**Chapter 6: User manual**

**6.1 Deployment guidelines**

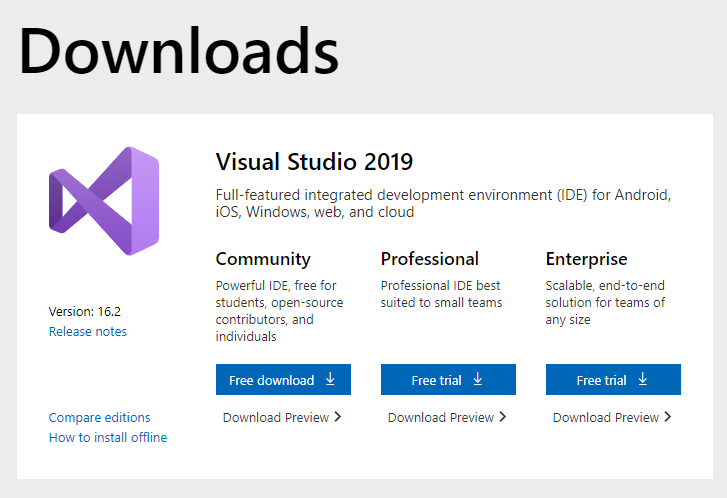
**6.1.1 Environment for development**

* Operating system: Window 10 Pro
* Code IDE: Visual Studio 2017
* Code Editor: Visual Studio Code
* Node.js: 10.15.3
* Docker: 18.09.2
* Plugins:
  + TSLint
  + Dotcover

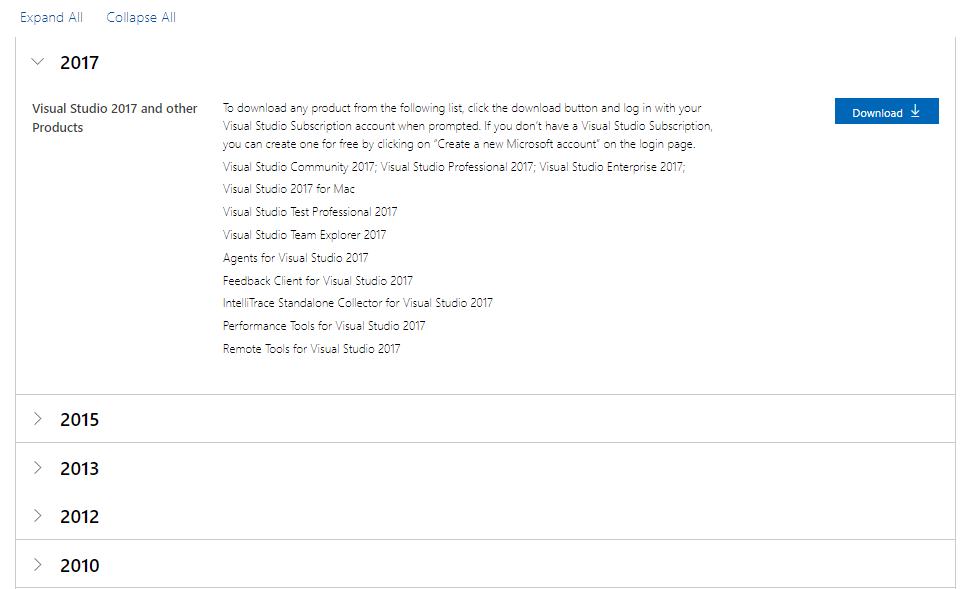
**6.1.1.1 Setup development environment**

*6.1.1.1.1 Install Visual Studio 2017*

* Go to <https://visualstudio.microsoft.com/downloads/>



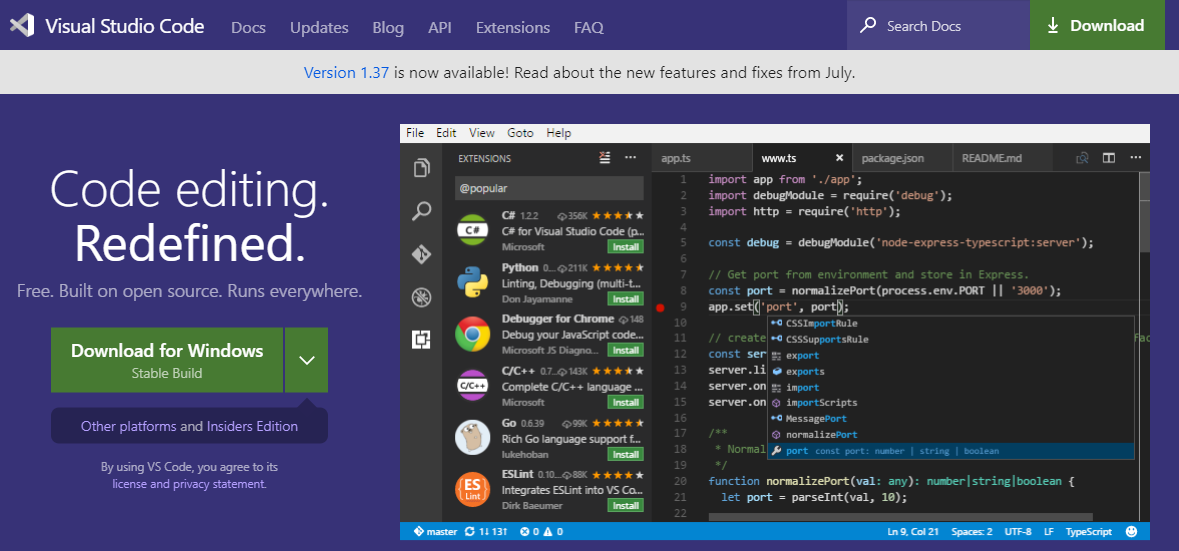
* Currently, If the last version is not the Visual Studio 2017, scroll to the bottom of the page then click “Older versions” button. Otherwise, Click “Free download” button
* In older version page, Choose the right version (2017) and click “Download” button.



* Run the downloaded executable file, follow the instructions.
* Start the application by opening the shortcut on desktop or from start menu.

*6.1.1.1.2 Install Visual Studio Code*

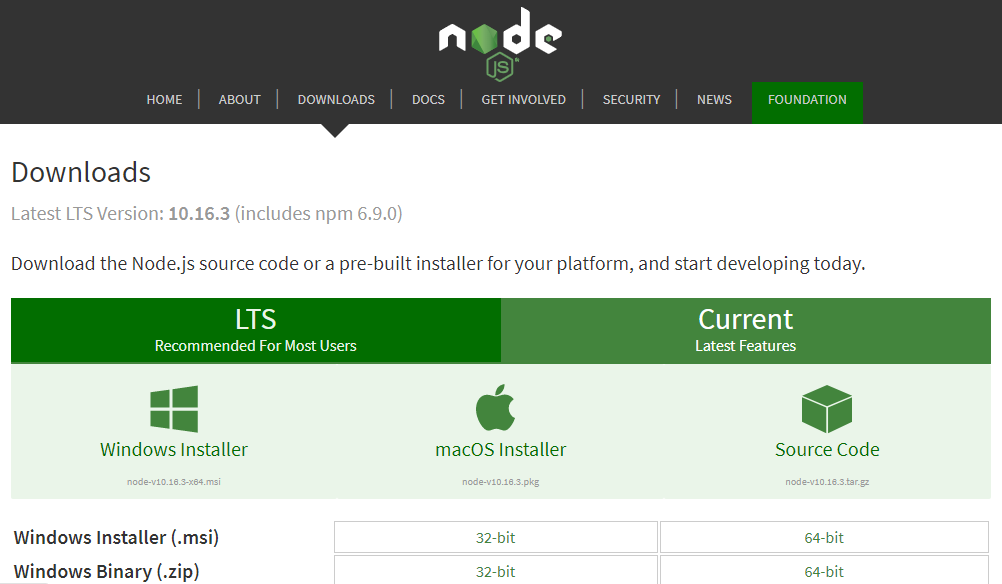
* Go to <https://code.visualstudio.com/> and click on “Download” button.



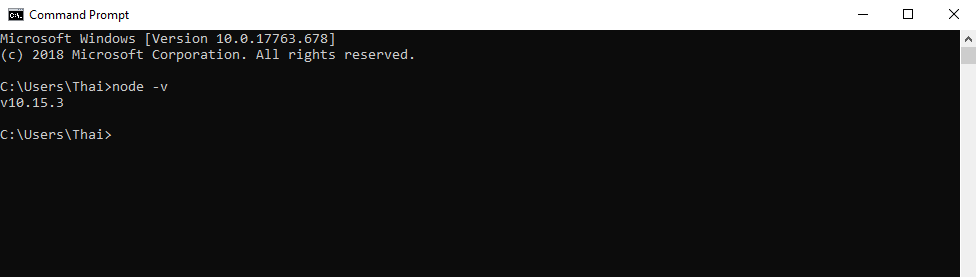
* Run the downloaded executable file, follow the instructions.
* Start the application by opening the shortcut on desktop or from start menu.

*6.1.1.1.3 Install Node.js*

* Go to <https://nodejs.org/en/download/> and click “Windows Installer” to download the installation file.

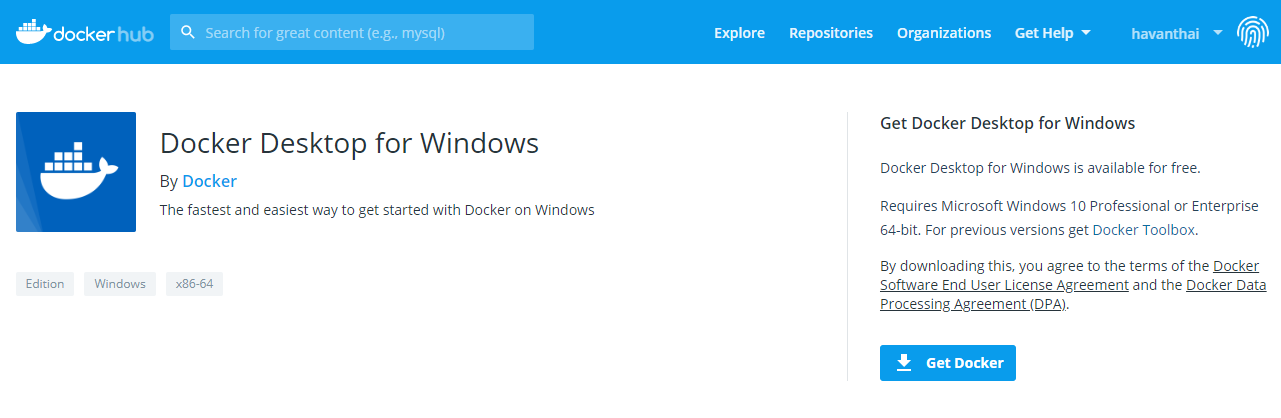


* Run the downloaded executable file, follow the instructions.
* To test if Node.js is install successful, open Command Prompt then enter “node -v”.



*6.1.1.1.4 Install Docker*

* Go to <https://hub.docker.com/editions/community/docker-ce-desktop-windows> and click “Get Docker” button.



* Run the downloaded executable file, follow the instructions. Be sure to keep using Linux container when prompted to switch to Windows container.
* Start the application by open the short cut “Docker Desktop” on the desktop.

**6.1.1.2 Run unit test and coverage**

<UPDATE LATER>

**6.1.1.3 Local network setup**

* Run “Notepad” as Administrator.
* From File menu, click “Open”.
* Navigate to <Windows Drive>\Windows\system32\drivers\etc\.
* Choose “All Files (\*.\*)” from the dropdown to the right of the “File name” box.
* Choose “hosts” file and click “Open”.
* Add the following new lines at the end of the file:

127.0.0.1 dev-trip-sharing.net

**6.1.2 Environment for deployment**

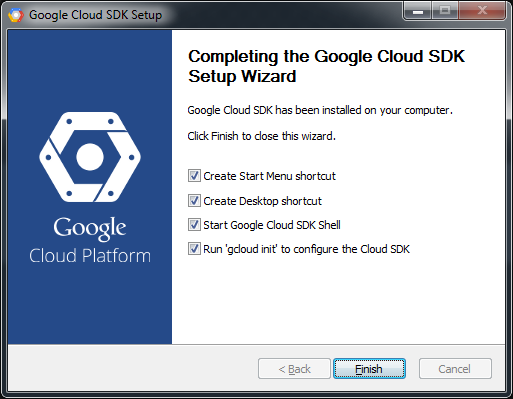
Platform: Kubernetes Engine on Google Cloud Platform

**6.1.2.1 Install Google Cloud SDK**

* Download the Google Cloud SDK installer:

<https://dl.google.com/dl/cloudsdk/channels/rapid/GoogleCloudSDKInstaller.exe>

* Launch the installer and follow the prompts.
* After installation has completed, the installer presents several options:



* Make sure that the following are selected:
  + Start Google Cloud SDK Shell
  + Run 'gcloud init'
* The installer then starts a terminal window and runs the gcloud init command.

*Reference:* [*https://cloud.google.com/sdk/docs/quickstart-windows*](https://cloud.google.com/sdk/docs/quickstart-windows)

**6.1.2.2 Configure for Google Cloud SDK**

* Run the following at a command prompt:

> gcloud init

* Accept the option to log in using your Google user account:

To continue, you must log in. Would you like to log in (Y/n)? Y

* In your browser, log in to your Google user account when prompted and click *Allow* to grant permission to access Google Cloud Platform resources.
* At the command prompt, select a Cloud Platform project from the list of those where you have *Owner*, *Editor* or *Viewer* permissions:

Pick cloud project to use:

[1] [my-project-1]

[2] [my-project-2]

...

Please enter your numeric choice:

If you only have one project, “gcloud init” selects it for you.

* If you have the Google Compute Engine API enabled, “gcloud init” allows you to choose a default Compute Engine zone:

Which compute zone would you like to use as project default?

[1] [asia-east1-a]

[2] [asia-east1-b]

...

[14] Do not use default zone

Please enter your numeric choice:

“gcloud init” confirms that you have complete the setup steps successfully:

gcloud has now been configured!

You can use [gcloud config] to change more gcloud settings.

Your active configuration is: [default]

*Reference:* [*https://cloud.google.com/sdk/docs/quickstart-windows*](https://cloud.google.com/sdk/docs/quickstart-windows)

**6.1.2.3 Setup Kubernetes Engine on Google Cloud**

* Setting a default project

> gcloud config set project [PROJECT\_ID]

Replace [PROJECT\_ID] with your project ID.

* Setting a default compute zone

> gcloud config set compute/zone [COMPUTE\_ZONE]

where [COMPUTE\_ZONE] is the desired geographical compute zone

* Get authentication credentials for the cluster

> gcloud container clusters get-credentials [CLUSTER\_NAME]

* Creating the Deployment

> kubectl create deployment <DEPLOYMENT-NAME> --image=asia.gcr.io/trip-sharing-cp/<SERVICE-NAME>

* Exposing the Deployment

kubectl expose deployment <DEPLOYMENT-NAME> --type LoadBalancer \ --port 80 --target-port 8080

*Reference:* [*https://cloud.google.com/kubernetes-engine/docs/quickstart*](https://cloud.google.com/kubernetes-engine/docs/quickstart)

**6.1.2.4 Build and push docker images**

* Build the docker image

> docker build -t asia.gcr.io/trip-sharing-cp/<SERVICE-NAME> .

* Push the docker image

> docker push asia.gcr.io/trip-sharing-cp/<SERVICE-NAME>

**6.1.2.5 Setup Google pub/sub**

* Create a topic

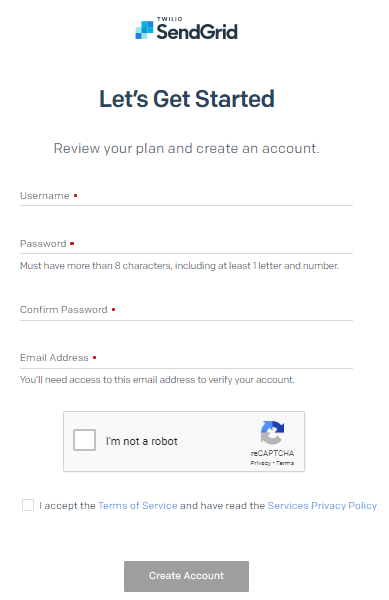
> gcloud pubsub topics create mail-sending-topic

* Create a subscription

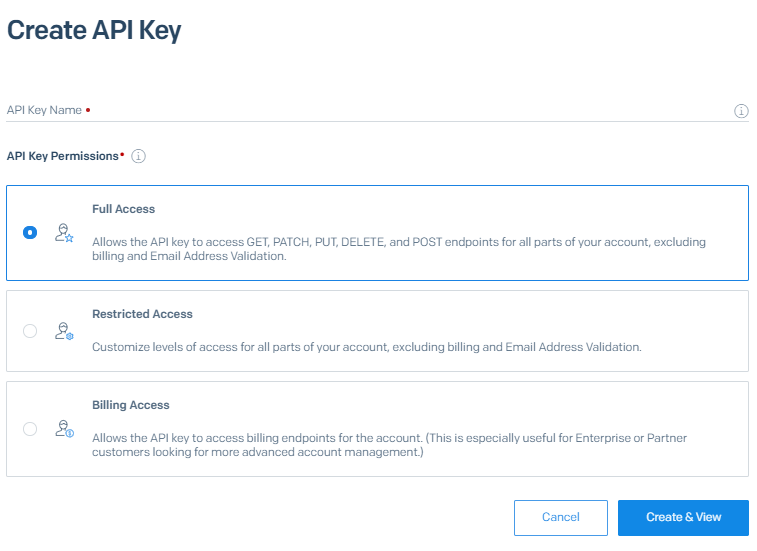
> gcloud pubsub subscriptions create --topic mail-sending-topic mail-service-sub

**6.1.2.6 Setup SendGrid**

* Go to <https://signup.sendgrid.com/> and register a SendGrid account.



* Go to <https://app.sendgrid.com> and sign in
* From the menu bar on the left, click **Settings** > **API Keys** to navigate to API Keys management page
* Click **Create API Key** at the top right corner and follow instructions to create a new API Key



**6.2 User guidelines**

**6.2.1 User sign up**

**6.2.2 User sign in**

**6.2.3 User sign out**

**6.2.4 User update profile**

**6.2.5 User searches posts**

**6.2.6 User searches other users**

**6.2.7 User creates posts**

**6.2.8 User chats with other users**

**6.2.9 User joins a group**

**6.2.10 User follows other users and views followings/followers**

**6.2.11 User bookmarks posts and view bookmarked posts**

**6.2.12 User blocks other users and views blocked users**