

We need to make some minor adjustments to the HTML form in index.html:

```

<div class="container">
  <h1>Coursetro Instructor</h1>
  <span id="countIn"></span>
  <h2 id="instructor"></h2>
  <span id="insTrans"></span>
  <br>

  <label for="fName" class="col-lg-2 control-label">First Name</label>
  <input id="fName" type="text">

  <label for="lName" class="col-lg-2 control-label">Last Name</label>
  <input id="lName" type="text">

  <label for="age" class="col-lg-2 control-label">Instructor Age</label>
  <input id="age" type="text">

  <button id="button">Update Instructor</button>
</div>

```

If you compare to the code to the previous form, you will find that the changes are minimal. There's simple a first and last name field now, along with a few extra spans with unique ID's.

Updating the JavaScript

8. Put main_lab5.css and all other files under the same direction:

```

scripts:1
  "dev": "lite-server"
}

8. Put main_lab5.css and all other files under the same direction:

```

9. Run following code on command prompt:

```

npm init
npm install web3@0.20.6 -save
npm install lite-server --save-dev

```

10. Run code:

```

npm run dev

```

File Edit Selection View Go Run Terminal Help ...

File Edit Selection View Go Run Terminal Help ...

index.html

```

ndge LocalState / roots / home / mva456 / coursetro-eth > index.html > html > body > div.container > button#but...
1 <html lang="en">
2   <head>
3     <meta charset="UTF-8">
4     <meta name="viewport" content="width=device-width, initial-scale=1.0">
5     <meta http-equiv="X-UA-Compatible" content="ie=edge">
6     <title>Document</title>
7     <link rel="stylesheet" type="text/css" href="main.css">
8     <script src="/node_modules/web3/dist/web3.min.js"></script>
9   </head>
10  <body>
11    <div class="container">
12      <h1>Coursetro Instructor</h1>
13      <span id="countIn"></span>
14      <h2 id="instructor"></h2>
15      <span id="insTrans"></span>
16      <br>
17      
18      <label for="fName" class="col-lg-2 control-label">First Name</label>
19      <input id="fName" type="text">
20      <label for="lName" class="col-lg-2 control-label">Last Name</label>
21      <input id="lName" type="text">
22      <label for="age" class="col-lg-2 control-label">Last Name</label>
23      <input id="age" type="text">
24      <button id="button">Update Instructor</button>
25    </div>
26    <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js"></script>
27    <script>
28      var web3;
29      if (typeof web3 !== 'undefined') {
30        web3 = new Web3(web3.currentProvider);
31      } else {
32        ...
33      }
34    </script>
35  </body>
36</html>

```

Ln 34, Col 9 Tab Size: 4 UTF-8 LF HTML 3:54 PM 4/6/2020

Remix - Ethereum IDE MetaMask

browser/Courses.sol

```

pragma solidity ^0.4.21;
contract Owner {
  address owner;
  function Owned() public {
    owner = msg.sender;
  }
  modifier onlyOwner {
    require(msg.sender == owner);
  }
}
contract Courses is Owned {
  struct Instructor {
    uint age;
    bytes16 fName;
    bytes16 lName;
  }
  mapping (address => Instructor) instructors;
  event InstructorInfo(
    bytes16 fName,
    bytes16 lName,
    uint age
  );
  creation of Course pending...

```

Environment Injected Web3 Ropsten (3)

Account 0x86f...46cd (1.99528821 ether)

Gas limit 3000000

Value 0 wei

Courses Deploy or AI Address Load contract from Address

Transactions recorded: 0

Deployed Contracts Courses at 0x947...39415 (blockchain)

from:0x48...4c98 to:Courses.(constructor) 0x0 value:0 wei data:0x606...d0829 logs:0 hash:0x7d...04c49

(0xa3...066659 txIndex:1) From:0x48...4c98 to:Courses.(constructor) value:0 wei data:0x606...d0829 logs:0 hash:0xb16...033e5

Copy value to clipboard

File Edit Selection View Go Run Terminal Help ...

Type here to search

13:44 PM 4/6/2020

8. Put main_lab5.css and all other files under the same directory:

```

<head>
    <title>Lab 7</title>
    <link href="main.css" type="text/css" rel="stylesheet"/>
</head>
<body>
    <h1>Coursestro Instructor</h1>
    <div id="instructors"></div>
    <div id="button">Update Instructor</div>
</body>

```

9. Run following code on command prompt:

```

npm init
npm install web3@0.20.6 --save
npm install lite-server --save-dev

```

10. Run code:

```

npm run dev

```

The next line in our Javascript underneath the contract address is where we define a variable for the event. We need to make a slight change;

```

// Change this:
var instructorEvent = Coursetro.Instructor();

// To this:
var instructorEvent = Coursetro.instructorInfo({}, 'latest');

```

The former line worked fine in the `testrpc` environment, but I found that I had to pass in an empty object in the first argument, and a `'latest'` string in the second, in order for it to work on the Ropsten network.

This is simply informing the event that we only want the `latest` event when an instructor has been added.

We also need to change the `.watch()` function associated with that event to:

```

instructorEvent.watch(function (err, result) {
    if (!err) {
        if (result.blockHash != $("#inTrans").html())
            $("#loader").hide();

        $("#inTrans").html('Block hash: ' + result.blockHash);
        $("#instructor").html(web3.toAscii(result.args.fName) + ' ' + web3.toAscii(result.args.lName));
    } else {
        $("#loader").hide();
    }
});

```

First, we're checking if the current `*.blockHash*` is not equal to the `blockHash` defined in the `#intrans` ID. If it's not, then and only then will we hide the loading graphic.

Next, we're using a new function called `.toAscii`, this is because the names are now `bytes` types, which does not return the actual string value. `.toAscii` reverts it back.

Underneath this code, let's add a new section that will give us a count on our instructors

[View Details](#) | [Edit](#) | [Delete](#)

Journal of Oral Rehabilitation 2006 33: 103–109

Then, let's update the click event to work with the new function in the smart contract:

The screenshot shows a dual-monitor setup. The left monitor displays a browser window with developer tools open, showing the JavaScript console and source code for a Solidity contract. The right monitor displays a code editor (Visual Studio Code) with an index.html file open, showing the same code. Both screens show the same code snippet, indicating a live update or a shared environment.

```
$(document).ready(function() {
    $("button").click(function() {
        instructorEvent.watch(function (err, result) {
            if (!err) {
                if (result.blockHash != $("#intrans").html()) {
                    $("#loader").hide();
                }
            } else {
                $("#loader").hide();
            }
        });
    });
});

instructorEvent.watch(function (err, result) {
    if (!err) {
        if (result.blockHash != $("#intrans").html()) {
            $("#loader").hide();
        }
    } else {
        $("#loader").hide();
    }
});
```

First, we're checking if the current *blockHash* is not equal to the blockHash defined in the #intrans ID. If it's not, then and only then will we hide the loading graphic.

Next, we're using a new function called `.toAscii`, this is because the names are now `bytes` types, which does not return the actual string value. `.toAscii` reverts it back.

Underneath this code, let's add a new section that will give us a count on our instructors:

```
Coursestro.countInstructors((err, res) => {
    if (res)
        $("#countIns").html(res.c + ' Instructors');
});
```

Then, let's update the click event to work with the new function in the smart contract:

```
$(document).ready(function() {
    $("button").click(function() {
        instructorEvent.watch(function (err, result) {
            if (!err) {
                if (result.blockHash != $("#intrans").html()) {
                    $("#loader").hide();
                }
            } else {
                $("#loader").hide();
            }
        });
    });
});

instructorEvent.watch(function (err, result) {
    if (!err) {
        if (result.blockHash != $("#intrans").html()) {
            $("#loader").hide();
        }
    } else {
        $("#loader").hide();
    }
});
```

```
Coursestro.countInstructors((err, res) => {
    if (res)
        $("#countIns").html(res.c + ' Instructors');
});
```

```
$(document).click(function () {
    Coursestro.setInstructor($("#name").val(), $("#age").val());
    $("#loader").show();
});
```

Underneath this code, let's add a new section that will give us a count on our instructors:

```

coursestro.countInstructors((err, res) => {
  if (res)
    $("#countIns").html(res.c + ' Instructors');
});

```

Then, let's update the click event to work with the new function in the smart contract:

```

$("#button").click(function() {
  $("#loader").show();
  Coursestro.setInstructor(web3.eth.defaultAccount, $("#age").val(), $("#fname").val(), $("#lName").val());
});

```

And that's it!

Conclusion

In the next and final lesson that's a part of this course, we're going to interact with this contract on the Ropsten Test Network.

Is this OK? (yes)

```

npm update check failed
Try running with sudo on get access
to the local update config store via
sudo chown -R $USER:$ID /home/mva456/.config

```

```

mva456@DESKTOP-OE7HLB3:~/coursestro-eth$ npm install web3@0.20.6 --save
npm WARN coursestro-eth@1.0.0 No description
npm WARN coursestro-eth@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.12 (node_modules/fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.12: wanted {"os": "darwin", "arch": "any"} (current: {"os": "linux", "arch": "x64"})
+ web3@0.20.6
updated 1 package and audited 16727 packages in 7.507s

3 packages are looking for funding
  run npm fund for details

found 3 low severity vulnerabilities
  run 'npm audit fix' to fix them, or 'npm audit' for details


```

```

npm update check failed
Try running with sudo on get access
to the local update config store via
sudo chown -R $USER:$ID /home/mva456/.config

```

```

mva456@DESKTOP-OE7HLB3:~/coursestro-eth$ npm install lite-server --save-dev
npm WARN coursestro-eth@1.0.0 No description
npm WARN coursestro-eth@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.12 (node_modules/fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.12: wanted {"os": "darwin", "arch": "any"} (current: {"os": "linux", "arch": "x64"})
+ lite-server@2.5.4
updated 1 package and audited 16727 packages in 4.673s

3 packages are looking for funding
  run 'npm fund' for details

found 3 low severity vulnerabilities
  run 'npm audit fix' to fix them, on 'npm audit' for details


```

```

npm update check failed
Try running with sudo on get access
to the local update config store via
sudo chown -R $USER:$ID /home/mva456/.config

```

```

mva456@DESKTOP-OE7HLB3:~/coursestro-eth$ npm run dev

```

Document

localhost:3000

Apps Bookmarks Bookmarks HSU School Random Dinner Ge... https://npub85.npsu.e... Developing Ethereum...

Coursetro Instructor

0 Instructors

First Name: Whoever

Last Name: Whatever

Last Name: 50

Update Instructor

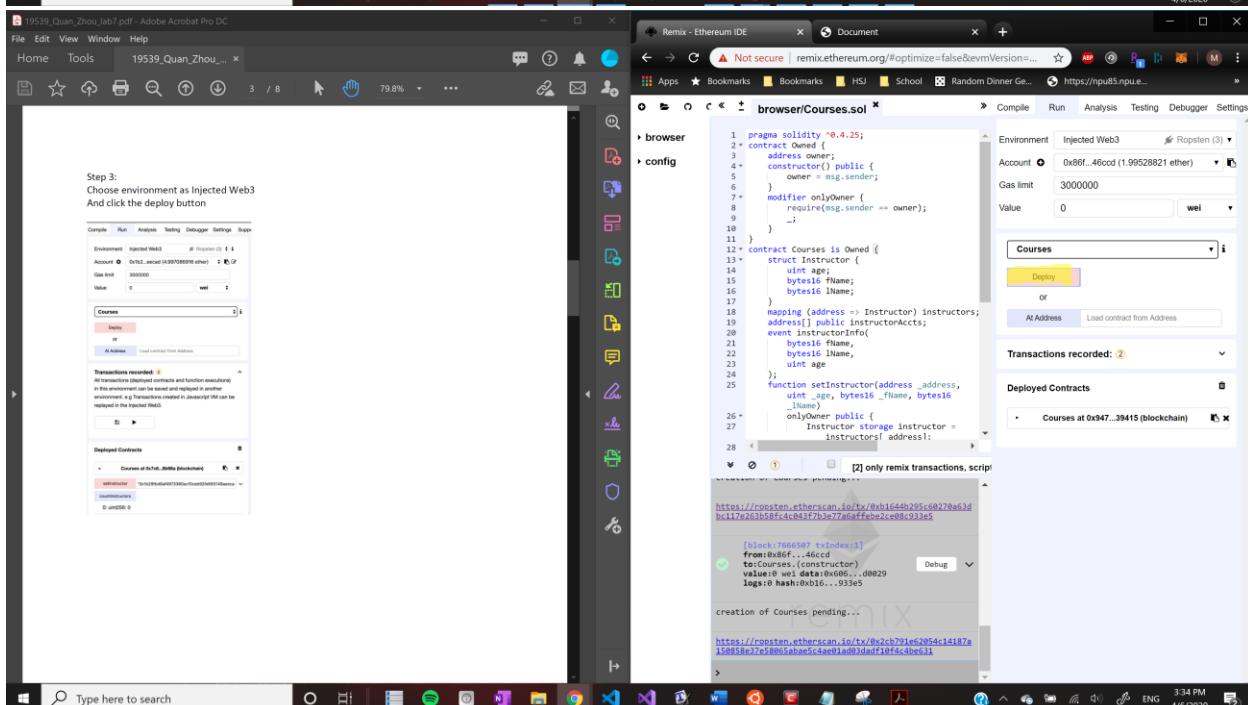
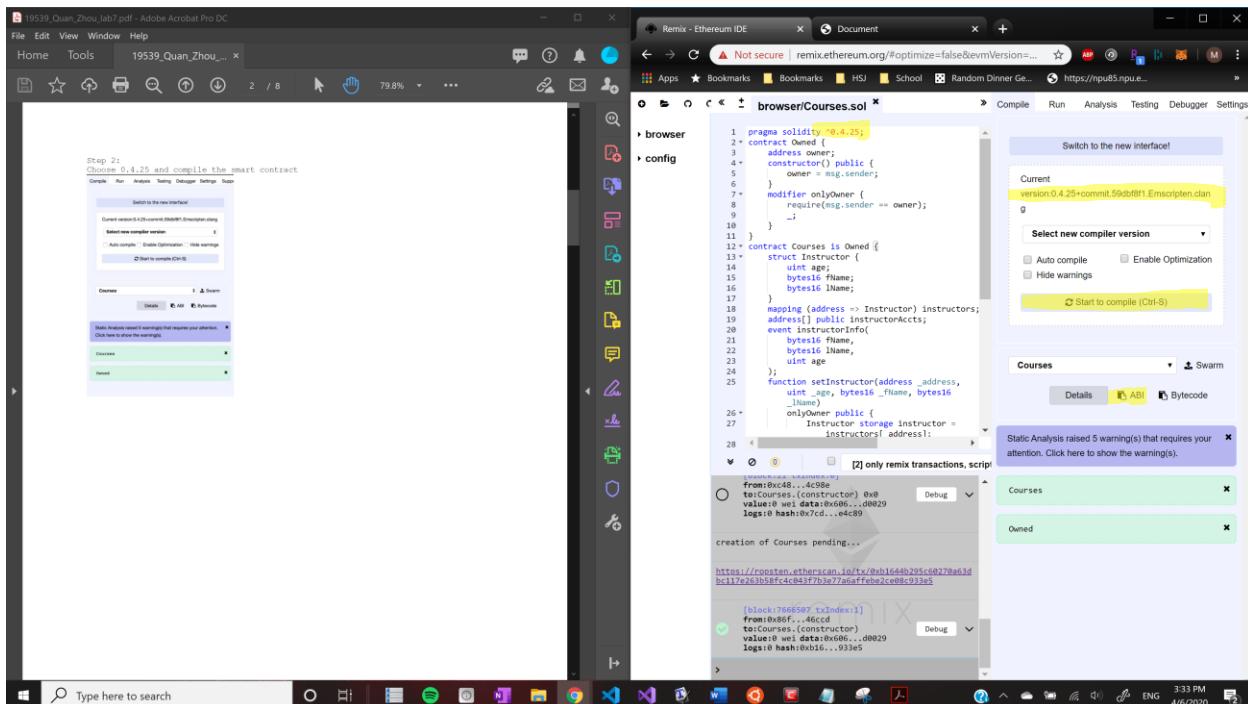
DevTools Inspector

SameSite 'lax' and 'Secure'. You can review cookies in developer tools under Application>Storage>Cookies and see more details at <https://www.chromestatus.com/feature/5888147346039502> and <https://www.chromestatus.com/feature/5633521627188032>.

```
created (index):184
  executeContract (index):185
  Creating (index):185
  Coursetro (index):185
  ↳ Uncaught Error: invalid address at c (image.js:1)
    at InputTransactionFormatter (image.js:1)
    at image.js:1
    at Array.map (anonymous)
    ↳ o.formatInput (image.js:1)
    ↳ o.toPayload (image.js:1)
    ↳ w.e [as sendTransaction] (image.js:1)
    ↳ u.sendTransaction (image.js:1)
    ↳ v.execute (image.js:1)
    ↳ HTMLButtonElement
    ↳ anonymous > (index):214
  ↳ DevTools failed to parse SourceMap: chrome-extension://ablobdeagadec1c0edf9ed60/n/sourcemaps/_image.js.map
```

Windows Taskbar: Type here to search, Start button, File Explorer, File History, Task View, Taskbar settings, Taskbar icons, Taskbar search, Taskbar pinned items, Taskbar status bar.

Solution:



Step 6: fire up your server by using
npm run dev
In your terminal
And go to your webpage:
Right click on the page and go to inspect

```
// Default account should be accounts[0]
// web3.eth.defaultAccount = web3.eth.accounts[0];
// web3.eth.defaultAccount = web3.eth.accounts[0];
// web3.eth.defaultAccount = web3.eth.accounts[0];
// The following highlighted area must be converted into one line.
// web3.eth.defaultAccount = web3.eth.accounts[0]; // PASTE ABI CODE HERE;
var CoursestroContract = web3.eth.contract();

console.log("Created CoursestroContract");
// var Coursestro = CoursestroContract.at('PASTE CONTRACT ADDRESS HERE');
console.log("Creating Coursestro");
// Coursestro.setInstructorCount();
// The following highlighted area must be converted into one line.
// Coursestro.setInstructorCount();
var Coursestro = CoursestroContract.at();
console.log(Coursestro);

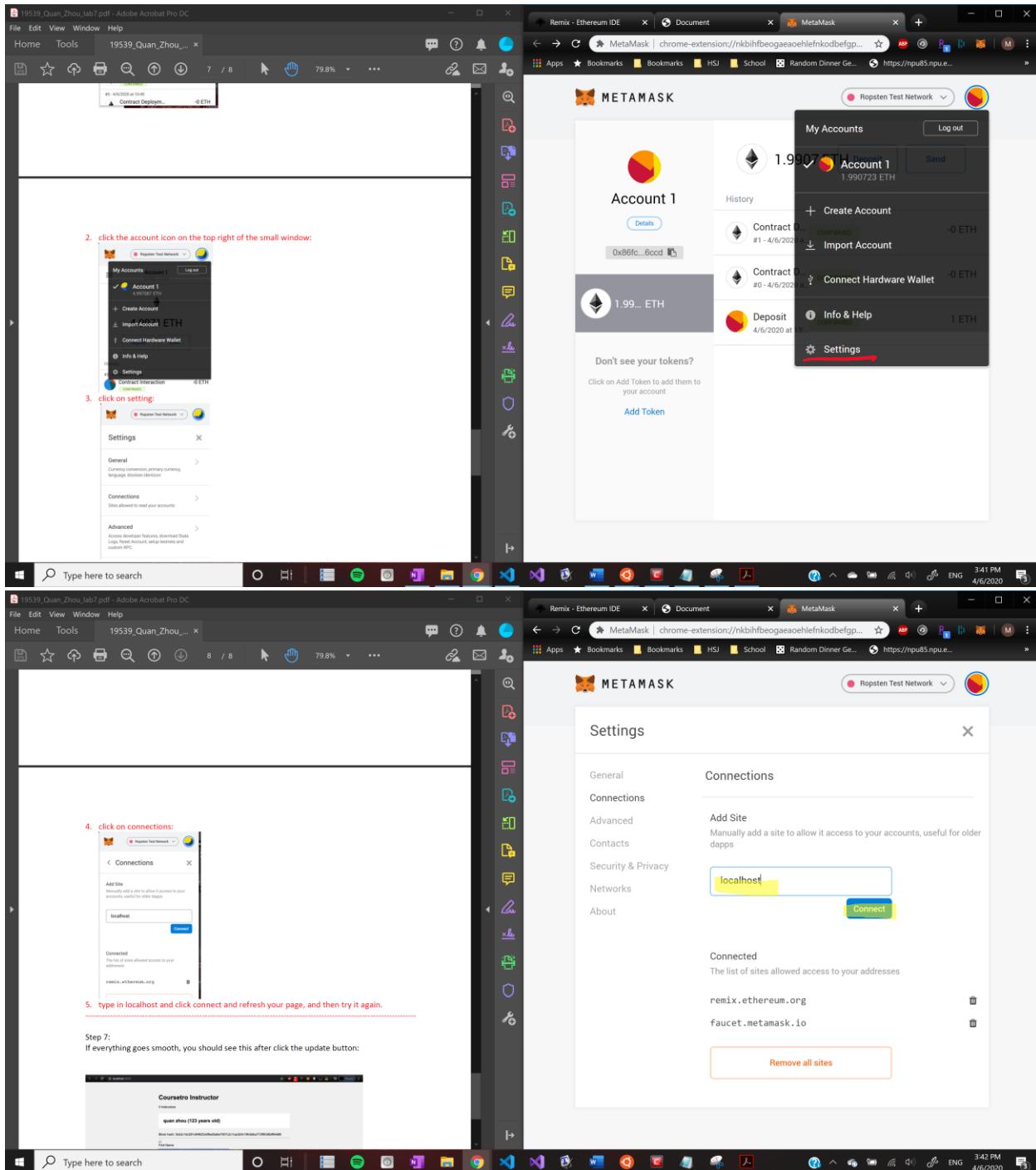
// Replace the Coursestro.getInstructor() lines with this line:
// var instructorEvent = Coursestro.Instructor();
var instructorEvent = Coursestro.instructorInfo({ latest });
// Watch for event
instructorEvent.watch(function(error, result) {
    if (result) {
        if (result.blockHash != $("#insTrans").html()) {
            $("#insTrans").html("Block hash: " + result.blockHash);
            $("#instructor").html(web3.toHex(result.args.fName) + " " +
                result.args.lName + " " + result.args.age + " years old");
        } else {
            $("#loader").hide();
        }
    }
});
```

```
Coursestro.countInstructors((err, res) => {
    if (res)
        $("#countIns").html(res.c + " Instructors");
})

// If the button "Update Instructor" is pressed.
$("#button").click(function () {
    $("#loader").show();
    web3.eth.defaultAccount();
    Coursestro.setInstructor(web3.eth.defaultAccount, $("#age").val(),
        $("#fName").val(), $("#lName").val(), (err, res) => {
            if (err)
                $("#loader").hide();
        }
    );
});
```

```
Coursestro.countInstructors((err, res) => {
    if (res)
        $("#countIns").html(res.c + ' Instructors');
});

$("#button").click(function () {
    $("#loader").show();
    console.log(web3.eth.defaultAccount);
    web3.eth.defaultAccount($("#fName").val(), $("#lName").val(), $("#age").val(),
        $("#loader").hide();
});
```



19539.Quan.Zhou_lab7.pdf - Adobe Acrobat Pro DC

File Edit View Window Help

Home Tools 19539_Quan_Zhou... x

Add Site

localhost

Connected

Connected to this allowed access to your address(es):

remix.ethereum.org

5. type in localhost and click connect and refresh your page, and then try it again.

Step 7:
If everything goes smooth, you should see this after click the update button:

Coursetro Instructor

0 Instructors

First Name

Last Name

Last Name

Update Instructor

Remix - Ethereum IDE x Document x MetaMask x

localhost:3000

Apps Bookmarks Bookmarks HSJ School Random Dinner Ge... https://npu85.npu.e...

Console

```

⚠ A cookie associated localhost:3000 with a cross-site resource at http://glify.com/ was set without the SameSite attribute. A future release of Chrome will only deliver cookies with cross-site requests if they are set with SameSite=None and Secure. You can review cookies in developer tools under Application>Storage>Cookies and see more details at https://www.chromestatus.com/feature/5633521622188832.

⚠ DevTools failed to parse SourceMap: chrome-extension://nkbihfbeogaeoiefnklnbdepggdnfou/crcmaps/contentscript.js.map
created (index):181
CoursetroContract
Creating Coursetro (index):182
(index):188
p _eth: w, transactionHash: nu
ll, address:
> "0x947b57d59fae2809fc74ce9728
  abi: Array(8), getInstructor:
  f, _-
null
{
  image: $i1
  > "0x86fccee083c01b20d3ad0cd2ab22d6
}

```

Type here to search

MetaMask Notification Ropsten Test Network

Account 1 0x947b...9415

CONTRACT INTERACTION

DETAILS DATA

GAS FEE ♦ 0.0001656 No Conversion Rate Available

AMOUNT + GAS FEE ♦ 0.001656 See this after click the update button:

TOTAL ♦ 0.001656 No Conversion Rate Available

Reject Confirm

Coursetro Instructor

0 Instructors

First Name

Last Name

Last Name

50

Update Instructor

Remix - Ethereum IDE x Document x MetaMask x

localhost:3000

Apps Bookmarks Bookmarks HSJ School Random Dinner Ge... https://npu85.npu.e...

Console

```

⚠ A cookie associated localhost:3000 with a cross-site resource at http://glify.com/ was set without the SameSite attribute. A future release of Chrome will only deliver cookies with cross-site requests if they are set with SameSite=None and Secure. You can review cookies in developer tools under Application>Storage>Cookies and see more details at https://www.chromestatus.com/feature/5633521622188832.

⚠ DevTools failed to parse SourceMap: chrome-extension://nkbihfbeogaeoiefnklnbdepggdnfou/crcmaps/contentscript.js.map
created (index):181
CoursetroContract
Creating Coursetro (index):182
(index):188
p _eth: w, transactionHash: nu
ll, address:
> "0x947b57d59fae2809fc74ce9728
  abi: Array(8), getInstructor:
  f, _-
null
{
  image: $i1
  > "0x86fccee083c01b20d3ad0cd2ab22d6
}

```

19539_Quan_Zhou_lab7.pdf - Adobe Acrobat Pro DC

File Edit View Window Help

Home Tools 19539_Quan_Zhou... x 8 / 8 79.8% ...

Add Site
Allow this site to allow it access to your accounts, useful for older pages.

localhost Connect

Connected
The site at localhost has been granted access to your accounts.

remix.ethereum.org

5. type in localhost and click connect and refresh your page, and then try it again.

Step 7:
If everything goes smooth, you should see this after click the update button:

Coursetro Instructor

0 Instructors

Whoever Whatever (50 years old)

Block hash: 0x549addfe9a73ae0bd06154e0158f2be41ceac4bb16ad0

First Name: Whoever

Last Name: Whatever

Last Name: 50

Update Instructor

Confirmed transaction
Transaction 2 confirmed! View on Etherscan
Google Chrome

3:44 PM 4/6/2020

Remix - Ethereum IDE x Document x MetaMask x localhost:3000 Apps Bookmarks Bookmarks HSJ School Random Dinner Ge... https://npu85.npu...

A cookie associated localhost:1 with a cross-site resource at http://glify.com was set without the SameSite attribute. A future release of Chrome will only deliver cookies with cross-site requests if they are set with SameSite=None and Secure. You can review cookies in developer tools under ApplicationStorage>Cookies and see more details at <https://www.chromestatus.com/feature/5633521622188832>

DevTools failed to parse SourceMap: chrome-extension://nkbihfbeogaeoeljfnkobdfegklon/sourcemap/contentscript.js.map

DevTools failed to parse SourceMap: chrome-extension://nkbihfbeogaeoeljfnkobdfegklon/sourcemap/contentscript.js.map

created (index):181 CoursetroContract

Creating Coursetro (index):182 (index):188 p _eth: w, transactionHash: null, address: '0x979b57a59fae28090fc74cc497269b1' Array(8), getInstructor: f, _ -> null image_src: '0x86fcccc0a3c01b2b0d3ad0c22ab22d6c3ad8cd2ab22d6c0e46cc'