

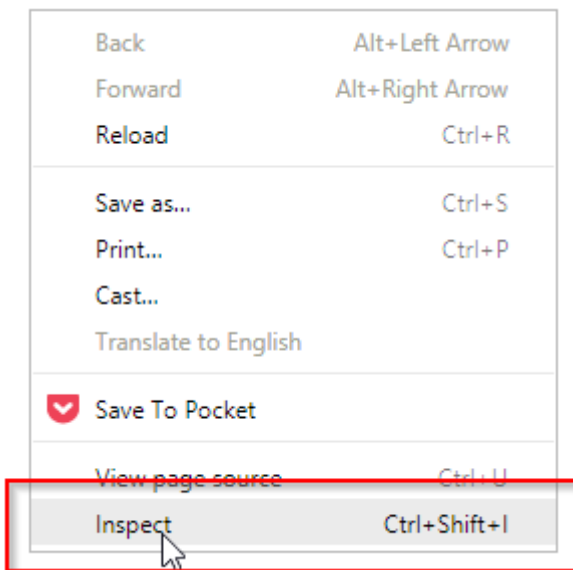
Hands-On Handout

Client-Server Architecture

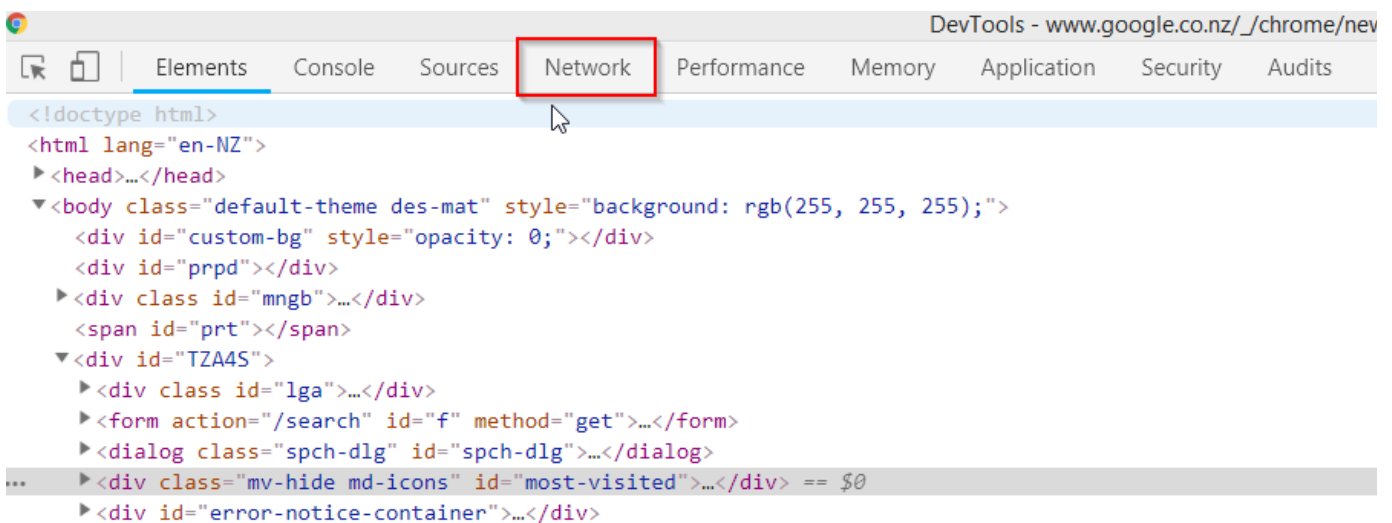
1 Capturing Brower's API calls

1.1 Setup

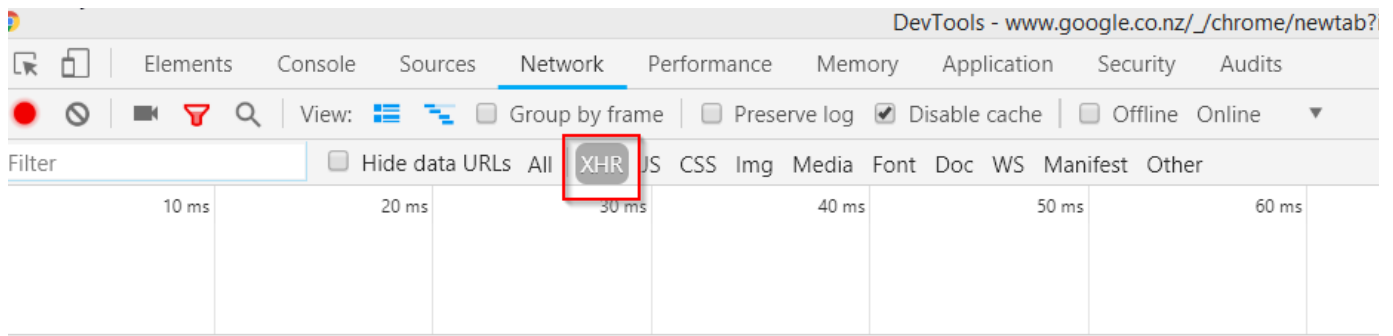
1. Open Chrome and right click a newly opened tab and select option "Inspect". A new Chrome Window should open titled "DevTools".



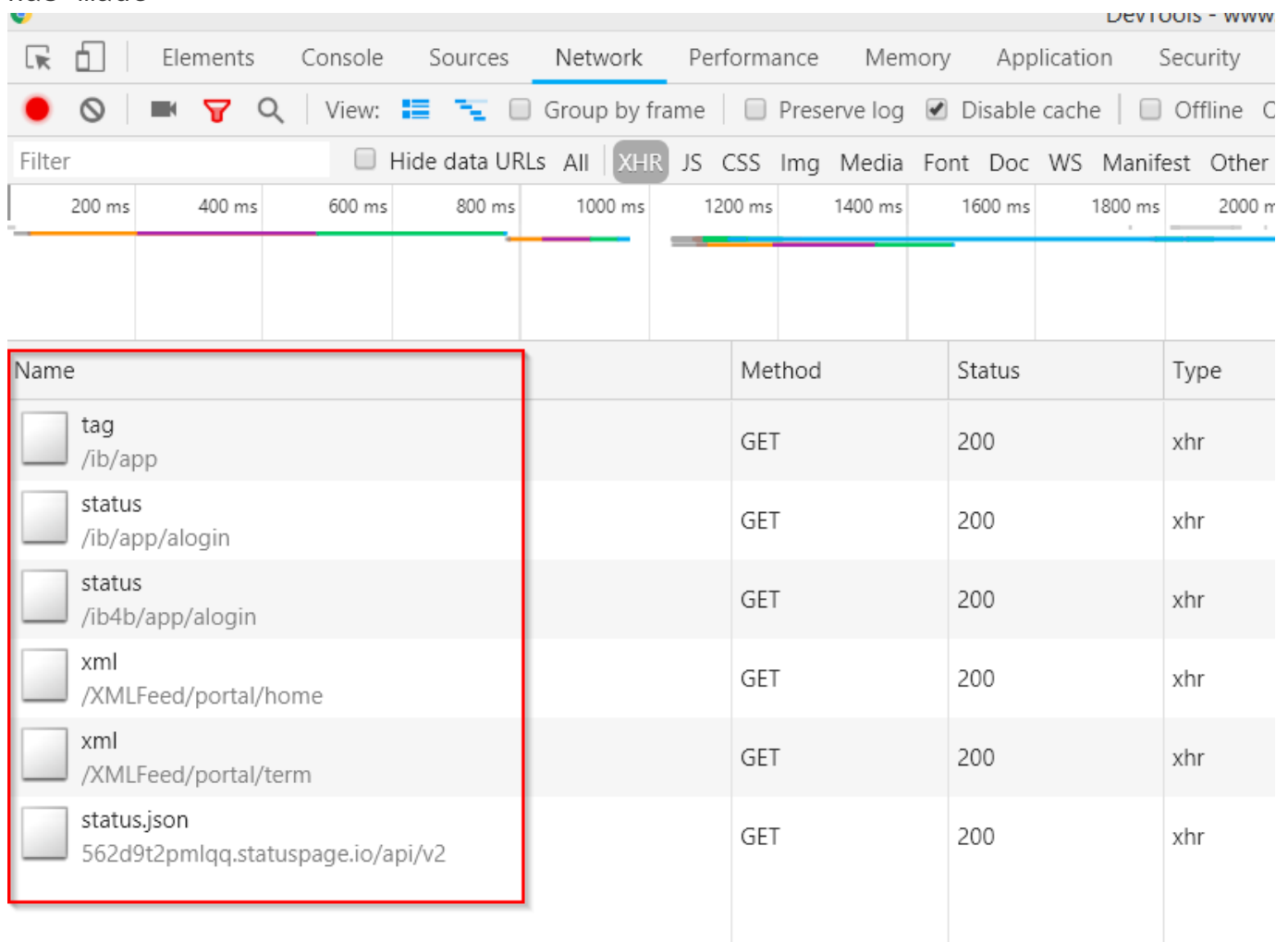
2. Click the "Network" tab on the "DevTools" window.



3. Click the "XHR" tab



4. Navigate to the www.bnz.co.nz site on the main browser window.
5. Switch back to the DevTools window and look the API calls that browser has made



1.2 What just happened?

(Prateek's Rant)

1.3 Demo

1. Click on the "Store and ATM finder" link on the bottom right of the bnz.co.nz homepage



0% p.a. interest offers on a Low Rate Mastercard

Lending criteria, terms and fees apply



4.35% p.a. 2 years fixed home loan special

Product eligibility criteria applies

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2. Search for “Wellington”

Store and ATM finder

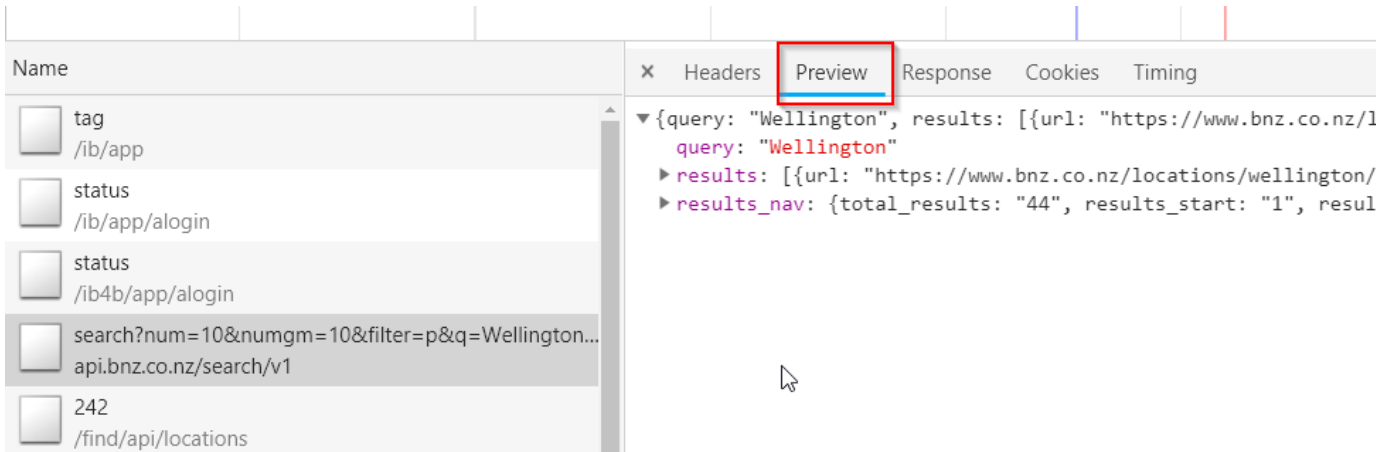
Wellington



3. Switch to the “DevTools” Chrome window and click at the API call as shown below.

Filter		<input type="checkbox"/> Hide data URLs	All	XHR	JS	CSS	Img	Media	Font
500 ms		1000 ms		1500 ms					
Name		Method							
<input type="checkbox"/>	tag	GET							
<input type="checkbox"/>	/ib/app								
<input type="checkbox"/>	status	GET							
<input type="checkbox"/>	/ib/app/alogin								
<input type="checkbox"/>	status	GET							
<input type="checkbox"/>	/ib4b/app/alogin								
<input type="checkbox"/>	search?num=10&numgm=10&filter=p&q=Wellington&site...	GET							
<input type="checkbox"/>	api.bnz.co.nz/search/v1								
<input type="checkbox"/>	242	GET							
<input type="checkbox"/>	/find/api/locations								
<input type="checkbox"/>	250	GET							
<input type="checkbox"/>	/find/api/locations								

4. Click on the “Preview” tab

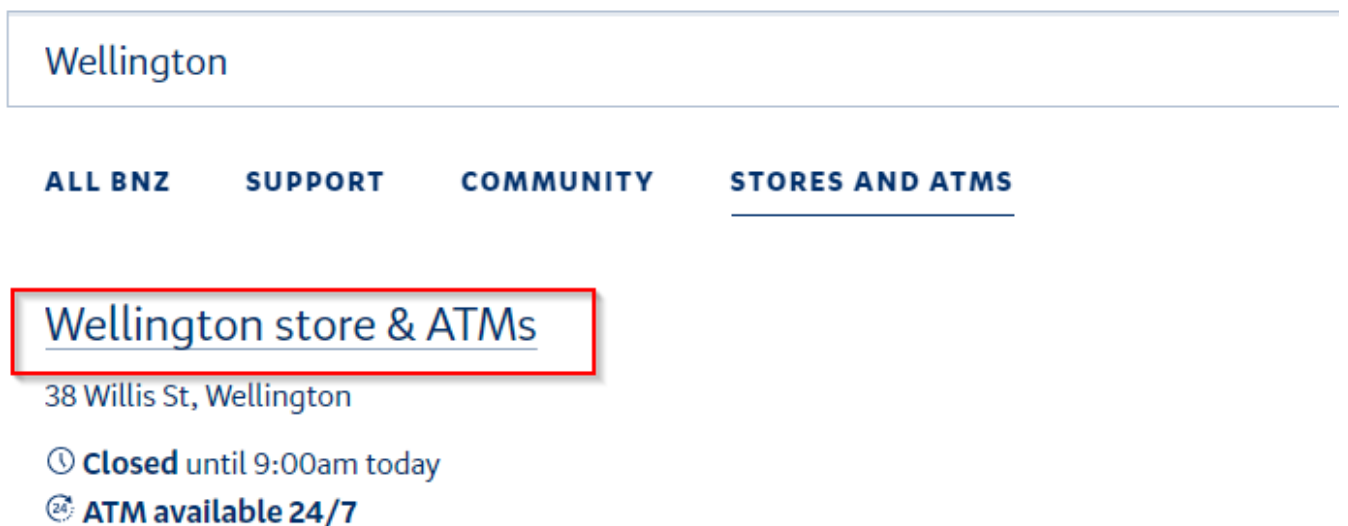


5. Explore the API response and how it's being displayed on the Website.

Data returned




Same Data Displayed




Exercise 1

1. Click the “System Status” link as shown below and capture the API call made by the browser.

Everyday banking Home loans Credit cards KiwiSaver Investments Personal loans Insurance International



0% p.a. interest offers on
a Low Rate Mastercard
Lending criteria, terms and fees apply



4.35% p.a. 2 years fixed
home loan special
Product eligibility criteria applies

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2. Explore how that data is being used by the website.

Understanding REST APIs – Bank Analogy

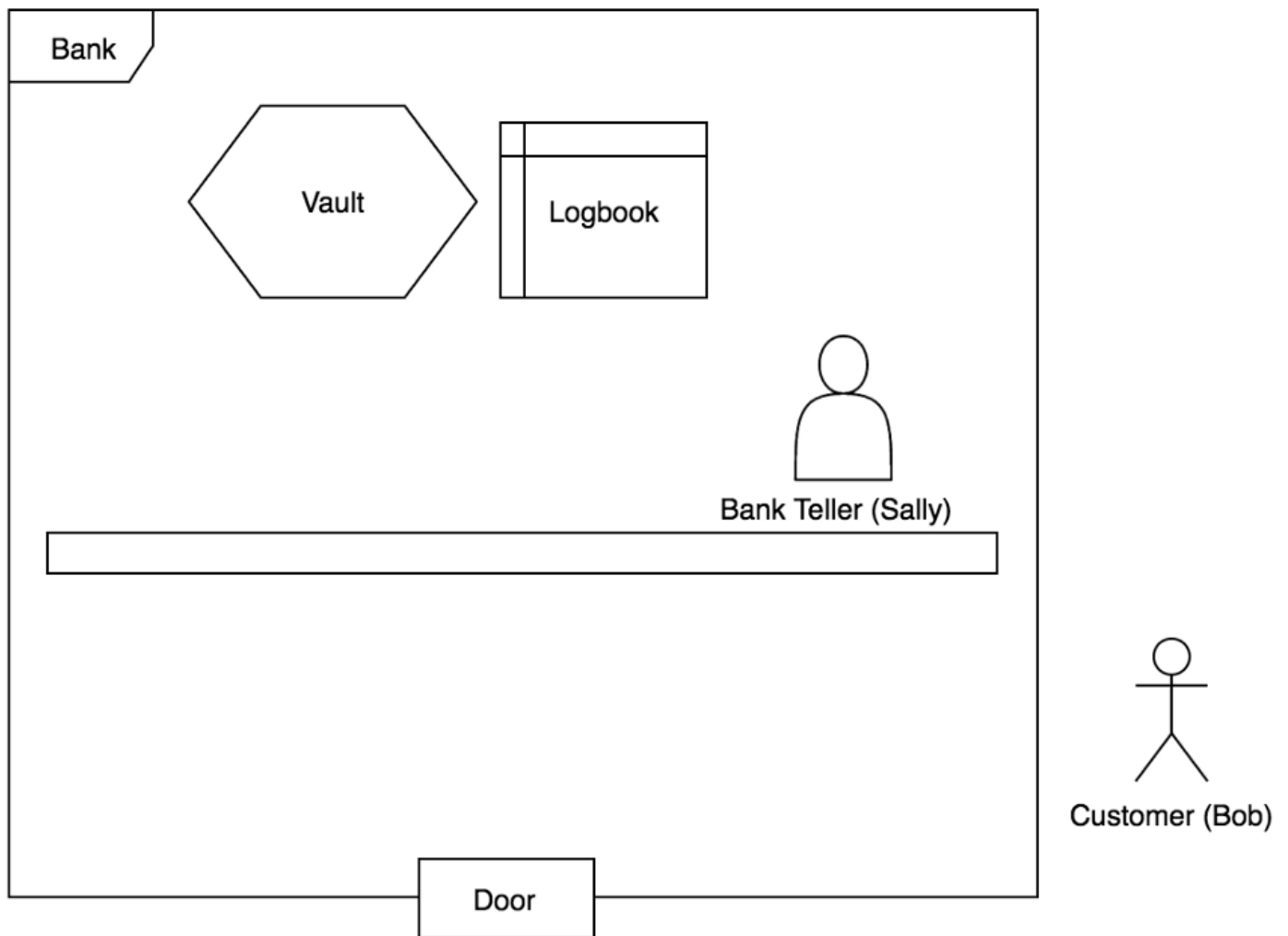
The aim of this exercise is to explore the functionalities that an API can offer through the HTTP GET method.

Setup – Launch the API

Navigate to the `session1Handout\API-training-jars\bankApi\session1` folder on your computer and double click the “.bat” or the “.sh” file(as per your OS) to launch the API.

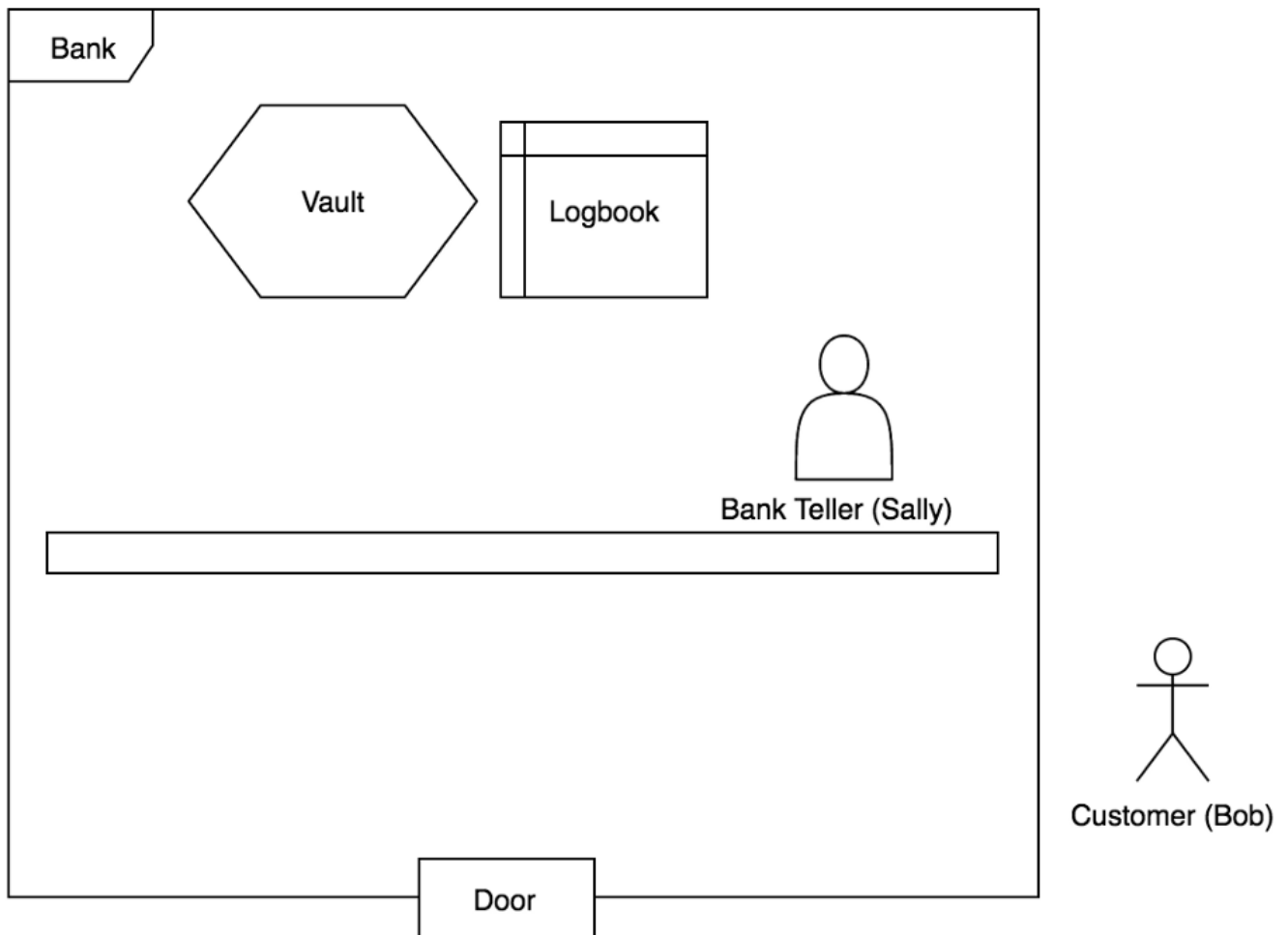
Demo

With this picture in mind.



Interface

1. In your browser type the IP Address `127.0.0.0` to reach the Door of the bank
You should see “This site can’t be reached” as expected
2. Now add “`:3000`” at the end of URL and hit enter. If the API is running you should see the HomePage displayed as below



IP address is address of the server on the Network.

Port is address of the service within the System.

So, IP address + Port defines address of the particular service on the particular server.

Default port for HTTP is 80.

Endpoint

The functionality the API exposes.

1. On your browser type “localhost:3000/customers” and hit enter.
You should see an XML with customer information.

Here the endpoint is /customers

Protocol

Rules of engagement

1. Replace customer in the URL of the previous step with “underWaterBasketWeaving”.
We should get an error returned.

Verification

1. In the browser type `http://localhost:3000/customers/103` and hit enter.
You should get a response to say the customer does not exist.
`103 customer presently does not exist. You could use any other customer number that does not exist.`

Pagination

The client wants to consume information in manageable chunks.

1. In your browser type `http://localhost:3000/customers?size=2` to return data for 2 customers at a time.
2. In your browser type `http://localhost:3000/customers?size=2&page=1` to return the 2nd page of customer data, which is divided into chunks of 2.

Filtering

The client wants data that matches a specified criterion.

1. In your browser type `http://localhost:3000/customers?type=Individual` to return only customers of type “Individual”
Change the type to “Business”

Format

The client can specify the format in which data should be returned. e.g. JSON or XML.

1. Using Postman specify header `accept: application/json` to get the data in the JSON format.
2. Change the header to `accept:application/xml` to get the data in the XML format.

Exercise 2

1. Paste the URL to the ATM locator API in your browser window.

https://api.bnz.co.nz/search/v1/search?num=10&filter=p&q=auckland&site=bnz_co_nz_locations&client=darwin_frontend&start=0&proxystylesheet=www_dev

Change the below parameters in the URL to different values and explore how the response changes.

Parameter	Meaning
num	number of results to be returned
q	search string
start	return search results starting from n th number