1. Demonstrate how we can interact with Ganache using Web3.js.

Ans:

Step 1: create a folder named “web”

Step 2: right click and select open git bash here

step 3: type command npm install web3

step 4: Open Ganache, copy RPC server.

step 5: create a file name index.js in web folder

step 6: get ABI and Bytecode of your solidity code.

step 7: type the following code in index.js

const Web3 = require('web3');

const web3= new Web3('HTTP://127.0.0.1:7545');

const MyContractABI={[

    {

        "inputs": [

            {

                "internalType": "uint256",

                "name": "\_myNumber",

                "type": "uint256"

            }

        ],

        "stateMutability": "nonpayable",

        "type": "constructor"

    },

    {

        "inputs": [],

        "name": "myNumber",

        "outputs": [

            {

                "internalType": "uint256",

                "name": "",

                "type": "uint256"

            }

        ],

        "stateMutability": "view",

        "type": "function"

    },

    {

        "inputs": [

            {

                "internalType": "uint256",

                "name": "\_myNumber",

                "type": "uint256"

            }

        ],

        "name": "setMyNumber",

        "outputs": [],

        "stateMutability": "nonpayable",

        "type": "function"

    }

]

};

const MyContractBytecode='';

async function deployAndInteract() {

    const accounts = await web3.eth.getAccounts();

    const MyContract=new web3.eth.Contract(MyContractABI);

    const newContractInstance = await MyContract.deploy({data: MyContractBytecode,

    })

    .send({from: accounts[0], gas: '1000000', gasPrice:'30000000000000'});

    console.log(deployedContract.options.address);

    const contractAddress = newContractInstance.options.address;

    const deployedContract=new web3.eth.Contract(MyContractABI, contractAddress);

*await* deployedContract.methods.set(42).send({from:accounts[0]});

    const result = *await* deployedContract.methods.get().call();

    console.log('stored data:', result);

}

deployAndInteract();

web3.eth.getAccounts()

.then(accounts => {

    console.log('connect to gan');

    console.log('acc:', accounts);

    })

    .catch(error=>{

        console.error('not connected to ganache:',error);

    });

Step 8: type “node index.js” in git bash and hit enter.