

Manual

Ensuring Data Integrity in Autonomous Vehicles using Block-chain

EDIAVB:

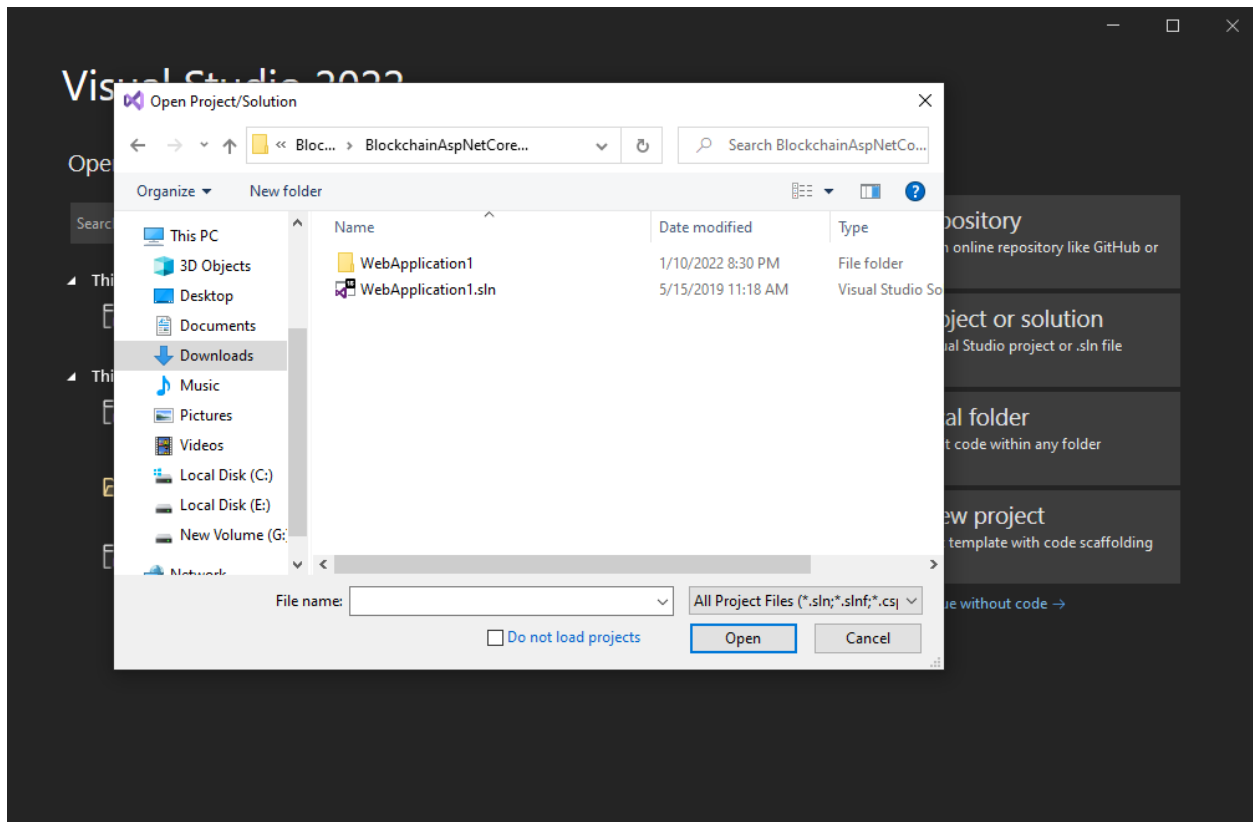
We have proposed a block chain based solution to ensure data integrity in autonomous vehicles.

Implementation:

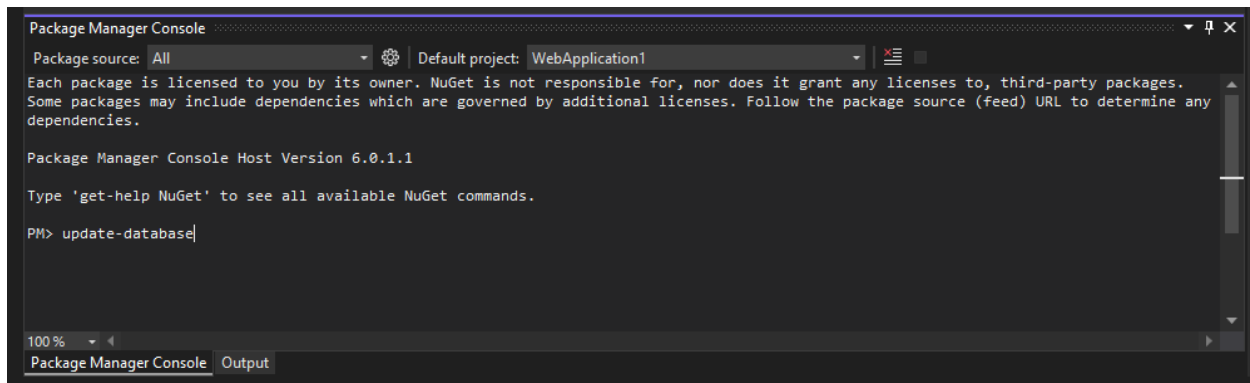
We have used visual studio as a coding platform and .netcore 2.1 framework to implement this solution.

Steps

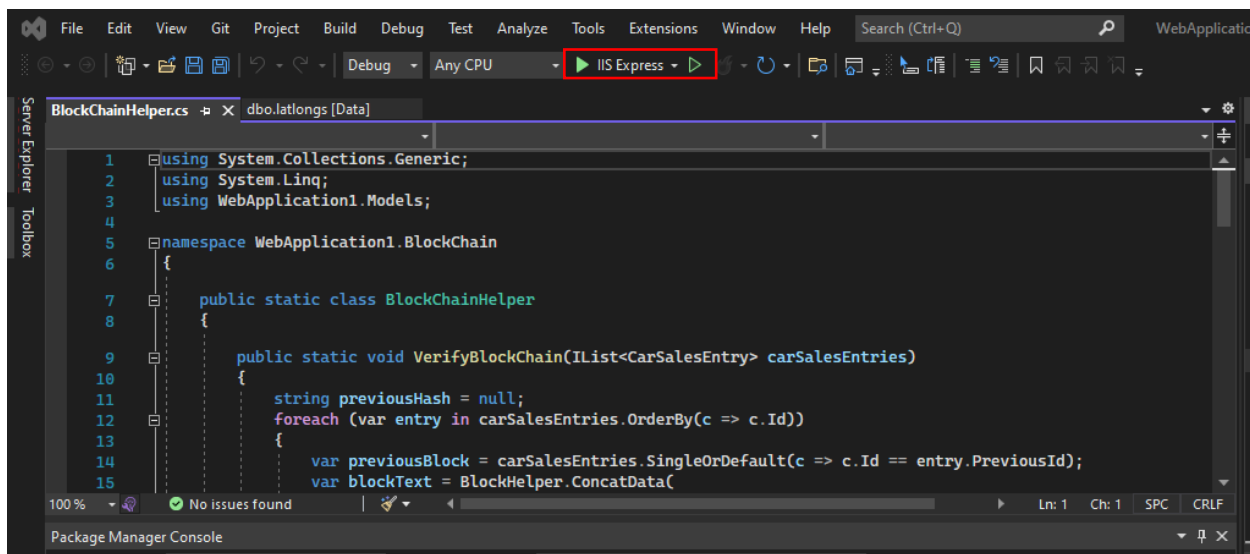
- 1- Download the .rar file from <https://github.com/danishni/Ensuring-Data-Integrity-using-block-chain>
- 2- Unzip it
- 3- Open it in Visual Studio



4- Run Update-Database command in project manager console

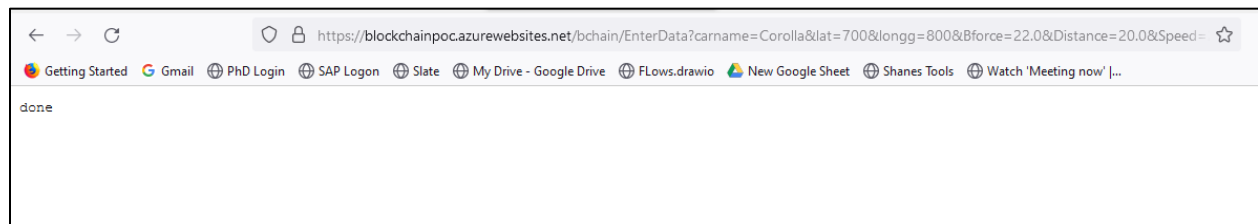


5-Run the project



6- Use this API to enter Data

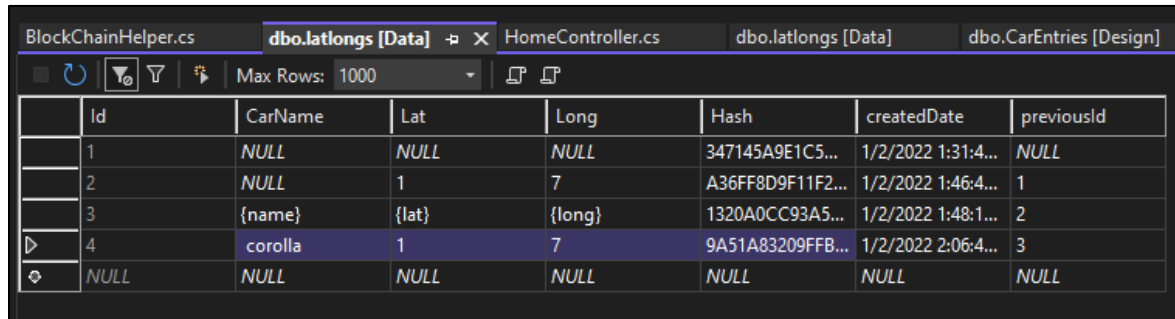
<https://blockchainpoc.azurewebsites.net/bchain/EnterData?carname=Corolla&lat=700&longg=800&Bforce=22.0&Distance=20.0&Speed=25.0>



7- Use this API to retrieve Data

[https://blockchainpoc.azurewebsites.net/bchain/GetData/\[ID\]](https://blockchainpoc.azurewebsites.net/bchain/GetData/[ID])

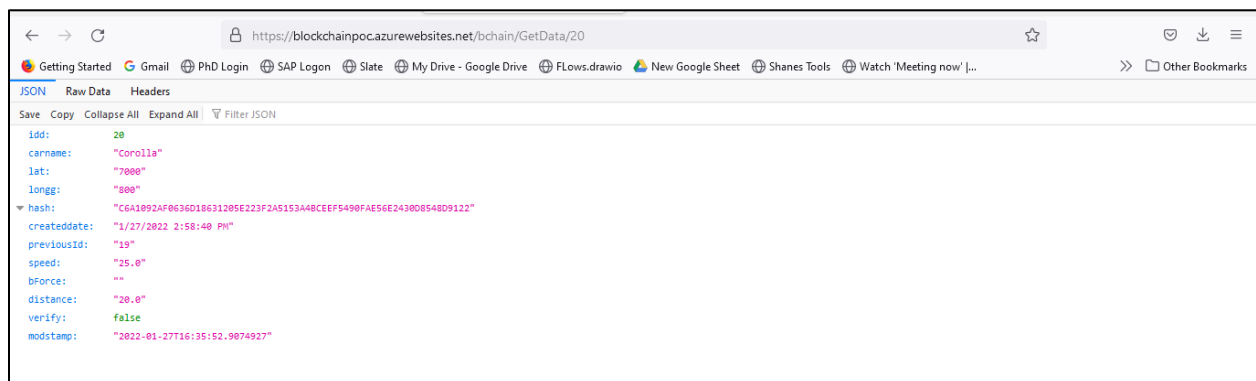
8- Changing Data



	Id	CarName	Lat	Long	Hash	createDate	previousId
	1	NULL	NULL	NULL	347145A9E1C5...	1/2/2022 1:31:4...	NULL
	2	NULL	1	7	A36FF8D9F11F2...	1/2/2022 1:46:4...	1
	3	{name}	{lat}	{long}	1320A0CC93A5...	1/2/2022 1:48:1...	2
	4	corolla	1	7	9A51A83209FFB...	1/2/2022 2:06:4...	3
	NULL	NULL	NULL	NULL	NULL	NULL	NULL

9- Use this API to retrieve Data/ Validity false

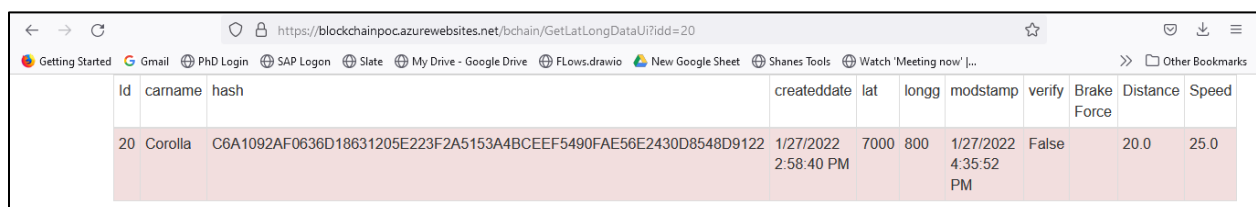
[https://blockchainpoc.azurewebsites.net/bchain/GetData/\[ID\]](https://blockchainpoc.azurewebsites.net/bchain/GetData/[ID])



```
{
  "id": 20,
  "carname": "Corolla",
  "lat": "7000",
  "longg": "800",
  "hash": "C6A1092AF0636D18631205E223F2A5153A4BCEE5490FAE56E2430D8548D9122",
  "createddate": "1/27/2022 2:58:40 PM",
  "previousId": "19",
  "speed": "25.0",
  "bforce": "",
  "distance": "20.0",
  "verify": false,
  "modstamp": "2022-01-27T16:35:52.9874927"
}
```

10- API for UI

<https://blockchainpoc.azurewebsites.net/bchain/GetLatLongDataUi?idd=16>



id	carname	hash	createddate	lat	longg	modstamp	verify	Brake Force	Distance	Speed
20	Corolla	C6A1092AF0636D18631205E223F2A5153A4BCEE5490FAE56E2430D8548D9122	1/27/2022 2:58:40 PM	7000	800	1/27/2022 4:35:52 PM	False		20.0	25.0