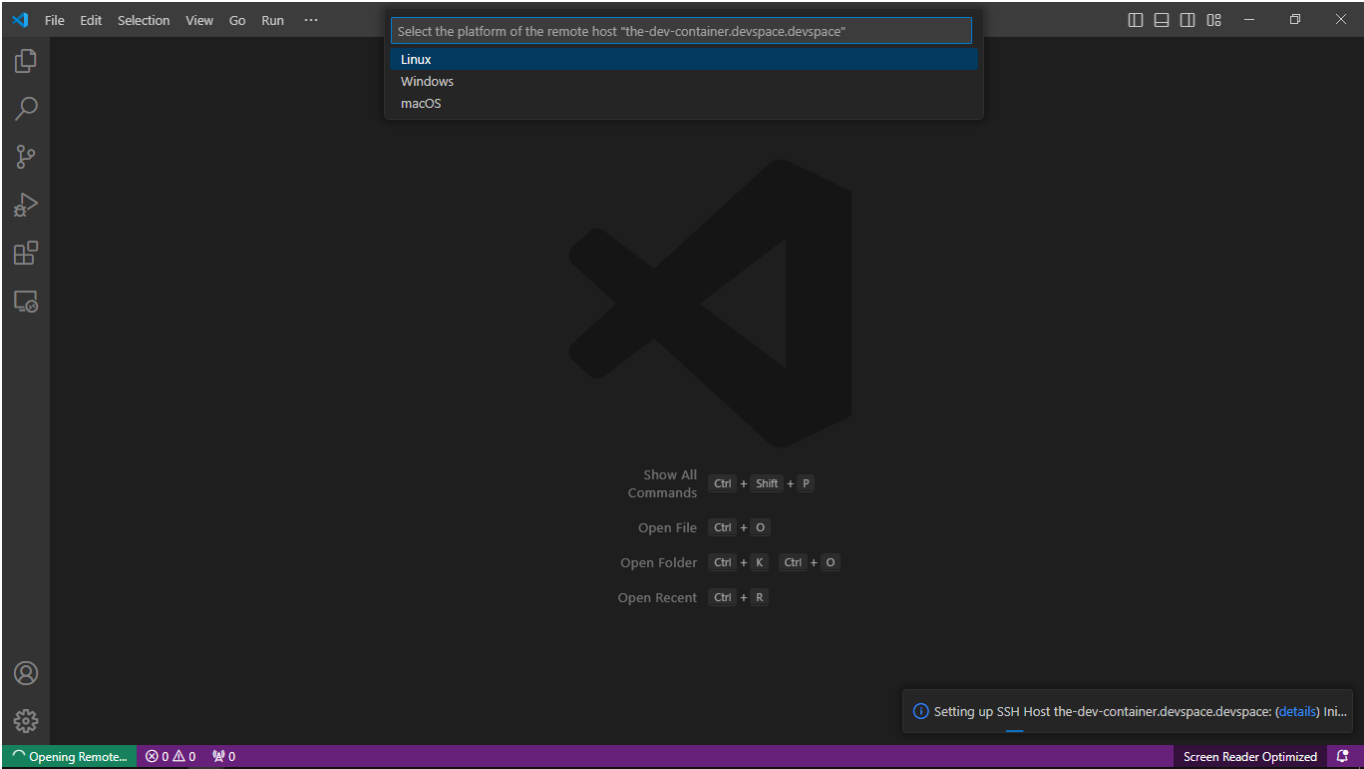
3. From the dropdown, click on **Connect to Host**.



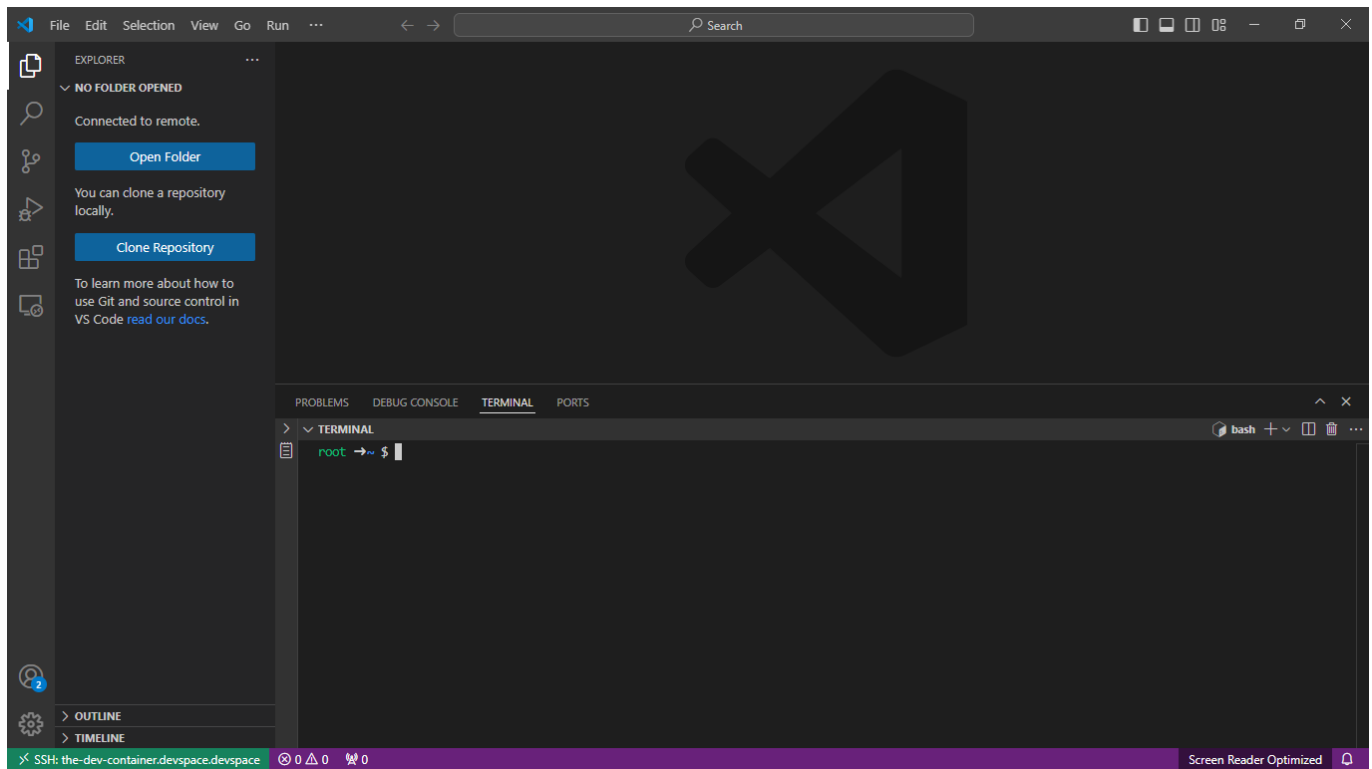
4. Then select the **the-dev-container.devspace.devspace**.



5. A new window will be opened with a dropdown asking for operating system selection. Select the os according to the requirement.



6. The connection to **dev container pod** is successful.



7. Now we can initialize or clone any GitHub repository and start developing.

Hence, in this way, we can start a **Dev Container on Kubernetes Pod**.
