Codergirl – Frontend

Unit 2 - Class 7

December 19, 2020

Agenda

- Section 11 - Routing
- *Holiday break is 12/28 to 12/30, with the last class being 12/23 and the first of new year being on 1/4/21*

Routing

- Separate pages for servers, users, home
- Having separate pages and routing to separate pages.
- /users goes to users component
- /servers goes to servers component
- / goes to home component
- App.modules.ts about routes (appRoutes)

Routing – app.module.ts

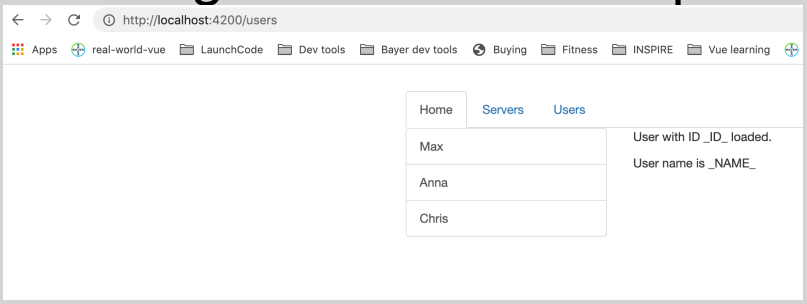
```
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';
import { FormsModule } from '@angular/forms';

import { AppComponent } from './app.component';
import { HomeComponent } from './home/home.component';
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { UserComponent } from './users/user/user.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { ServerComponent } from './servers/server/server.component';
import { ServersService } from './servers/servers.service';
import { RouterModule, Routes } from '@angular/router';

const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'users', component: UsersComponent},
  { path: 'servers', component: ServersComponent}
];

@NgModule({
  declarations: [
    AppComponent,
    HomeComponent,
    UsersComponent,
    ServersComponent,
    UserComponent,
    EditServerComponent,
    ServerComponent
  ],
  imports: [
    BrowserModule,
    FormsModule,
    RouterModule.forRoot(appRoutes)
  ],
  providers: [ServersService],
  bootstrap: [AppComponent]
})
export class AppModule { }
```

Routing – app.component.html

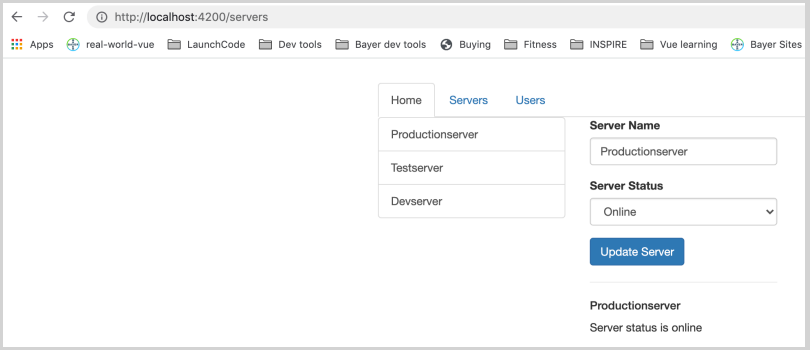
```
<div class="container">
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
      <ul class="nav nav-tabs">
        <li role="presentation" class="active"><a href="#">Home</a></li>
        <li role="presentation"><a href="#">Servers</a></li>
        <li role="presentation"><a href="#">Users</a></li>
      </ul>
    </div>
  </div>
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
     <router-outlet></router-outlet>
    </div>
  </div>
</div>
```

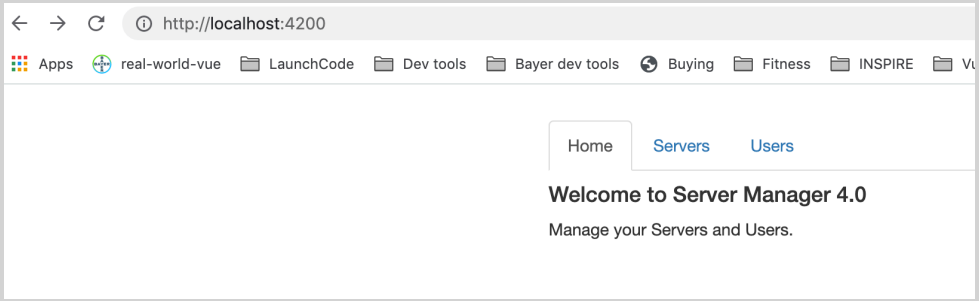
Test site

- /users goes to users component



- /servers goes to servers component





Works but app reloads

Fix links

```
<div class="container">
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
      <ul class="nav nav-tabs">
        <li role="presentation" class="active"><a href="/">Home</a></li>
        <li role="presentation"><a href="/servers">Servers</a></li>
        <li role="presentation"><a href="/users">Users</a></li>
      </ul>
    </div>
  </div>
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
     <router-outlet></router-outlet>
    </div>
  </div>
</div>
```

Works but app reloads

Navigation – user directive instead

- app-component.html. Works without reload.

```
<div class="container">
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
      <ul class="nav nav-tabs">
        <li role="presentation" class="active"><a routerLink="/">Home</a></li>
        <li role="presentation"><a routerLink="/servers">Servers</a></li>
        <li role="presentation"><a [routerLink]="['/users']">Users</a></li>
      </ul>
    </div>
  </div>
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
     <router-outlet></router-outlet>
    </div>
  </div>
</div>
```

Works without the /servers with servers as well.

Navigation paths

- /servers Absolute path
- Relative path servers or ./servers or ../servers

Active Router Links

- /servers Absolute path
- Relative path servers or ./servers or ../servers

```
<div class="container">
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
      <ul class="nav nav-tabs">
        <li role="presentation" routerLinkActive="active"
        [routerLinkActiveOptions]="{exact: true}">
        <a routerLink="/">Home</a></li>
        <li role="presentation" routerLinkActive="active"><a routerLink="servers">Servers</a></li>
        <li role="presentation" routerLinkActive="active"><a [routerLink]="['users']">Users</a></li>
      </ul>
    </div>
  </div>
  <div class="row">
    <div class="col-xs-12 col-sm-10 col-md-8 col-sm-offset-1 col-md-offset-2">
     <router-outlet></router-outlet>
    </div>
  </div>
</div>
```

Navigating Programmatically

```
<h4>Welcome to Server Manager 4.0</h4>
<p>Manage your Servers and Users.</p>
<button class="btn btn-primary" (click)="onLoadServers()">Load Servers</button>
```

```
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.css']
})
export class HomeComponent implements OnInit {

  constructor(private router: Router) { }

  ngOnInit() {
  }

  onLoadServers() {
    this.router.navigate(['/servers']);
  }

}
```

Relative paths for Navigating Programmatically

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr>
    <app-server></app-server>
  </div>
</div>
```

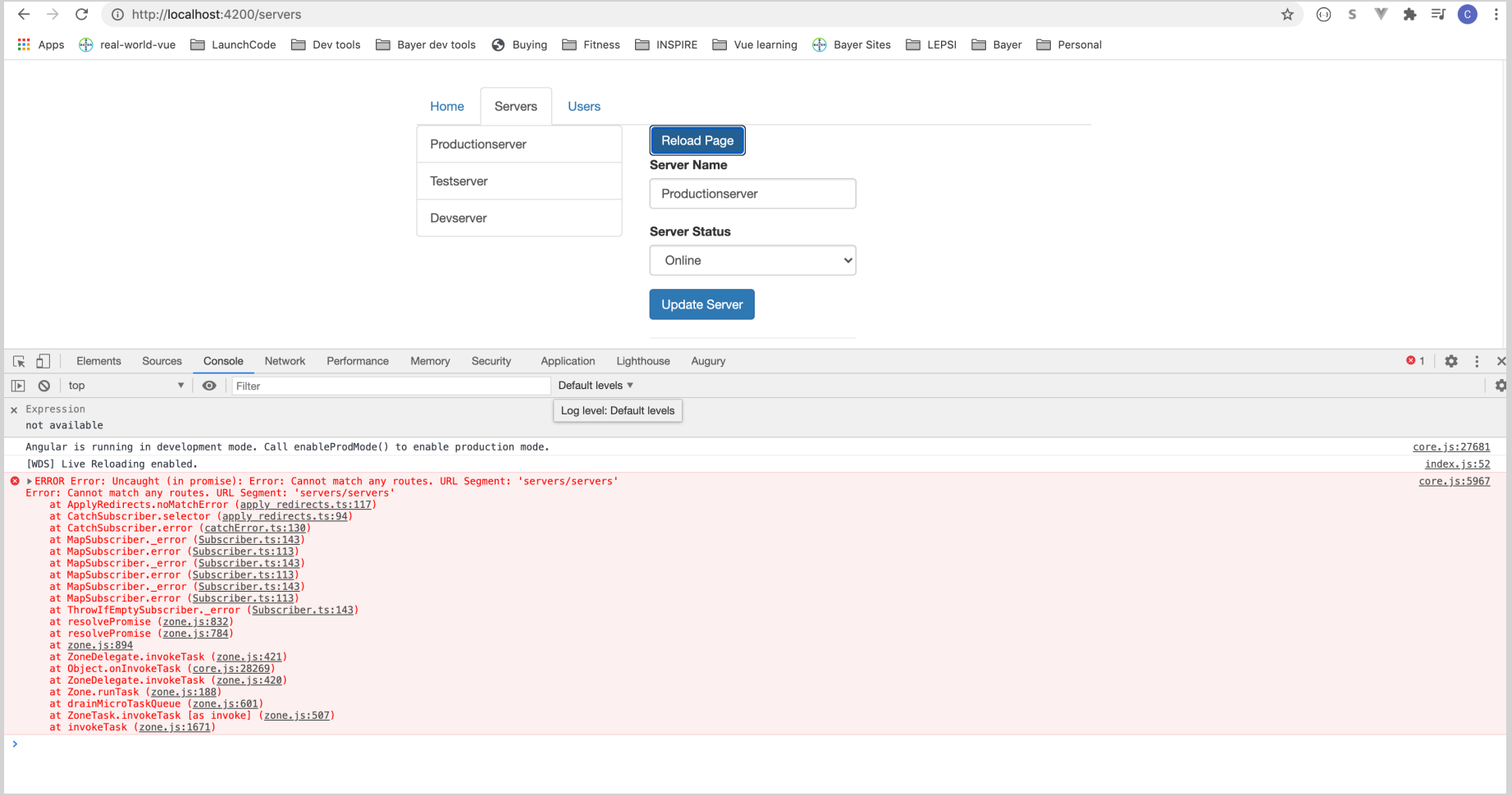
Relative paths for Navigating Programmatically

```
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';
import { ServersService } from './servers.service';

@Component({
  selector: 'app-servers',
  templateUrl: './servers.component.html',
  styleUrls: ['./servers.component.css']
})
export class ServersComponent implements OnInit {
  public servers: {id: number, name: string, status: string}[] = [];

  constructor(private serversService: ServersService,
              private router: Router) { }

  ngOnInit() {
    this.servers = this.serversService.getServers();
  }
  onReload() {
    this.router.navigate(['servers'])
  }
}
```

Relative paths for Navigating Programmatically

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Router } from '@angular/router';
import { ServersService } from './servers.service';

@Component({
  selector: 'app-servers',
  templateUrl: './servers.component.html',
  styleUrls: ['./servers.component.css']
})
export class ServersComponent implements OnInit {
  public servers: {id: number, name: string, status: string}[] = [];

  constructor(private serversService: ServersService,
              private router: Router,
              private route: ActivatedRoute) { }

  ngOnInit() {
    this.servers = this.serversService.getServers();
  }
  onReload() {
    this.router.navigate(['servers'], {relativeTo: this.route})
  }
}
```

Relative paths for Navigating Programmatically

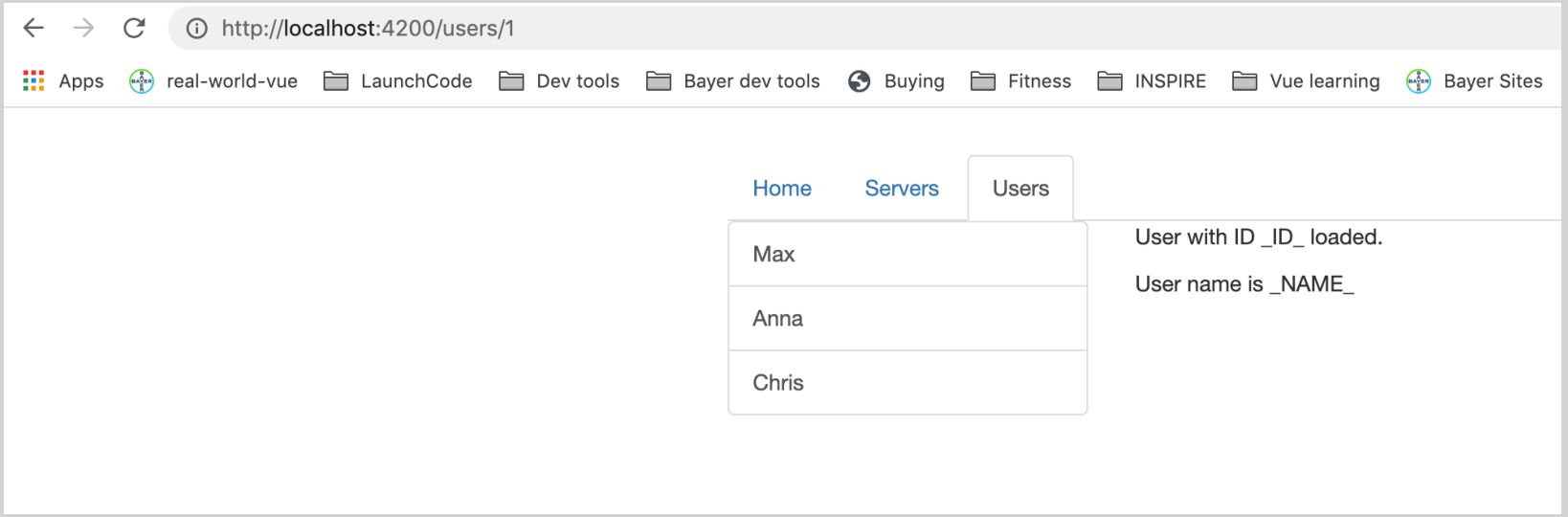


Passing Parameters to Routes

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-users',
  templateUrl: './users.component.html',
  styleUrls: ['./users.component.css']
})
export class UsersComponent {
  users = [
    {
      id: 1,
      name: 'Max'
    },
    {
      id: 2,
      name: 'Anna'
    },
    {
      id: 3,
      name: 'Chris'
    }
  ];
}
```

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id', component: UsersComponent},
  { path: 'server', component: ServersComponent},
  { path: 'servers', component: ServersComponent}
];
```

Passing Parameters to Routes



Fetching Route Parameters

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id/:name', component: UsersComponent},
  { path: 'server', component: ServersComponent},
  { path: 'servers', component: ServersComponent}
];
```

app.module.ts

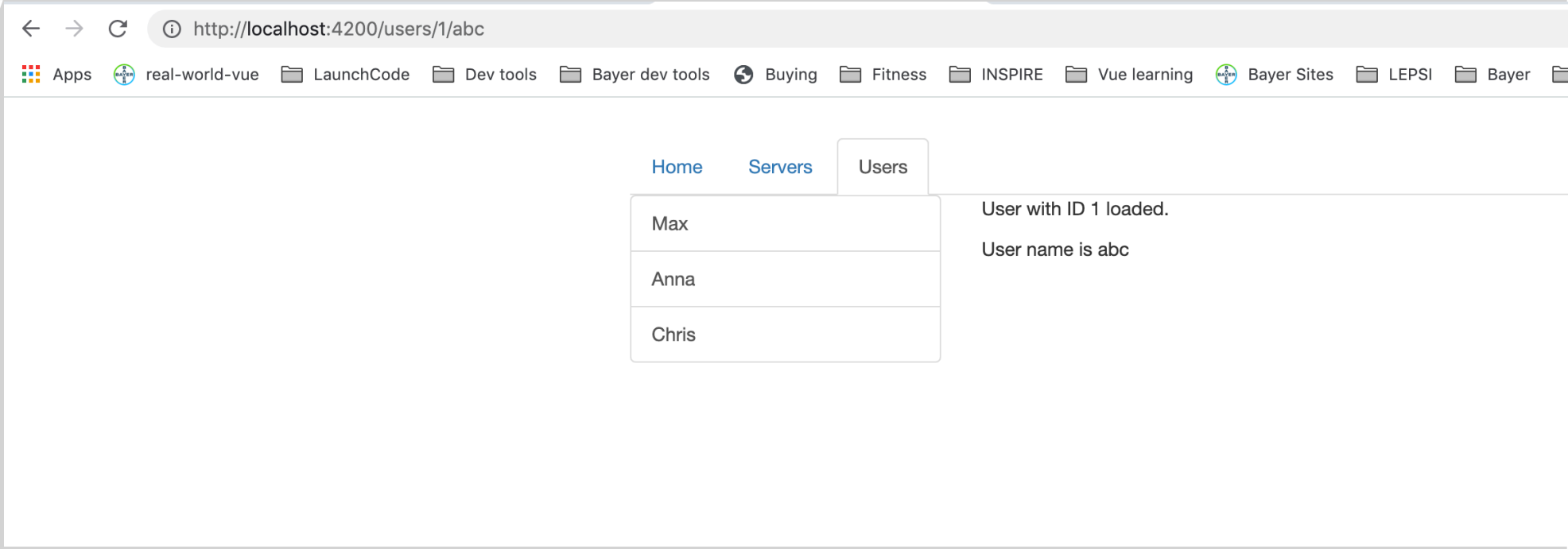
```
import { ActivatedRoute } from '@angular/router';
import { Component, OnInit } from '@angular/core';

@Component({
  selector: 'app-user',
  templateUrl: './user.component.html',
  styleUrls: ['./user.component.css']
})
export class UserComponent implements OnInit {
  user: {id: number, name: string};

  constructor(private route: ActivatedRoute) { }

  ngOnInit() {
    this.user = {
      id: this.route.snapshot.params['id'],
      name: this.route.snapshot.params['name']
    }
  }

}
```

user.component.ts

```
<p>User with ID {{ user.id }} loaded.</p>
<p>User name is {{ user.name }}</p>
```

user.component.html

Testing route parameters



Fetching Route parameters reactively

this.route.params is an Observable

params might change in the future, if a user clicks, but u don’t know when. Can’t block code.

Observables are a feature added by a third party package, heavily used by Angular

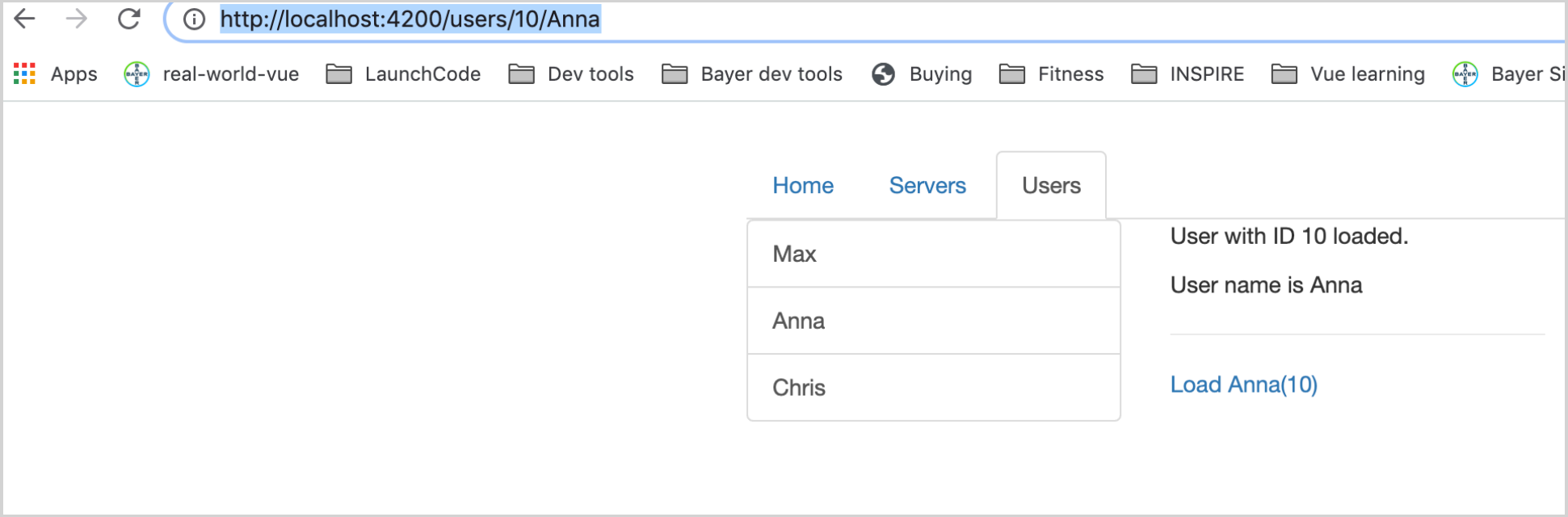
Allow you to work with asynchronous tasks.

Observable is a way to subscribe to an event that might occur in the future to then execute that code when it happens.

Fetching Route parameters reactively

```
import { ActivatedRoute, Params } from '@angular/router';
import { Component, OnInit } from '@angular/core';

@Component({
  selector: 'app-user',
  templateUrl: './user.component.html',
  styleUrls: ['./user.component.css']
})
export class UserComponent implements OnInit {
  user: {id: number, name: string};

  constructor(private route: ActivatedRoute) { }

  ngOnInit() {
    this.user = {
      id: this.route.snapshot.params['id'],
      name: this.route.snapshot.params['name']
    }
    this.route.params
    .subscribe(
      (params: Params) => {
        this.user.id = params['id'];
        this.user.name = params['name'];
      }
    );
  }
}
```

Fetching Route parameters reactively



Route Observables

In order to destroy the route subscription, delete it in onDestroy method.

```
import { ActivatedRoute, Params } from '@angular/router';
import { Component, OnInit } from '@angular/core';
import { Subscription } from 'rxjs';

@Component({
  selector: 'app-user',
  templateUrl: './user.component.html',
  styleUrls: ['./user.component.css']
})
export class UserComponent implements OnInit {
  user: {id: number, name: string};
  paramsSubscription: Subscription

  constructor(private route: ActivatedRoute) { }

  ngOnInit() {
    this.user = {
      id: this.route.snapshot.params['id'],
      name: this.route.snapshot.params['name']
    }
    this. paramsSubscription = this.route.params
    .subscribe(
      (params: Params) => {
        this.user.id = params['id'];
        this.user.name = params['name'];
      }
    );
  }
```

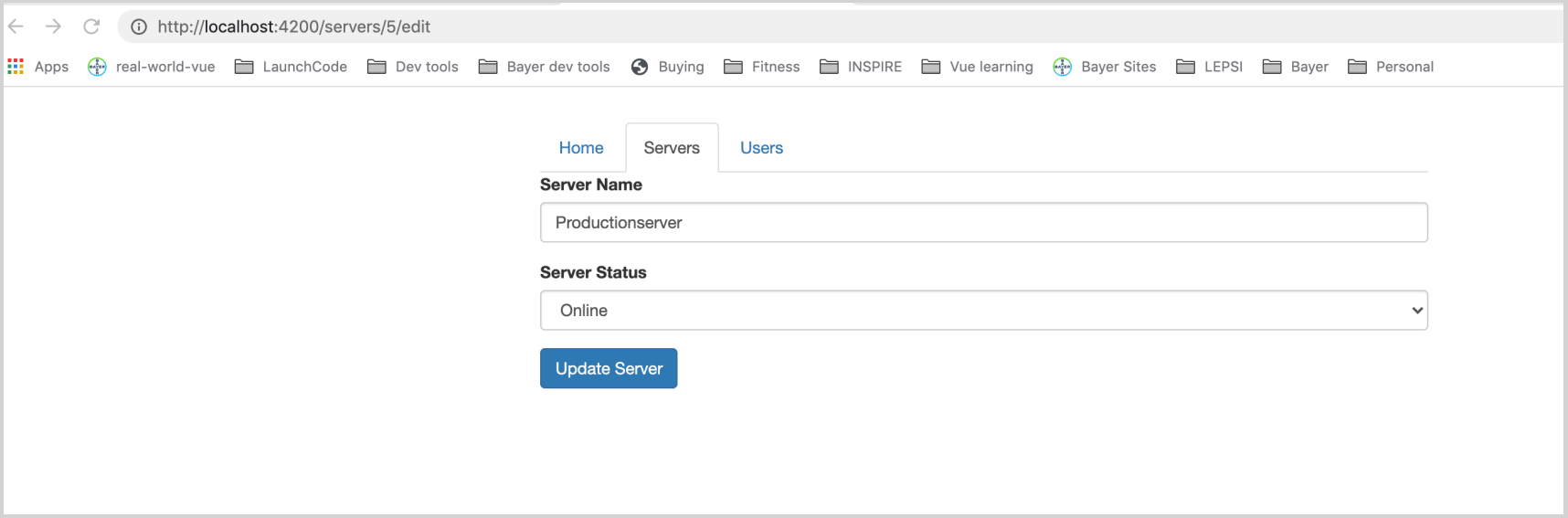
Passing Query parameters and fragments

Passing and retrieving localhost:4200/users/10/Anna?mode=editing#loading

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id/:name', component: UsersComponent},
  { path: 'servers', component: ServersComponent},
  { path: 'servers/:id/edit', component: EditServerComponent}
];
```

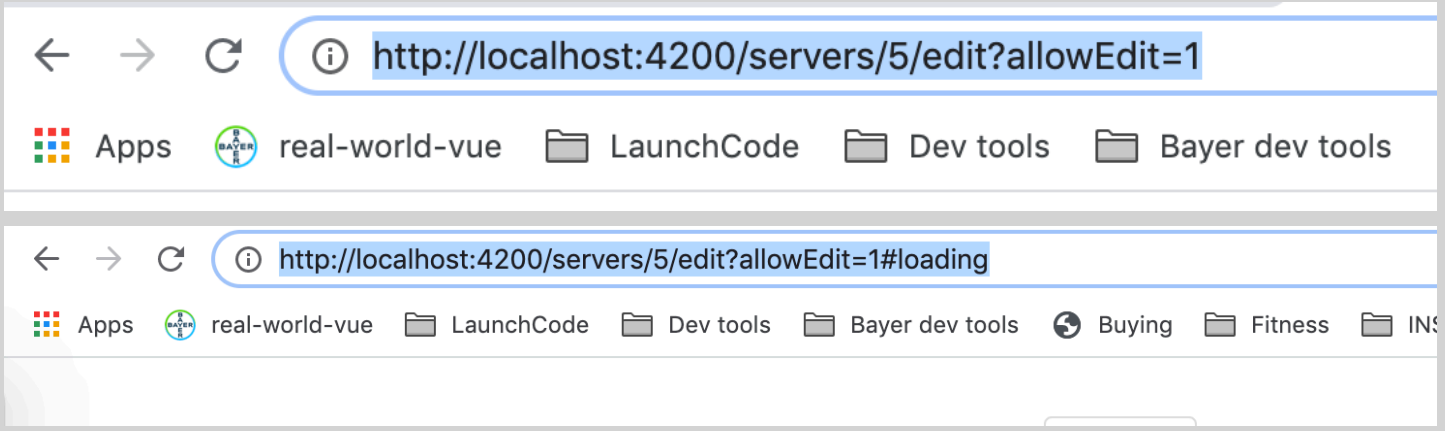
```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', 5, 'edit']"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr>
    <app-server></app-server>
  </div>
```

Passing Query parameters and fragments



Passing Query parameters and fragments

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', 5, 'edit']"
        [queryParams]="{allowEdit: '1'}"
        fragment="loading"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr>
    <app-server></app-server>
  </div>
</div>
```



Passing Query parameters and fragments

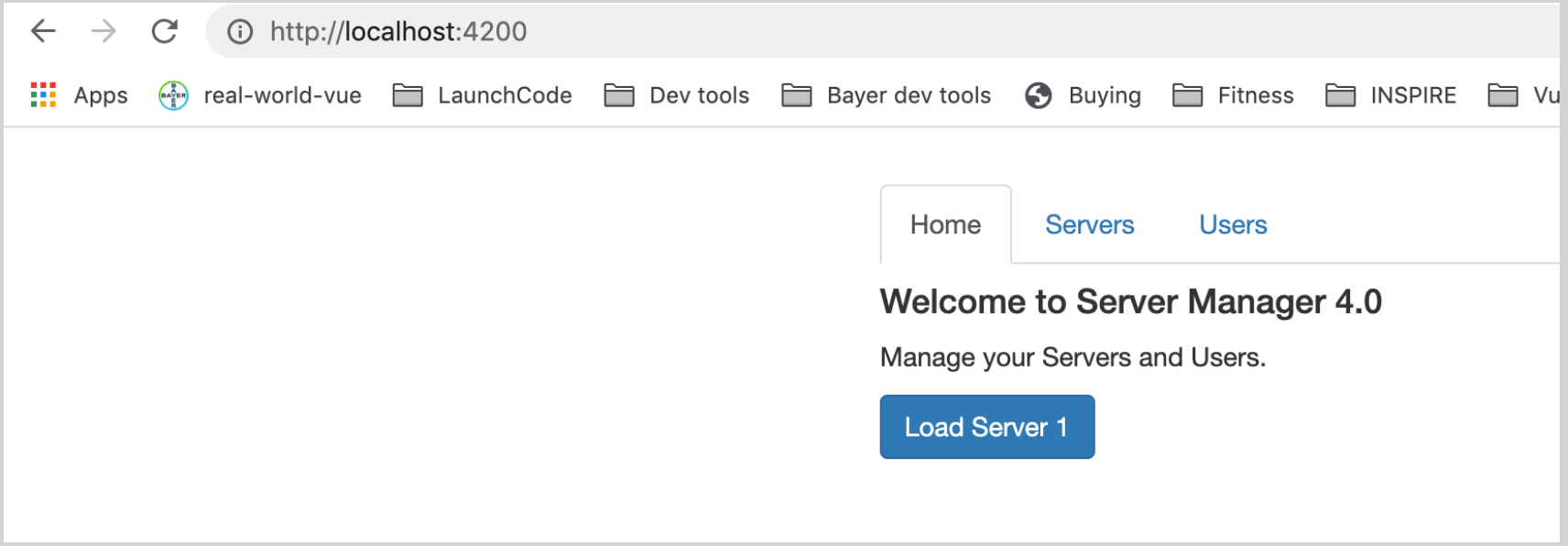
```
<h4>Welcome to Server Manager 4.0</h4>
<p>Manage your Servers and Users.</p>
<button class="btn btn-primary" (click)="onLoadServer(1)">Load Server 1</button>
```

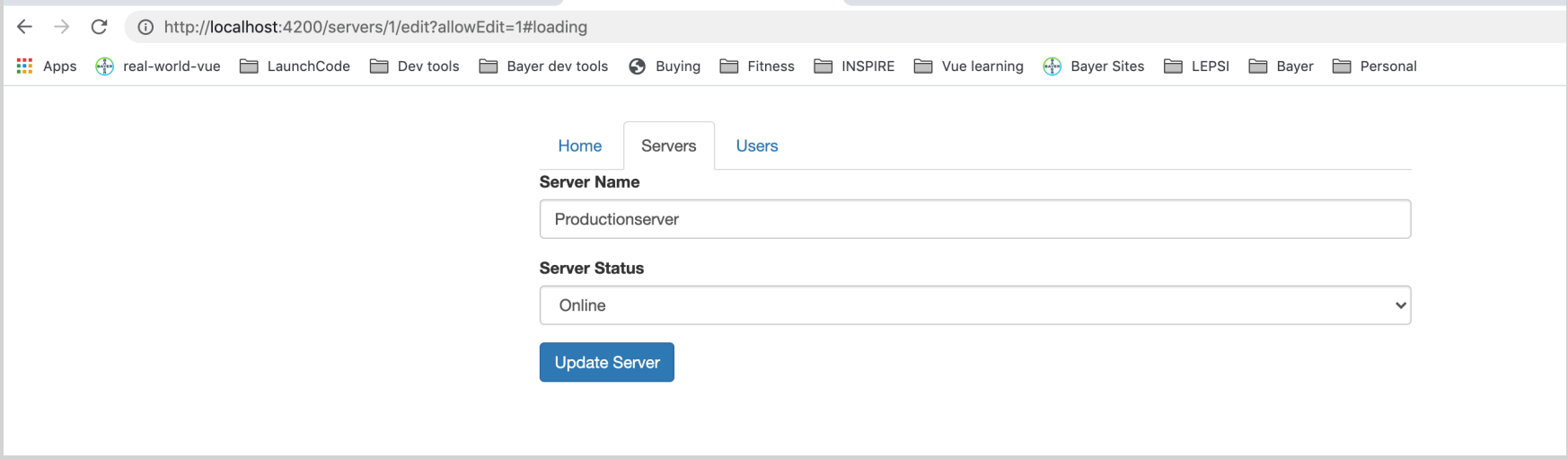
home.component.html

```
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.css']
})
export class HomeComponent implements OnInit {

  constructor(private router: Router) { }

  ngOnInit() {
  }

  onLoadServer(id: number) {
    this.router.navigate(['/servers', id, 'edit'],
    {queryParams: {allowEdit: '1'},
    fragment: 'loading'});
  }

}
```

home.component.ts

Passing Query parameters and fragments

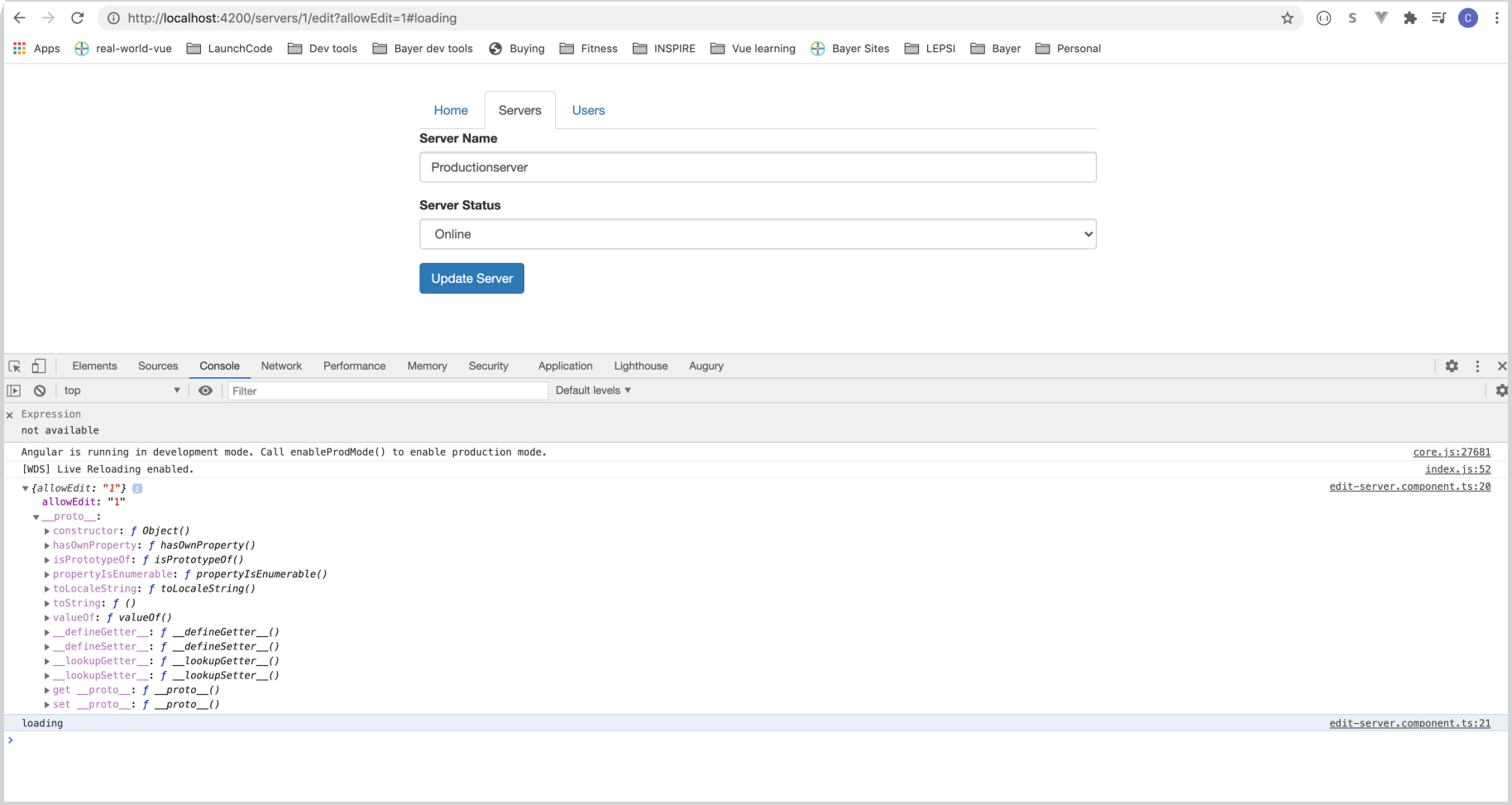




Retrieving Query parameters and fragments

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-edit-server',
  templateUrl: './edit-server.component.html',
  styleUrls: ['./edit-server.component.css']
})
export class EditServerComponent implements OnInit {
  server: {id: number, name: string, status: string};
  serverName = '';
  serverStatus = '';

  constructor(private serversService: ServersService,
    private route: ActivatedRoute) { }

  ngOnInit() {
    console.log(this.route.snapshot.queryParams);
    console.log(this.route.snapshot.fragment);
    // this.route.queryParams.subscribe();
    // this.route.fragment.subscribe();
    this.server = this.serversService.getServer(1);
    this.serverName = this.server.name;
    this.serverStatus = this.server.status;
  }

  onUpdateServer() {
    this.serversService.updateServer(this.server.id, {name: this.serverName, status: this.serverStatus});
  }

}
```

Retrieving Query parameters and fragments



Cleaning up

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
      [routerLink]="['/users', user.id, user.name]"
        href="#"
        class="list-group-item"
        *ngFor="let user of users">
        {{ user.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <app-user></app-user>
  </div>
</div>
```

users.component.html

Cleaning up

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', server.id]"
        [queryParams]="{allowEdit: '1'}"
        fragment="loading"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr>
    <app-server></app-server>
  </div>
</div>
```

servers.component.html

Cleaning up

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id/:name', component: UsersComponent},
  { path: 'servers', component: ServersComponent},
  { path: 'servers/:id', component: ServerComponent},
  { path: 'servers/:id/edit', component: EditServerComponent}
];
```

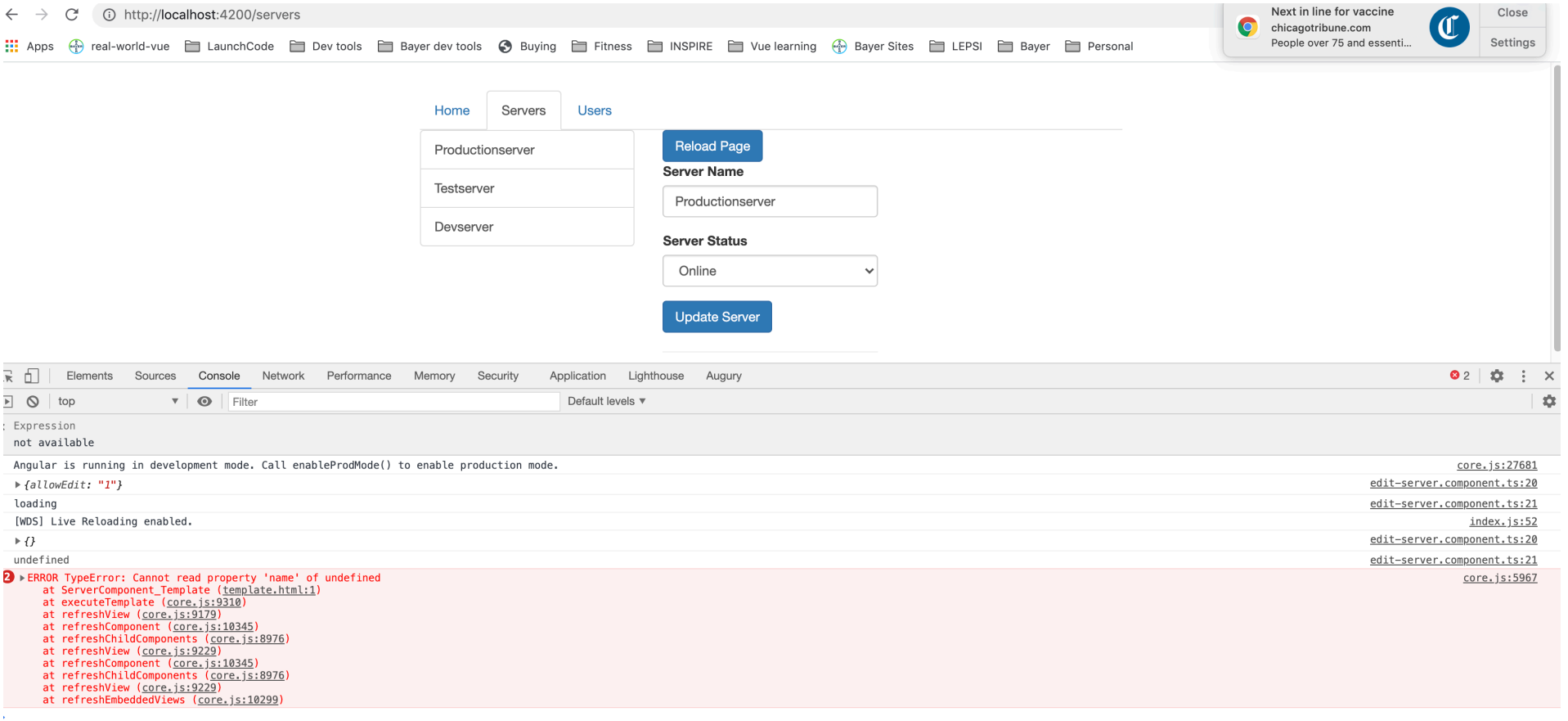
app.module.ts

Cleaning up

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Params, Router } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-server',
  templateUrl: './server.component.html',
  styleUrls: ['./server.component.css']
})
export class ServerComponent implements OnInit {
  server: {id: number, name: string, status: string};

  constructor(private serversService: ServersService,
    private route: ActivatedRoute) { }

  ngOnInit() {
    this.server = this.serversService.getServer(this.route.snapshot.params['id']);
    this.route.params.subscribe((params: Params) => {
      this.server = this.serversService.getServer(params['id']);
    }
    )
  }

}
```

server.component.ts

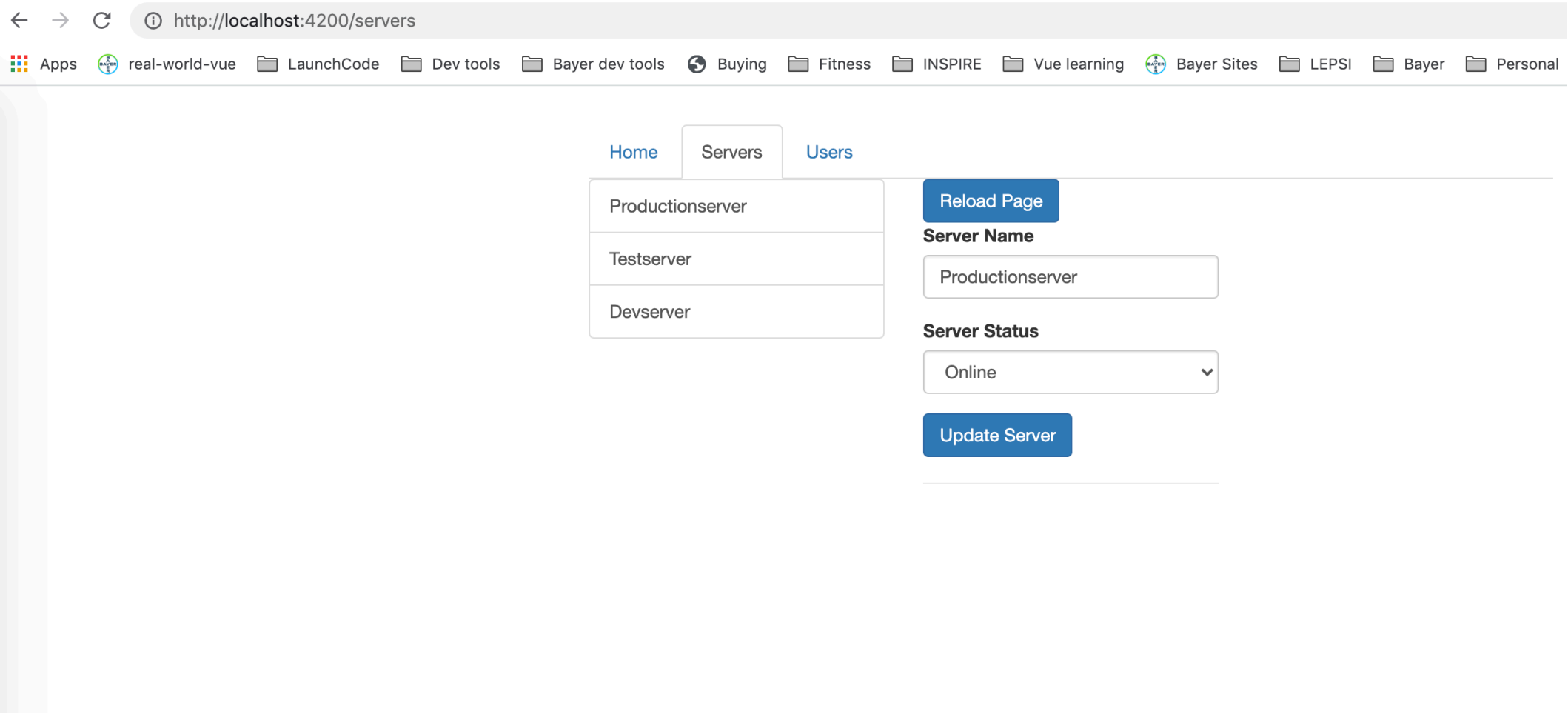
Cleaning up


http://localhost:4200/servers
Apps
real-world-vue
LaunchCode
Dev tools
Bayer dev tools
Buying
Fitness
INSPIRE
Vue learning
Bayer Sites
LEPSI
Bayer
Personal
Next in line for vaccine
chicagotribune.com
People over 75 and essenti...
Close
Settings
Home
Servers
Users
Productionserver
Testserver
Devserver
Reload Page
Server Name
Productionserver
Server Status
Online
Update Server
Elements
Sources
Console
Network
Performance
Memory
Security
Application
Lighthouse
Augury
top
Filter
Default levels
Expression
not available
Angular is running in development mode. Call enableProdMode() to enable production mode.
core.js:27681
{allowEdit: "1"}
edit-server.component.ts:20
loading
edit-server.component.ts:21
[WDS] Live Reloading enabled.
index.js:52
{}
edit-server.component.ts:20
undefined
edit-server.component.ts:21
ERROR TypeError: Cannot read property 'name' of undefined
core.js:5967
at ServerComponent_Template (template.html:1)
at executeTemplate (core.js:9310)
at refreshView (core.js:9179)
at refreshComponent (core.js:10345)
at refreshChildComponents (core.js:8976)
at refreshView (core.js:9229)
at refreshComponent (core.js:10345)
at refreshChildComponents (core.js:8976)
at refreshView (core.js:9229)
at refreshEmbeddedViews (core.js:10299)

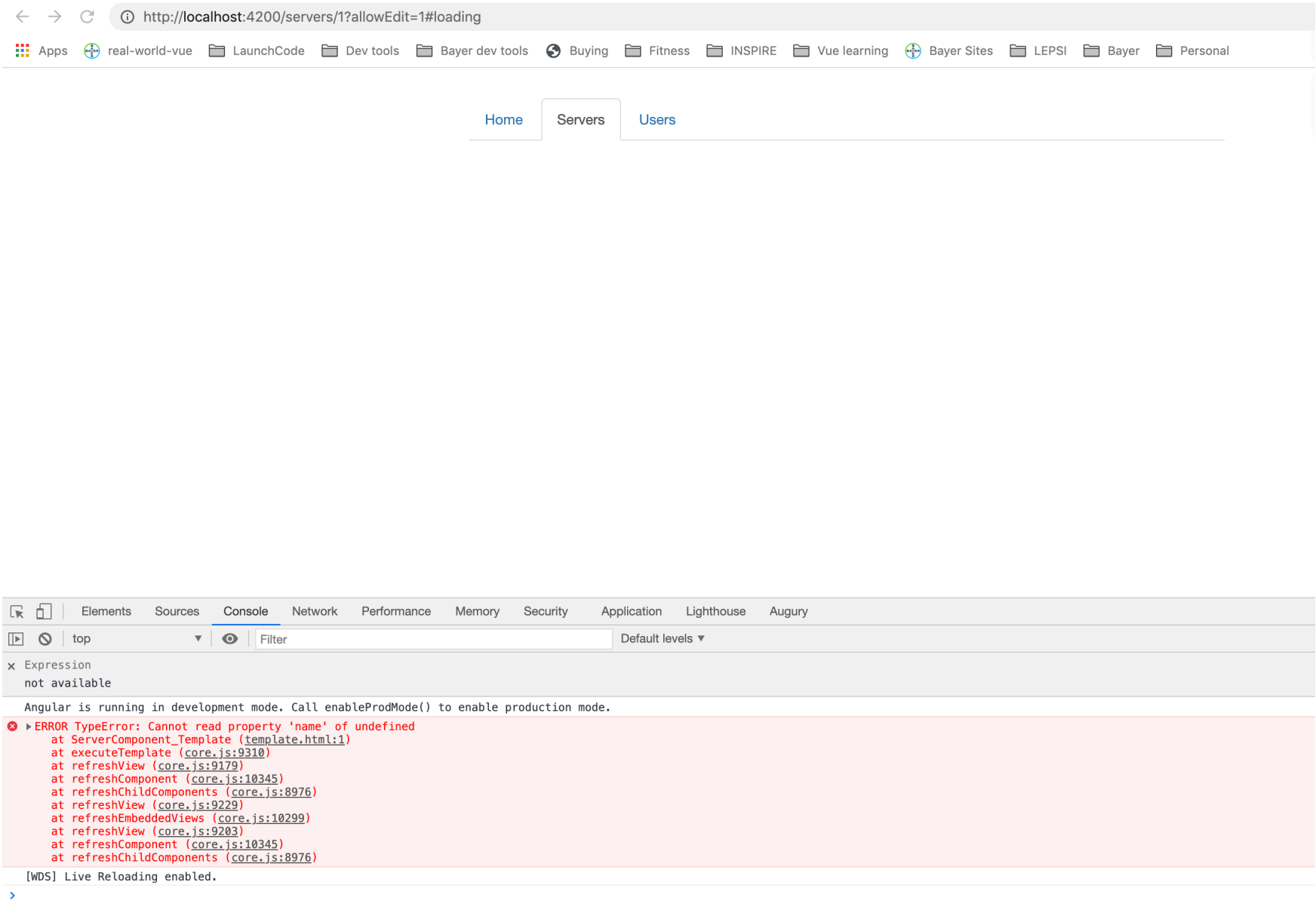
Cleaning up

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', server.id]"
        [queryParams]="{allowEdit: '1'}"
        fragment="loading"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr>
    <!-- <app-server></app-server> -->
  </div>
</div>
```

Cleaning up


http://localhost:4200/servers
Apps
real-world-vue
LaunchCode
Dev tools
Bayer dev tools
Buying
Fitness
INSPIRE
Vue learning
Bayer Sites
LEPSI
Bayer
Personal
Home
Servers
Users
Productionserver
Testserver
Devserver
Reload Page
Server Name
Productionserver
Server Status
Online
Update Server

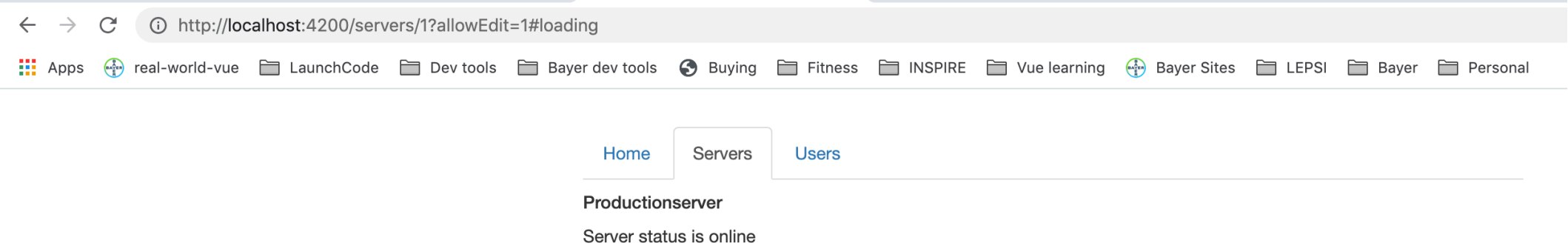
Cleaning up


http://localhost:4200/servers/1?allowEdit=1#loading
Apps
real-world-vue
LaunchCode
Dev tools
Bayer dev tools
Buying
Fitness
INSPIRE
Vue learning
Bayer Sites
LEPSI
Bayer
Personal
Home
Servers
Users
Elements
Sources
Console
Network
Performance
Memory
Security
Application
Lighthouse
Augury
top
Filter
Default levels
Expression
not available
Angular is running in development mode. Call enableProdMode() to enable production mode.
ERROR TypeError: Cannot read property 'name' of undefined
at ServerComponent_Template (template.html:1)
at executeTemplate (core.js:9310)
at refreshView (core.js:9179)
at refreshComponent (core.js:10345)
at refreshChildComponents (core.js:8976)
at refreshView (core.js:9229)
at refreshEmbeddedViews (core.js:10299)
at refreshView (core.js:9203)
at refreshComponent (core.js:10345)
at refreshChildComponents (core.js:8976)
[WDS] Live Reloading enabled.

Cleaning up

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Params, Router } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-server',
  templateUrl: './server.component.html',
  styleUrls: ['./server.component.css']
})
export class ServerComponent implements OnInit {
  server: {id: number, name: string, status: string};

  constructor(private serversService: ServersService,
    private route: ActivatedRoute) { }

  ngOnInit() {
    this.server = this.serversService.getServer(+this.route.snapshot.params['id']);
    this.route.params.subscribe((params: Params) => {
      this.server = this.serversService.getServer(+params['id']);
    }
    )
  }

}
```

Cleaning up


http://localhost:4200/servers/1?allowEdit=1#loading
Apps
real-world-vue
LaunchCode
Dev tools
Bayer dev tools
Buying
Fitness
INSPIRE
Vue learning
Bayer Sites
LEPSI
Bayer
Personal
Home
Servers
Users
Productionserver
Server status is online

Nested Routes

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id/:name', component: UsersComponent},
  { path: 'servers', component: ServersComponent},
  { path: 'servers/:id', component: ServerComponent},
  { path: 'servers/:id/edit', component: EditServerComponent}
];
```

Can add child routes to nest

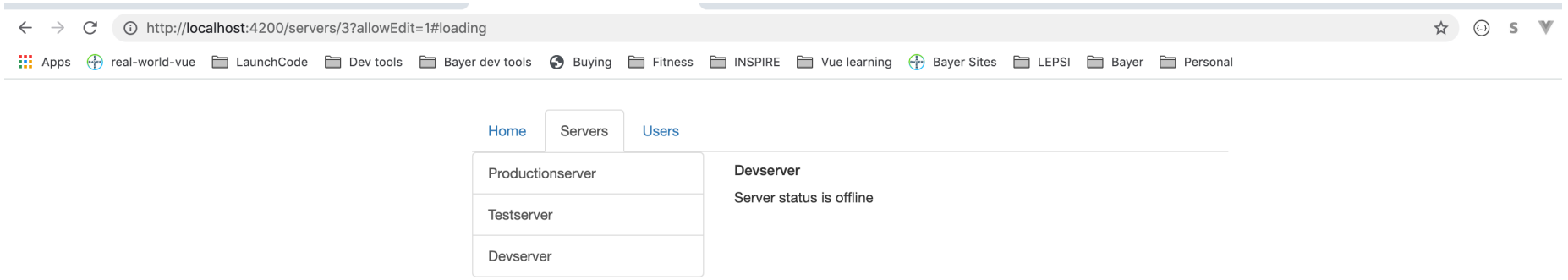
Nested Routes

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'user', component: UsersComponent},
  { path: 'users/:id/:name', component: UsersComponent},
  { path: 'servers', component: ServersComponent,
    children: [{ path: ':id', component: ServerComponent},
    { path: ':id/edit', component: EditServerComponent}]},
];
```

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', server.id]"
        [queryParams]="{allowEdit: '1'}"
        fragment="loading"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <router-outlet></router-outlet>
    <!-- <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr> -->
    <!-- <app-server></app-server> -->
  </div>
</div>
```

Servers.component.html

Nested Routes



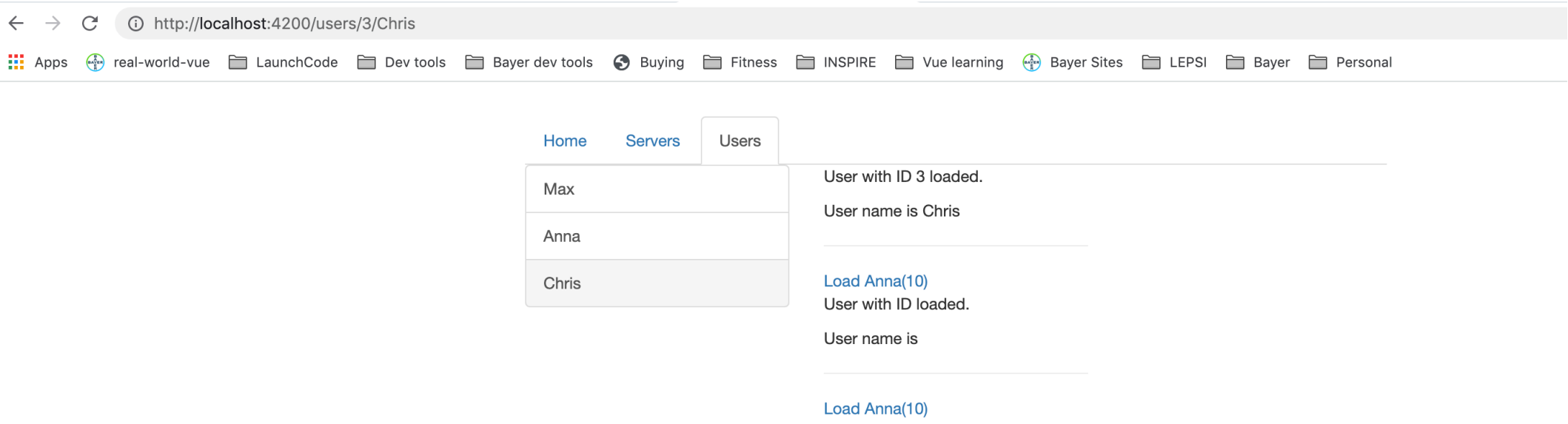
Nested Routes

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'users', component: UsersComponent,
  children: [{ path: ':id/:name', component: UserComponent}]},
  { path: 'servers', component: ServersComponent,
    children: [{ path: ':id', component: ServerComponent},
    { path: ':id/edit', component: EditServerComponent}]},
];
```

```
<p>User with ID {{ user.id }} loaded.</p>
<p>User name is {{ user.name }}</p>
<hr>
<a [routerLink]="['/users', 10, 'Anna']">Load Anna(10)</a>
```

user.component.html

Nested Routes



Using Query Parameters

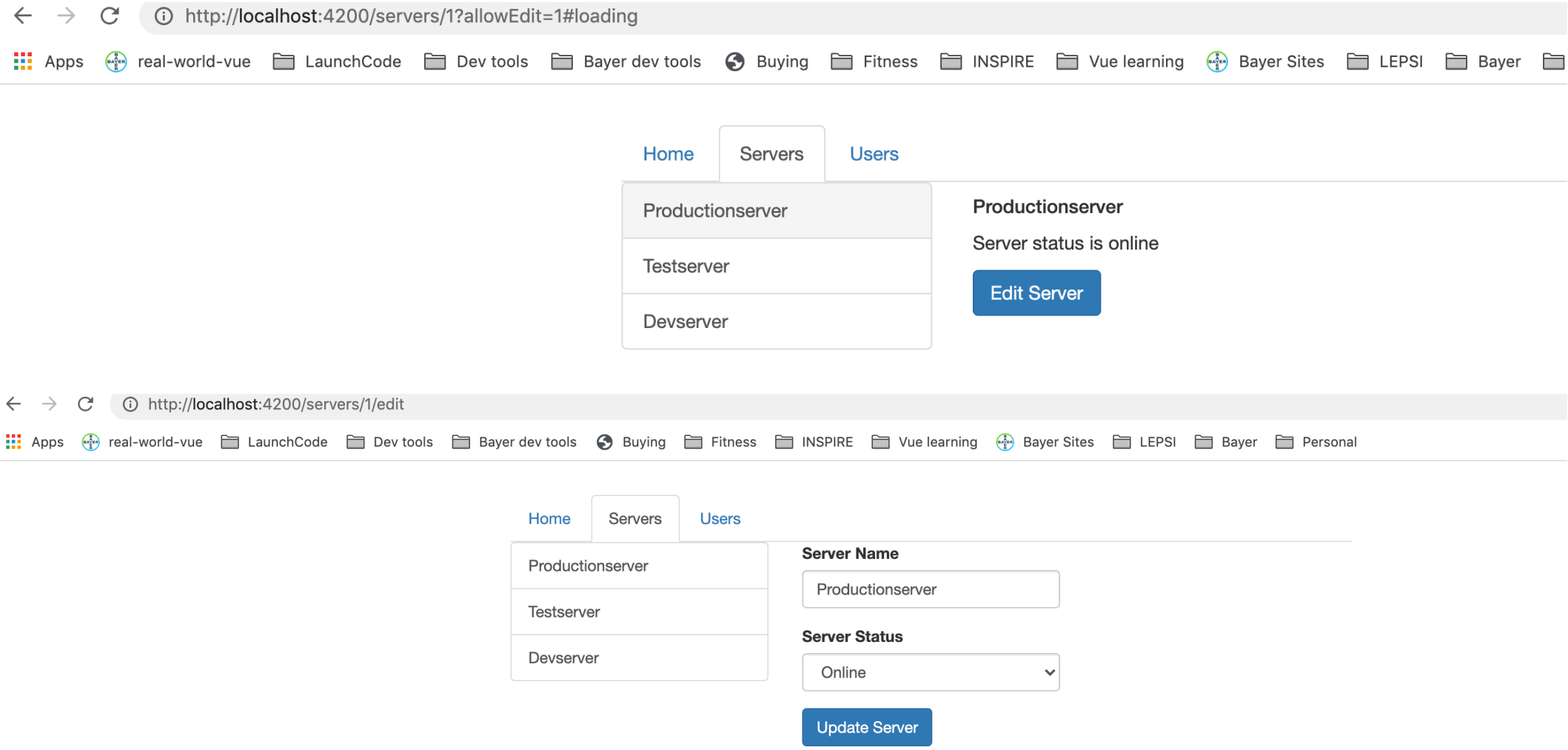
```
<h5>{{ server.name }}</h5>
<p>Server status is {{ server.status }}</p>
<button class="btn btn-primary" (click)="onEdit()">Edit Server</button>
```

server.component.html

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Params, Router } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-server',
  templateUrl: './server.component.html',
  styleUrls: ['./server.component.css']
})
export class ServerComponent implements OnInit {
  server: {id: number, name: string, status: string};

  constructor(private serversService: ServersService,
    private route: ActivatedRoute,
    private router: Router) { }

  ngOnInit() {
    this.server = this.serversService.getServer(+this.route.snapshot.params['id']);
    this.route.params.subscribe((params: Params) => {
      this.server = this.serversService.getServer(+params['id']);
    }
    )
  }
  onEdit() {
    this.router.navigate(['edit'], {relativeTo: this.route})
  }

}
```

server.component.ts

Using Query Parameters



Using Query Parameters

```
<div class="row">
  <div class="col-xs-12 col-sm-4">
    <div class="list-group">
      <a
        [routerLink]="['/servers', server.id]"
        [queryParams]="{allowEdit: server.id === 3 ? '1' : '0'}"
        fragment="loading"
        href="#"
        class="list-group-item"
        *ngFor="let server of servers">
        {{ server.name }}
      </a>
    </div>
  </div>
  <div class="col-xs-12 col-sm-4">
    <router-outlet></router-outlet>
    <!-- <button class="btn btn-primary" (click)="onReload()">Reload Page</button>
    <app-edit-server></app-edit-server>
    <hr> -->
    <!-- <app-server></app-server> -->
  </div>
</div>
```

servers.component.html

```ts
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Params } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-edit-server',
  templateUrl: './edit-server.component.html',
  styleUrls: ['./edit-server.component.css']
})
export class EditServerComponent implements OnInit {
  server: {id: number, name: string, status: string};
  serverName = '';
  serverStatus = '';
  allowEdit = false;

  constructor(private serversService: ServersService,
    private route: ActivatedRoute) { }

  ngOnInit() {
    console.log(this.route.snapshot.queryParams);
    console.log(this.route.snapshot.fragment);
    this.route.queryParams.subscribe(
      (queryParams: Params) => {
        this.allowEdit = queryParams['allowEdit'] === '1' ? true: false
      }
    );
    this.route.fragment.subscribe();
    this.server = this.serversService.getServer(1);
    this.serverName = this.server.name;
    this.serverStatus = this.server.status;
  }

  onUpdateServer() {
    this.serversService.updateServer(this.server.id, {name: this.serverName, status: this.serverStatus});
  }

}
```

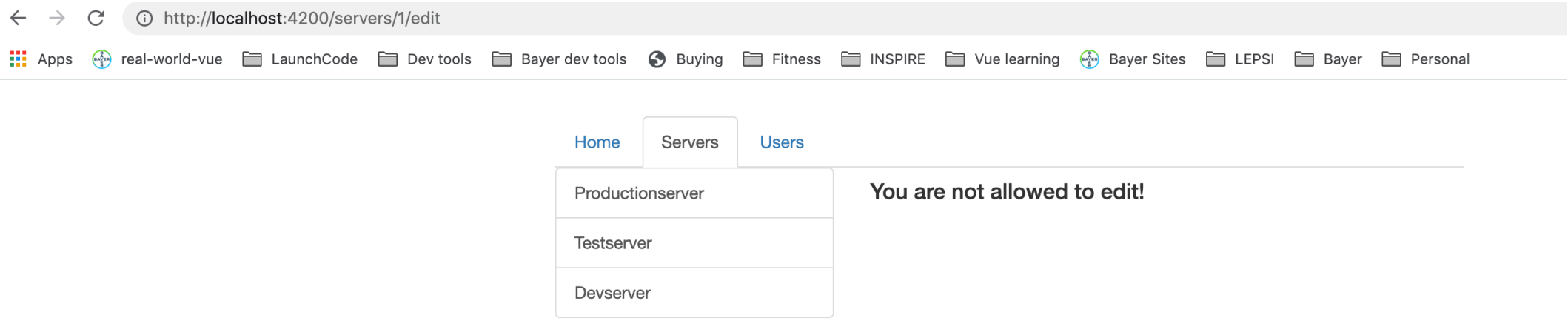
edit-server.component.ts

Using Query Parameters

```
<h4 *ngIf="!allowEdit">You are not allowed to edit!</h4>
<div *ngIf="allowEdit">
  <div class="form-group">
    <label for="name">Server Name</label>
    <input
      type="text"
      id="name"
      class="form-control"
      [(ngModel)]="serverName">
  </div>
  <div class="form-group">
    <label for="status">Server Status</label>
    <select
      id="status"
      class="form-control"
      [(ngModel)]="serverStatus">
      <option value="online">Online</option>
      <option value="offline">Offline</option>
    </select>
  </div>
  <button
    class="btn btn-primary"
    (click)="onUpdateServer()">Update Server</button>
</div>
```

edit-server.component.html

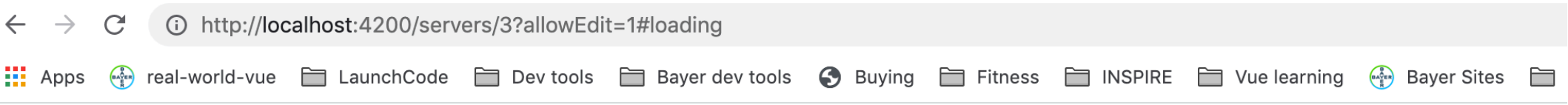
Using Query Parameters



Using Query Parameters

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Params, Router } from '@angular/router';

import { ServersService } from '../servers.service';

@Component({
  selector: 'app-server',
  templateUrl: './server.component.html',
  styleUrls: ['./server.component.css']
})
export class ServerComponent implements OnInit {
  server: {id: number, name: string, status: string};

  constructor(private serversService: ServersService,
    private route: ActivatedRoute,
    private router: Router) { }

  ngOnInit() {
    this.server = this.serversService.getServer(+this.route.snapshot.params['id']);
    this.route.params.subscribe((params: Params) => {
      this.server = this.serversService.getServer(+params['id']);
    }
    )
  }
  onEdit() {
    this.router.navigate(['edit'], {relativeTo: this.route, queryParamsHandling: 'preserve'})
  }

}
```

Using Query Parameters



Home | Servers | Users

- Productionserver
- Testserver
- Devserver

Devserver

Server status is offline

Edit Server

Redirecting and Wildcard Routes

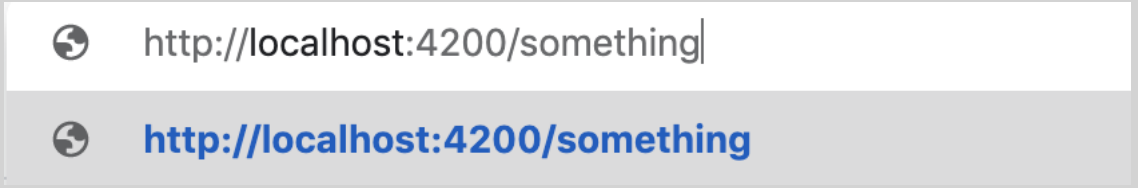
- ng g c page-not-found

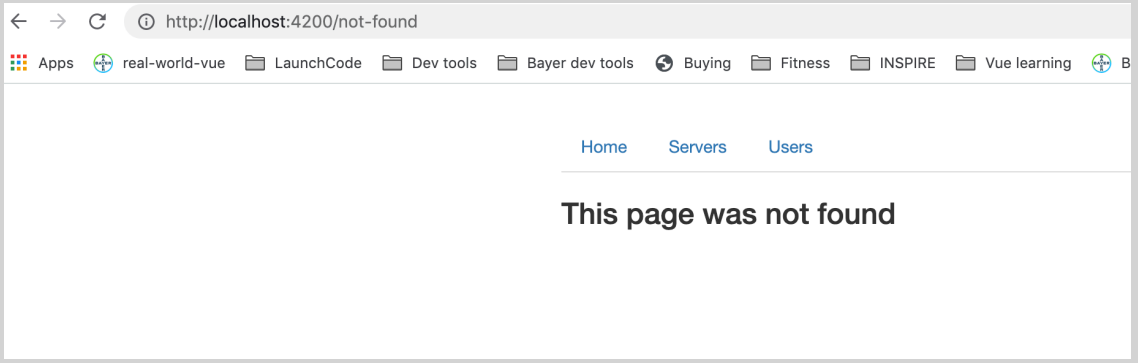
```
<h3>This page was not found</h3>
```

page-not-found.component.html

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'users', component: UsersComponent,
  children: [{ path: ':id/:name', component: UserComponent}]},
  { path: 'servers', component: ServersComponent,
    children: [{ path: ':id', component: ServerComponent},
    { path: ':id/edit', component: EditServerComponent}]},
  { path: 'not-found', component: PageNotFoundComponent},
  { path: 'something', redirectTo: '/not-found'}
];
```

Redirecting and Wildcard Routes





Redirecting and Wildcard Routes

```
const appRoutes: Routes = [
  { path: '', component: HomeComponent},
  { path: 'users', component: UsersComponent,
  children: [{ path: ':id/:name', component: UserComponent}]},
  { path: 'servers', component: ServersComponent,
    children: [{ path: ':id', component: ServerComponent},
    { path: ':id/edit', component: EditServerComponent}]},
  { path: 'not-found', component: PageNotFoundComponent},
  { path: '**', redirectTo: '/not-found'}
];
```

Catch all paths you don’t know. The generic route should be at the bottom otherwise all paths take you there!

Outsourcing the Route Configuration

- app-routing.module.ts

```
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';
import { HomeComponent } from './home/home.component';
import { NgModule } from "@angular/core";
import { Routes, RouterModule } from "@angular/router";
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { UserComponent } from './users/user/user.component';

const appRoutes: Routes = [
    { path: '', component: HomeComponent},
    { path: 'users', component: UsersComponent,
    children: [{ path: ':id/:name', component: UserComponent}]},
    { path: 'servers', component: ServersComponent,
      children: [{ path: ':id', component: ServersComponent},
      { path: ':id/edit', component: EditServerComponent}]},
    { path: 'not-found', component: PageNotFoundComponent},
    { path: '**', redirectTo: '/not-found'}
  ];

@NgModule({
    imports: [
        RouterModule.forRoot(appRoutes)
    ],
    exports: [RouterModule]
})
export class AppRoutingModule {
```

Outsourcing the Route Configuration

- app.module.ts

```
import { AppRoutingModule } from './app.routing.module';
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';
import { FormsModule } from '@angular/forms';

import { AppComponent } from './app.component';
import { HomeComponent } from './home/home.component';
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { UserComponent } from './users/user/user.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { ServerComponent } from './servers/server/server.component';
import { ServersService } from './servers/servers.service';
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';

@NgModule({
  declarations: [
    AppComponent,
    HomeComponent,
    UsersComponent,
    ServersComponent,
    UserComponent,
    EditServerComponent,
    ServerComponent,
    PageNotFoundComponent
  ],
  imports: [
    BrowserModule,
    FormsModule
```

Guards

- Route Guards – functionality before/after entering a route
- canActivate guard - auth-guard.service.ts

```
import { Injectable } from "@angular/core";
import { ActivatedRouteSnapshot, CanActivate, Router, RouterStateSnapshot, UrlTree } from "@angular/router";
import { Observable } from "rxjs";
import { AuthService } from "./auth.service";

@Injectable()
export class AuthGuard implements CanActivate{

    constructor(private authService: AuthService, private router: Router) {
    }
    canActivate(route: ActivatedRouteSnapshot, state: RouterStateSnapshot): boolean | UrlTree |
Observable<boolean | UrlTree> | Promise<boolean | UrlTree> {
        return this.authService.isAuthenticated()
            .then(
                (authenticated: boolean) => {
                    if (authenticated) {
                        return true;
                    } else {
                        this.router.navigate(['/']);

                    }
                }
            );
    }

}
```

Guards

- auth.service.ts

```
export class AuthService {
    loggedIn =  false;

    isAuthenticated() {
        const promise = new Promise(
            (resolve, reject) => {
                setTimeout(() => {
                    resolve(this.loggedIn);
                }, 800);
            }
        );
        return promise;
    }
    login() {
        this.loggedIn = true;
    }
    logout() {
        this.loggedIn = false;
    }
}
```

Guards

- app.module.ts

```
import { AuthService } from './auth.service';
import { AppRoutingModule } from './app.routing.module';
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';
import { FormsModule } from '@angular/forms';

import { AppComponent } from './app.component';
import { HomeComponent } from './home/home.component';
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { UserComponent } from './users/user/user.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { ServerComponent } from './servers/server/server.component';
import { ServersService } from './servers/servers.service';
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';
import { AuthGuard } from './auth-guard.service';

@NgModule({
  declarations: [
    AppComponent,
    HomeComponent,
    UsersComponent,
    ServersComponent,
    UserComponent,
    EditServerComponent,
    ServerComponent,
    PageNotFoundComponent
  ],
  imports: [
    BrowserModule,
    FormsModule,
    AppRoutingModule
```

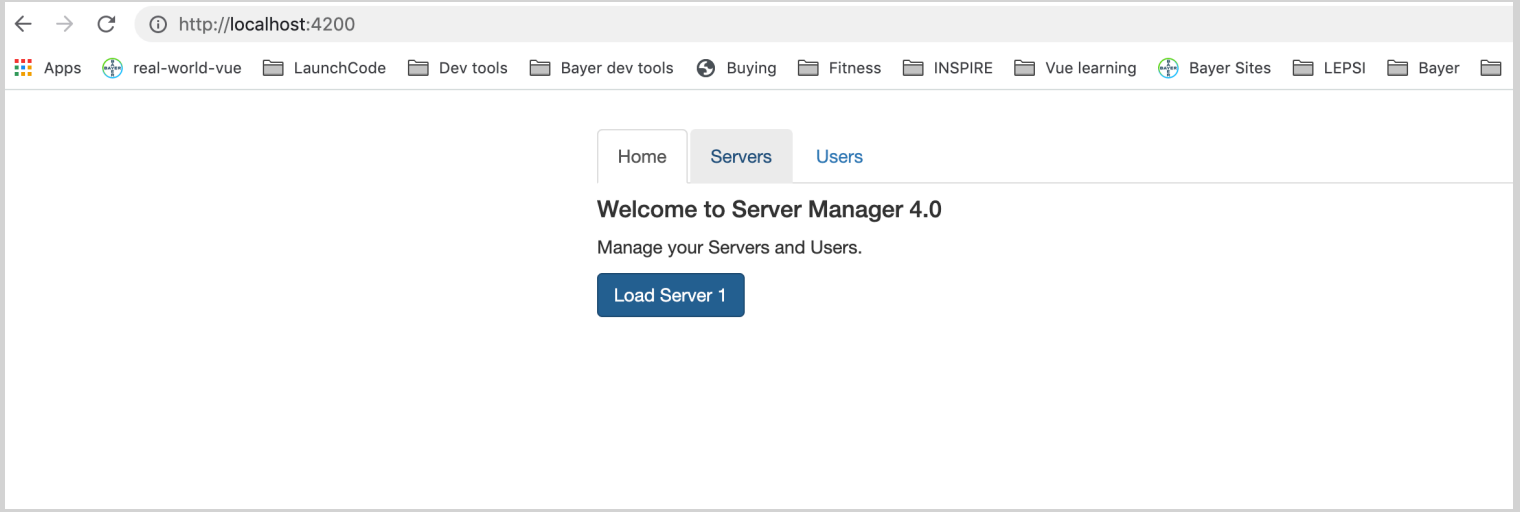
Guards

- app.routing.module.ts

```
import { AuthGuard } from './auth-guard.service';
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';
import { HomeComponent } from './home/home.component';
import { NgModule } from "@angular/core";
import { Routes, RouterModule } from "@angular/router";
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { UserComponent } from './users/user/user.component';

const appRoutes: Routes = [
    { path: '', component: HomeComponent},
    { path: 'users', component: UsersComponent,
    children: [{ path: ':id/:name', component: UserComponent}]},
    { path: 'servers', canActivate: [AuthGuard], component: ServersComponent,
      children: [{ path: ':id', component: ServersComponent},
      { path: ':id/edit', component: EditServerComponent}]},
    { path: 'not-found', component: PageNotFoundComponent},
    { path: '**', redirectTo: '/not-found'}
  ];

@NgModule({
    imports: [
        RouterModule.forRoot(appRoutes)
    ],
    exports: [RouterModule]
})
export class AppRoutingModule {
```

Guards

- Servers does not take you anywhere at first and after 800 sec it takes you.



Protecting Child Routes

- Can specify canActivate to each child
- There is also canActivateChild interface/

```
import { AuthService } from './auth.service';
import { AuthGuard } from './auth-guard.service';
import { PageNotFoundComponent } from './page-not-found/page-not-found.component';
import { HomeComponent } from './home/home.component';
import { NgModule } from "@angular/core";
import { Routes, RouterModule } from "@angular/router";
import { UsersComponent } from './users/users.component';
import { ServersComponent } from './servers/servers.component';
import { EditServerComponent } from './servers/edit-server/edit-server.component';
import { UserComponent } from './users/user/user.component';

const appRoutes: Routes = [
    { path: '', component: HomeComponent},
    { path: 'users', component: UsersComponent,
    children: [{ path: ':id/:name', component: UserComponent}]},
    {
        path: 'servers',
        // canActivate: [AuthGuard],
        canActivateChild: [AuthGuard],
        component: ServersComponent,
        children: [{ path: ':id', component: ServersComponent},
      { path: ':id/edit', component: EditServerComponent}]},
    { path: 'not-found', component: PageNotFoundComponent},
    { path: '**', redirectTo: '/not-found'}
  ];

@NgModule({
    imports: [
        RouterModule.forRoot(appRoutes)
    ],
    exports: [RouterModule]
})
export class AppRoutingModule {

}
```

app.routing.module.ts

Protecting Child Routes

auth-guard.service.ts

```
import { Injectable } from "@angular/core";
import { ActivatedRouteSnapshot, CanActivate, CanActivateChild, Router, RouterStateSnapshot, UrlTree } from
"@angular/router";
import { Observable } from "rxjs";
import { AuthService } from "./auth.service";

@Injectable()
export class AuthGuard implements CanActivate, CanActivateChild{

    constructor(private authService: AuthService, private router: Router) {
    }
    canActivateChild(route: ActivatedRouteSnapshot, state: RouterStateSnapshot): boolean | UrlTree |
Observable<boolean | UrlTree> | Promise<boolean | UrlTree> {
        return this.canActivate(route, state);
    }
    canActivate(route: ActivatedRouteSnapshot, state: RouterStateSnapshot): boolean | UrlTree |
Observable<boolean | UrlTree> | Promise<boolean | UrlTree> {
        return this.authService.isAuthenticated()
            .then(
                (authenticated: boolean) => {
                    if (authenticated) {
                        return true;
                    } else {
                        this.router.navigate(['/']);

                    }
                }
            );
    }

}
```

Using Fake Auth Service

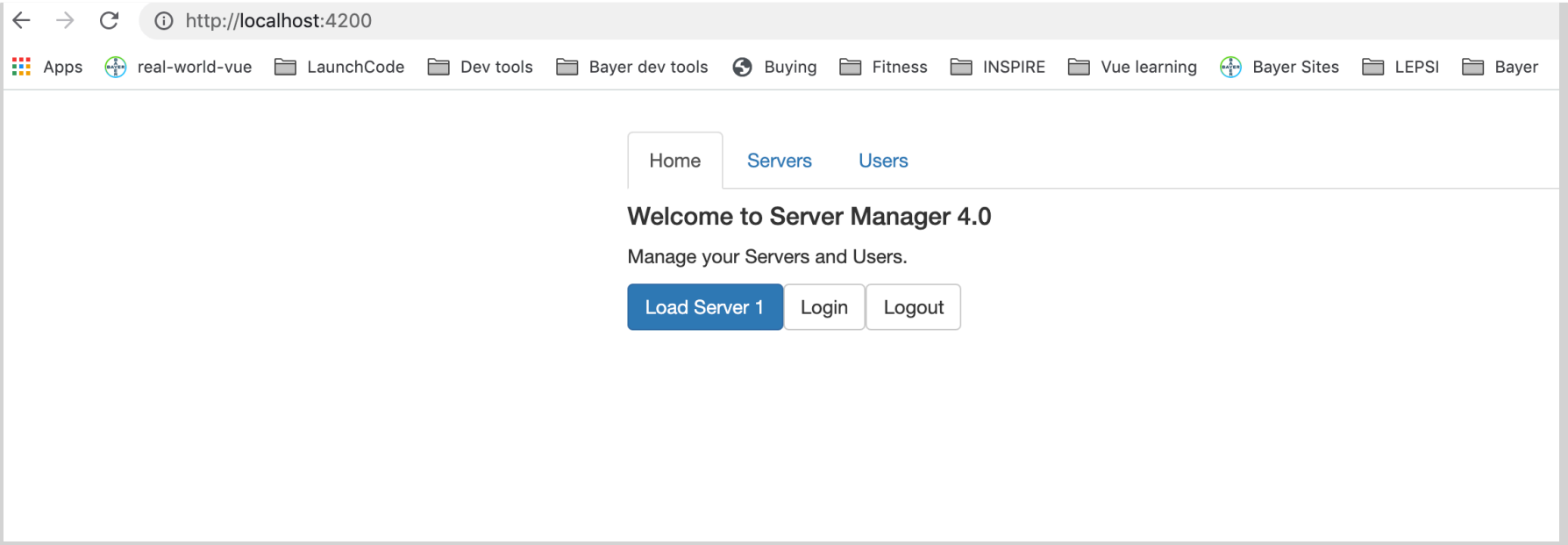
```html
<h4>Welcome to Server Manager 4.0</h4>
<p>Manage your Servers and Users.</p>
<button class="btn btn-primary" (click)="onLoadServer(1)">Load Server 1</button>
<button class="btn btn-default" (click)="onLogin()">Login</button>
<button class="btn btn-default" (click)="onLogout()">Logout</button>
```

home.component.html

```typescript
import { AuthService } from './../auth.service';
import { Component, OnInit } from '@angular/core';
import { Router } from '@angular/router';

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.css']
})
export class HomeComponent implements OnInit {

  constructor(private router: Router, private authService: AuthService) { }

  ngOnInit() {
  }

  onLoadServer(id: number) {
    this.router.navigate(['/servers', id, 'edit'],
    {queryParams: {allowEdit: '1'},
    fragment: 'loading'});
  }

  onLogin() {
    this.authService.login();
  }

  onLogout() {
    this.authService.logout();
  }
}
```

home.component.ts

Using Fake Auth Service



If you logout then it takes you to Home tab and login works

canDeactivate

Convenience method to prevent user from accidentally navigating away.

Summary

Questions?

Studio

Assignment 5: Practicing Services

Section 10: Course Project - Services & Dependency Injection