

Measuring the latency for ABC Bank

This is the latency folder.

T1 is running when the controller function contacts the backend (line 2),

right before when the backend starts to save a user to the database T2 is logged (line 18)

When the backend is done, it prints the T4 time (line 21)

```
1 const createNewCustomer = async (req, res) => {
2   console.log(`---SUBMITTED T1: ${Date.now()}`)
3   let successfulResponseString = `SUCCESS: The customer ${req.body.first_name} has been added to the database`;
4   let errorResponseString = `ERROR: The customer with the name ${req.body.first_name} can not be added to the database.
   This can be because a customer already exists with the ID, personal number, or account number provided.`
5
6   //fill our model with the information the user has entered in the form
7   const newCustomer = new Customer({
8     id: req.body.id,
9     personal_number: req.body.personal_number,
10    account_number: req.body.account_number,
11    first_name: req.body.first_name,
12    last_name: req.body.last_name,
13    date_of_birth: req.body.date_of_birth,
14    city: req.body.city
15  });
16
17  //use the .save method to save the new customer to the database
18  console.log(`---BACK END START T2: ${Date.now()}`)
19  await newCustomer
20    .save()
21    .then(console.log(`---BACK END DONE T4: ${Date.now()}`))
22    .then(() => res.status(200).render('createcustomer.ejs', { response: successfulResponseString }))
23    .catch((error) => res.status(500).render('createcustomer.ejs', { response: errorResponseString }));
24  ;;
```

Then in the createcustomer.ejs line 2-5 print the current time when it retrieves a response

```

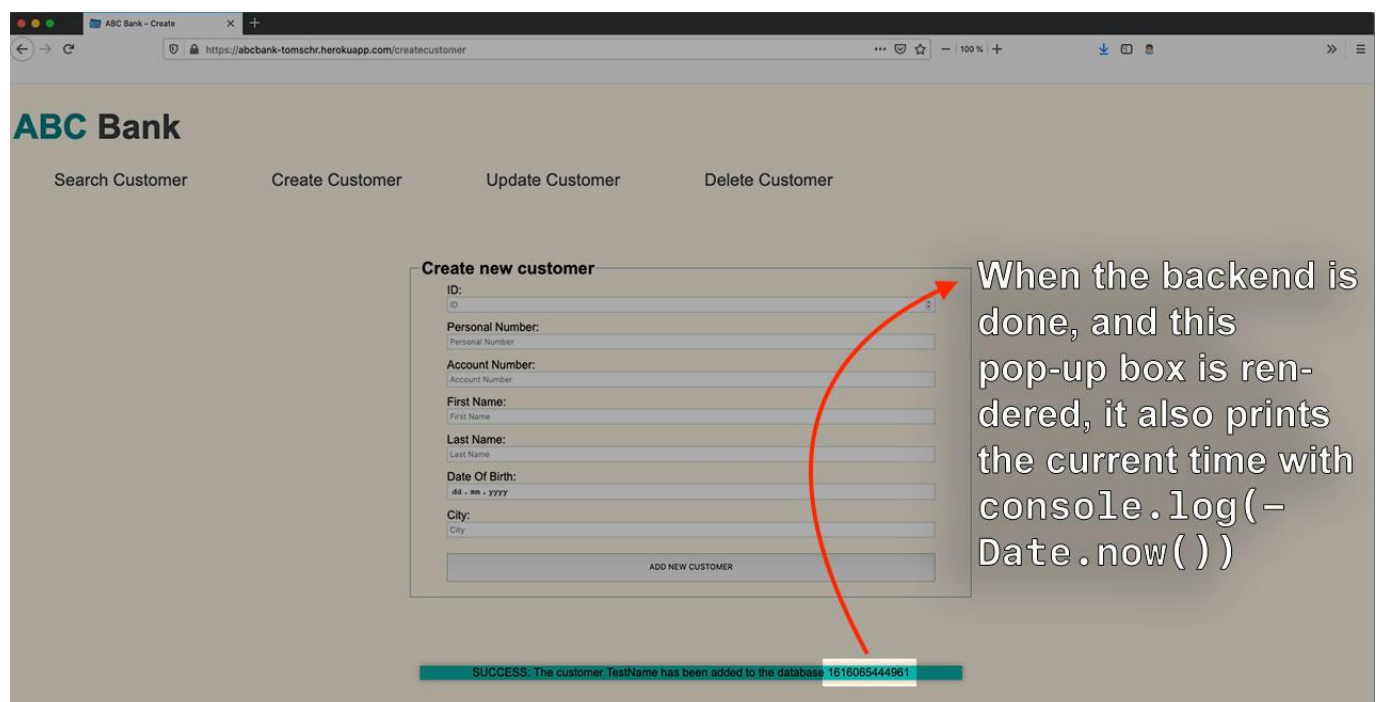
1 <div class="results">
2     <% if (locals.response) { %>
3         <% let time = Date.now() %>
4         <%= response %>
5         <%= "T3: " + time %>
6     <% } %>
7 </div>

```

T1 is running when the controller function contacts the backend (line 2),
 right before when the backend starts to save a user to the database T2 is logged (line 18)
 When the backend is done, it prints the T4 time (line 21)

Then in the createcustomer.ejs line 2-5 print the current time when it retrieves a response

To retrieve The time for T3 we check if the front end has gotten a response, if so, render the response and the time it was retrieved



The screenshot shows a web browser window with the URL `https://abcbank-tomschr.herokuapp.com/createcustomer`. The page has a header for "ABC Bank" and navigation links: "Search Customer", "Create Customer", "Update Customer", and "Delete Customer". The main content area is titled "Create new customer" and contains a form with the following fields: "ID:", "Personal Number:", "Account Number:", "First Name:", "Last Name:", "Date Of Birth:" (with a date picker), "City:", and "City:". Below the form is a button labeled "ADD NEW CUSTOMER". A red arrow points from the "ADD NEW CUSTOMER" button to a text box on the right. The text box contains the text: "When the backend is done, and this pop-up box is rendered, it also prints the current time with `console.log(- Date.now())`". At the bottom of the page, a green success message is displayed: "SUCCESS: The customer TestName has been added to the database 1616065444961".

The Result

When testing we got the following results:

End-to-end latency: 116ms

Cloud processing latency: 2ms

Communication latency: 114ms

(See excel document)