axios와 student 앱

**학습목표**

axios + router로 student 앱 구현하기

학생 목록 + 수정

**목차**

[1. student2 프로젝트 2](#_Toc152592260)

[1) 프로젝트 생성 2](#_Toc152592261)

[2) src/students-db.json 2](#_Toc152592262)

[2. 학생 목록 화면 구현 5](#_Toc152592263)

[1) StudentListView.vue 5](#_Toc152592264)

[2) 동기(synchronous) vs 비동기(asynchronous) 6](#_Toc152592265)

[3) router/index.js 수정 7](#_Toc152592266)

[4) App.vue 수정 7](#_Toc152592267)

[5) 실행 8](#_Toc152592268)

[3. 학생 수정 화면 구현 #1 - 화면 이동 9](#_Toc152592269)

[1) StudentListView.vue 수정 9](#_Toc152592270)

[2) StudetEditView.vue 10](#_Toc152592271)

[3) router/index.js 수정 10](#_Toc152592272)

[4) 실행 11](#_Toc152592273)

[4. 학생 수정 화면 구현 #2 12](#_Toc152592274)

[1) StudentEditView.vue 수정 12](#_Toc152592275)

[5. axios 호출 코드 분리 14](#_Toc152592276)

[1) 개요 14](#_Toc152592277)

[2) studentService.js 14](#_Toc152592278)

[3) StudentListView.vue 15](#_Toc152592279)

[4) StudentEditView.vue 16](#_Toc152592280)

[6. 학생 등록 기능 17](#_Toc152592281)

[1) studentService.js 17](#_Toc152592282)

[2) StudentCreateView.vue 18](#_Toc152592283)

[3) StudentListView.vue 수정 19](#_Toc152592284)

[4) router/index.js 수정 20](#_Toc152592285)

# student2 프로젝트

## 프로젝트 생성

프로젝트를 생성할 적당한 폴더로 이동하자.

|  |
| --- |
| cd /c/PJ/frontend |

아래 명령을 실행해서 프로젝트를 생성하자.

|  |
| --- |
| vue create student2 |

### 프로젝트 폴더 열기

Visual Studio Code에서 프로젝트 폴더를 열자

### router 설치

|  |
| --- |
| vue add router |

### axios 설치

|  |
| --- |
| npm install axios |

## src/students-db.json

|  |
| --- |
| { "departments":    [ {"id":1,"name":"소프트웨어공학과","shortName":"소프","phone":"02-2610-9563"},      {"id":2,"name":"컴퓨터공학과","shortName":"컴공","phone":"02-2610-9565"},      {"id":3,"name":"정보통신공학과","shortName":"정통","phone":"02-2610-9568"},      {"id":4,"name":"글로컬IT공학과","shortName":"글티","phone":"02-2610-9569"}],    "students":    [ {"id":1,"studentNo":"201532006","name":"최하은","phone":"010-4361-1145","sex":"여","email":"choi064@skhu.ac.kr","departmentId":1},      {"id":2,"studentNo":"201532007","name":"김진영","phone":"010-3415-1238","sex":"남","email":"kim073@skhu.ac.kr","departmentId":3},      {"id":3,"studentNo":"201532008","name":"나철진","phone":"010-8703-1239","sex":"남","email":"na088@skhu.ac.kr","departmentId":3},      {"id":4,"studentNo":"201532009","name":"이익수","phone":"010-7875-1251","sex":"남","email":"lee097@skhu.ac.kr","departmentId":4},      {"id":5,"studentNo":"201532010","name":"이제문","phone":"010-7700-1333","sex":"남","email":"lee107@skhu.ac.kr","departmentId":1},      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{"id":118,"studentNo":"201832028","name":"이사육","phone":"010-8269-7677","sex":"남","email":"lee288@skhu.ac.kr","departmentId":4},      {"id":119,"studentNo":"201832029","name":"이진생","phone":"010-3293-7685","sex":"남","email":"lee293@skhu.ac.kr","departmentId":2},      {"id":120,"studentNo":"201832030","name":"김승영","phone":"010-8682-7816","sex":"남","email":"kim308@skhu.ac.kr","departmentId":1},      {"id":121,"studentNo":"201932006","name":"신정효","phone":"010-5439-7858","sex":"여","email":"sin065@skhu.ac.kr","departmentId":3},      {"id":122,"studentNo":"201932007","name":"김곤일","phone":"010-6094-7885","sex":"남","email":"kim076@skhu.ac.kr","departmentId":2},      {"id":123,"studentNo":"201932008","name":"황규동","phone":"010-5940-7969","sex":"남","email":"hwang085@skhu.ac.kr","departmentId":2},      {"id":124,"studentNo":"201932009","name":"조화병","phone":"010-2497-8019","sex":"여","email":"ko092@skhu.ac.kr","departmentId":1},      {"id":125,"studentNo":"201932010","name":"김영희","phone":"010-4847-8088","sex":"여","email":"kim104@skhu.ac.kr","departmentId":4},      {"id":126,"studentNo":"201932011","name":"김규태","phone":"010-9619-8116","sex":"남","email":"kim119@skhu.ac.kr","departmentId":3},      {"id":127,"studentNo":"201932012","name":"김희진","phone":"010-1558-8146","sex":"여","email":"kim121@skhu.ac.kr","departmentId":2},      {"id":128,"studentNo":"201932013","name":"장남석","phone":"010-9465-8203","sex":"남","email":"jang139@skhu.ac.kr","departmentId":3},      {"id":129,"studentNo":"201932014","name":"이상은","phone":"010-7659-8206","sex":"남","email":"lee147@skhu.ac.kr","departmentId":1},      {"id":130,"studentNo":"201932015","name":"박삼재","phone":"010-2969-8319","sex":"남","email":"park152@skhu.ac.kr","departmentId":2},      {"id":131,"studentNo":"201935015","name":"신호진","phone":"010-1165-8320","sex":"남","email":"sin151@skhu.ac.kr","departmentId":4},      {"id":132,"studentNo":"201933016","name":"한섭계","phone":"010-4467-8333","sex":"남","email":"han164@skhu.ac.kr","departmentId":2},      {"id":133,"studentNo":"201932016","name":"도재인","phone":"010-7164-8413","sex":"남","email":"do167@skhu.ac.kr","departmentId":1},      {"id":134,"studentNo":"201934017","name":"김하지","phone":"010-9530-8535","sex":"남","email":"kim179@skhu.ac.kr","departmentId":3},      {"id":135,"studentNo":"201932017","name":"김준호","phone":"010-4717-8565","sex":"남","email":"kim174@skhu.ac.kr","departmentId":1},      {"id":136,"studentNo":"201932018","name":"조진동","phone":"010-6705-8735","sex":"남","email":"ko186@skhu.ac.kr","departmentId":4},      {"id":137,"studentNo":"201935019","name":"최선예","phone":"010-6975-8804","sex":"여","email":"choi196@skhu.ac.kr","departmentId":4},      {"id":138,"studentNo":"201933019","name":"김영균","phone":"010-2595-8854","sex":"남","email":"kim192@skhu.ac.kr","departmentId":2},      {"id":139,"studentNo":"201932020","name":"함헌석","phone":"010-8970-8993","sex":"남","email":"ham208@skhu.ac.kr","departmentId":1},      {"id":140,"studentNo":"201933020","name":"류숙정","phone":"010-1326-9036","sex":"여","email":"ryu201@skhu.ac.kr","departmentId":2},      {"id":141,"studentNo":"201932021","name":"정훈세","phone":"010-5426-9109","sex":"남","email":"jeong215@skhu.ac.kr","departmentId":2},      {"id":142,"studentNo":"201932022","name":"박준흥","phone":"010-2673-9155","sex":"남","email":"park222@skhu.ac.kr","departmentId":1},      {"id":143,"studentNo":"201932023","name":"민진구","phone":"010-8443-9236","sex":"남","email":"min238@skhu.ac.kr","departmentId":4},      {"id":144,"studentNo":"201932024","name":"박환인","phone":"010-2515-9284","sex":"남","email":"park249@skhu.ac.kr","departmentId":1},      {"id":145,"studentNo":"201932025","name":"장일정","phone":"010-9508-9385","sex":"남","email":"jang259@skhu.ac.kr","departmentId":3},      {"id":146,"studentNo":"201932026","name":"유옥병","phone":"010-3615-9437","sex":"남","email":"yu263@skhu.ac.kr","departmentId":1},      {"id":147,"studentNo":"201932027","name":"고나진","phone":"010-3603-9475","sex":"남","email":"ko273@skhu.ac.kr","departmentId":1},      {"id":148,"studentNo":"201932028","name":"문재균","phone":"010-3785-9514","sex":"남","email":"moon283@skhu.ac.kr","departmentId":2},      {"id":149,"studentNo":"201932029","name":"문병수","phone":"010-7894-9541","sex":"남","email":"moon297@skhu.ac.kr","departmentId":1},      {"id":150,"studentNo":"201932030","name":"박래용","phone":"010-5871-9549","sex":"남","email":"park305@skhu.ac.kr","departmentId":1},      {"id":151,"studentNo":"202032006","name":"이우병","phone":"010-2301-9550","sex":"남","email":"lee062@skhu.ac.kr","departmentId":2},      {"id":152,"studentNo":"202032007","name":"신정석","phone":"010-7737-9604","sex":"남","email":"sin077@skhu.ac.kr","departmentId":3},      {"id":153,"studentNo":"202032008","name":"오영세","phone":"010-9188-9607","sex":"남","email":"oh089@skhu.ac.kr","departmentId":2},      {"id":154,"studentNo":"202032009","name":"유진하","phone":"010-2988-9622","sex":"여","email":"yu092@skhu.ac.kr","departmentId":3},      {"id":155,"studentNo":"202032010","name":"노명인","phone":"010-3936-9633","sex":"남","email":"no103@skhu.ac.kr","departmentId":4},      {"id":156,"studentNo":"202032011","name":"김조인","phone":"010-6290-9650","sex":"남","email":"kim116@skhu.ac.kr","departmentId":4},      {"id":157,"studentNo":"202032012","name":"김주영","phone":"010-4881-9651","sex":"남","email":"kim124@skhu.ac.kr","departmentId":1},      {"id":158,"studentNo":"202032016","name":"김승현","phone":"010-2742-9784","sex":"남","email":"kim162@skhu.ac.kr","departmentId":2},      {"id":159,"studentNo":"202032017","name":"이룡세","phone":"010-6468-9810","sex":"남","email":"lee176@skhu.ac.kr","departmentId":4},      {"id":160,"studentNo":"202032018","name":"김미윤","phone":"010-1526-9881","sex":"여","email":"kim181@skhu.ac.kr","departmentId":3},      {"id":161,"studentNo":"202032019","name":"유진안","phone":"010-9176-9921","sex":"여","email":"yu199@skhu.ac.kr","departmentId":2},      {"id":162,"studentNo":"202032020","name":"정종현","phone":"010-5222-9960","sex":"남","email":"jeong205@skhu.ac.kr","departmentId":1}]  } |

# 학생 목록 화면 구현

## StudentListView.vue

src/views/StudentListView.vue

|  |
| --- |
| <template>    <div id="StudentListView">      <h1>학생 목록</h1>      <table>        <tr><td>id</td><td>학번</td><td>이름</td><td>전화</td><td>성별</td>            <td>이메일</td><td>학과</td></tr>        <tr v-for="student in students" v-bind:key="student.id">          <td>{{ student.id }}</td>          <td>{{ student.studentNo }}</td>          <td>{{ student.name }}</td>          <td>{{ student.phone }}</td>          <td>{{ student.sex }}</td>          <td>{{ student.email }}</td>          <td>{{ student.departmentId }}</td>        </tr>      </table>    </div>  </template>  <script>  import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";      // 백엔드 API URL 앞 부분을 미리 설정한다  export default {    name: "StudentListView",    data() {      return {        students: [ ]      }    },    mounted() { // 컴포넌트가 처음 화면에 보이게 될 때, 자동으로 호출되는 메소드      this.reloadStudents(); // 데이터를 로드한다    },    methods: {      async reloadStudents() { // 백엔드 API를 호출하여 데이터를 로드한다        try {          const response = await axios.get("/students");          this.students = response.data;        } catch (error) {          alert('조회 에러: ' + (error instanceof Error ? error.message : error));        }      }    }  }  </script>  <style scoped>  h1 { border-bottom: 1px solid gray; }  table { border-collapse: collapse; margin: 20px 0; width: 100%; }  tr:nth-child(1) { background-color: #eee; text-align: center; }  td { border: 1px solid gray; padding: 6px; }  td:nth-child(1) { text-align: center; width: 30px; }  </style> |

    async reloadStudents() { // 백엔드 API를 호출하여 데이터를 로드한다

      try {

const response = await axios.get("/students");

        this.students = response.data;

      } catch (error) {

        alert('조회 에러: ' + (error instanceof Error ? error.message : error));

      }

    }

axios 메소드는 비동기(asynchronous) 메소드이다.

비동기 메소드/함수를 호출하여 리턴값은 받을 때는, await 키워드가 필요하다.

const response = await axios.get("/students");

메소드/함수 본문에 await 키워드가 들어있다면, 그 메소드/함수도 비동기 메소드/함수이다.

그 메소드/함수 앞에 async 키워드가 필요하다.

## 동기(synchronous) vs 비동기(asynchronous)

### 동기

|  |
| --- |
| 명령1()  명령2()  명령3() |

명령1을 지시한다.

명령1이 완료될 때까지 기다린다.

명령1이 완료된 후, 명령2를 지시한다.

명령2가 완료될 때까지 기다린다.

명령2가 완료된 후, 명령3을 지시한다.

명령3이 완료될 때까지 기다린다.

### 비동기

|  |
| --- |
| 명령1()  명령2()  명령3() |

명령1을 지시한다.

명령1 완료를 기다리지 않고, 바로 명령2를 지시한다.

명령2 완료를 기다리지 않고, 바로 명령3을 지시한다.

기다리지 않고 지시하는 것은 어렵지 않은데, 명령의 리턴값을 받는 부분이 어렵다.

### 동기

|  |
| --- |
| 값1 = 명령1()  값2 = 명령2()  값3 = 명령3() |

동기 방식은 명령이 완료될 때까지 기다리고 있었으므로, 리턴값을 받기 쉽다.

### 비동기

비동기 방식은 명령을 지시하고, 기다리지 않고 그냥 넘어갔기 때문에,

평범한 방법으로는 리턴값을 받기 어렵다.

비동기 방식의 함수/메소드를 호출하고 리턴값을 받을 때, await 키워드를 붙여야 한다.

본문에 await 키워드를 포함하는 함수/메소드도 비동기 함수/메소드이다.

본문에 await 키워드를 포함하는 함수/메소드의 앞에 async 키워드를 붙여야 한다.

await 키워드의 의미 => '여기서 기다렸다가 리턴값을 받아라'

일단 이 정도로 이해하고 넘어가자.

## router/index.js 수정

src/router/index.js

|  |
| --- |
| import { createRouter, createWebHistory } from 'vue-router'  import StudentListView from '../views/StudentListView.vue'  const routes = [    {      path: '/',      name: 'StudentListView',      component: StudentListView    },  ]  const router = createRouter({    history: createWebHistory(process.env.BASE\_URL),    routes  })  export default router |

학생 목록 화면 URL 등록

path: '/'

## App.vue 수정

|  |
| --- |
| <template>    <div id="App">      <router-view/>    </div>  </template>  <style>  div#App { padding: 30px; margin: 30px auto; width: 800px;    border: 1px solid #ccc; box-shadow: 3px 3px 3px #aaa; }  </style> |

<router-view/>

여기서 현재 주소와 일치하는 화면 컴포넌트가 출력된다.

링크를 클릭하여 화면을 이동하지는 않을 것이기 때문에,

<router-link /> 태그는 만들지 않는다.

## 실행

프로젝트 디렉토리에서 실행

백엔드 실행

|  |
| --- |
| json-server --watch src/students-db.json |

프론트엔드 프로젝트 실행

|  |
| --- |
| npm run serve |

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# 학생 수정 화면 구현 #1 - 화면 이동

## StudentListView.vue 수정

|  |
| --- |
| <template>    <div id="StudentListView">      <h1>학생 목록</h1>      <table>        <tr><td>id</td><td>학번</td><td>이름</td><td>전화</td><td>성별</td>            <td>이메일</td><td>학과</td></tr>        <tr v-for="student in students" v-bind:key="student.id" v-on:click="goEdit(student.id)">          <td>{{ student.id }}</td>          <td>{{ student.studentNo }}</td>          <td>{{ student.name }}</td>          <td>{{ student.phone }}</td>          <td>{{ student.sex }}</td>          <td>{{ student.email }}</td>          <td>{{ student.departmentId }}</td>        </tr>      </table>    </div>  </template>  <script>  import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";      // 백엔드 API URL 앞 부분을 미리 설정한다  export default {    name: "StudentListView",    data() {      return {        students: [ ]      }    },    mounted() { // 컴포넌트가 처음 화면에 보이게 될 때, 자동으로 호출되는 메소드      this.reloadStudents(); // 데이터를 로드한다    },    methods: {      async reloadStudents() { // 백엔드 API를 호출하여 데이터를 로드한다        try {          const response = await axios.get("/students");          this.students = response.data;        } catch (error) {          alert('조회 에러: ' + (error instanceof Error ? error.message : error));        }      },      goEdit(id) {        this.$router.push("/edit/" + id);      }    }  }  </script>  <style scoped>  h1 { border-bottom: 1px solid gray; }  table { border-collapse: collapse; margin: 20px 0; width: 100%; }  tr:nth-child(1) { background-color: #eee; text-align: center; }  td { border: 1px solid gray; padding: 6px; }  td:nth-child(1) { text-align: center; width: 30px; }  tr:hover { background-color: #ffd; cursor: pointer }  </style> |

this.$router.push("/edit/" + id)

예를 들어 id 값이 3 이라면, "/edit/3" URL로 넘어가게 된다.

3 값은 router parameter 데이터이다.

## StudetEditView.vue

src/views/StudentEditView.vue

|  |
| --- |
| <template>    <div id="StudentEdit">      {{ $route.params.id }}    </div>  </template>  <script>  export default {    name: "StudentEditView",  }  </script>  <style>  </style> |

{{ $route.params.id }}

router parameter 데이터 중에서, 이름이 id인 값을 출력한다.

## router/index.js 수정

src/router/index.js

|  |
| --- |
| import { createRouter, createWebHistory } from 'vue-router'  import StudentListView from '../views/StudentListView.vue'  import StudentEditView from '../views/StudentEditView.vue'  const routes = [    {      path: '/',      name: 'StudentListView',      component: StudentListView    },    {      path: '/edit/:id',      name: 'StudentEditView',      component: StudentEditView    },  ]  const router = createRouter({    history: createWebHistory(process.env.BASE\_URL),    routes  })  export default router |

StudentEditView 화면 컴포넌트의 URL을 등록한다.

path: '/edit/:id'

URL에서 :id 부분은 router parameter 이고, 이름은 id 이다.

## 실행

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id 값이 4 인 학생을 클릭하자.

A screenshot of a computer

Description automatically generated with medium confidence

/edit/4 URL로 이동하였고

화면에 router parameter id 값이 출력되었다.

# 학생 수정 화면 구현 #2

## StudentEditView.vue 수정

|  |
| --- |
| <template>    <div id="StudentEdit">      <h1>학생 수정</h1>      <div>        <input type="text" v-model="student.studentNo" />      </div>      <div>        <input type="text" v-model="student.name" />      </div>      <div>        <input type="phone" v-model="student.phone" />      </div>      <div>        <label><input type="radio" value="남" v-model="student.sex" /> 남자</label>        <label><input type="radio" value="여" v-model="student.sex" /> 여자</label>      </div>      <div>        <input type="email" v-model="student.email" />      </div>      <div>        <select v-model="student.departmentId">          <option value=1>소프</option>          <option value=2>컴공</option>          <option value=3>정통</option>          <option value=4>글티</option>        </select>      </div>      <div>        <button type="button" v-on:click="save">저장</button>        <button type="button" v-on:click="goList">취소</button>      </div>    </div>  </template>  <script>  import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";  export default {    name: "StudentEditView",    data() {      return {        student: { }      }    },  mounted() {      const id = this.$route.params.id;      this.loadStudent(id);    },    methods: {      async loadStudent(id) {        try {          const response = await axios.get("/students/" + id);          this.student = response.data;        } catch (error) {          alert('조회 에러: ' + (error instanceof Error ? error.message : error));        }      },      async updateStudent(student) {        try {          await axios.put("/students/" + student.id, student);        } catch (error) {          alert('저장 에러: ' + (error instanceof Error ? error.message : error));        }      },      async save() {        await this.updateStudent(this.student);        this.goList();      },      goList() {        this.$router.push("/");      }    }  }  </script>  <style>  input[type=text], input[type=phone], input[type=email] { padding: 6px; width: 200px; }  select { padding: 6px; width: 150px }  div { margin-bottom: 15px; }  label { margin-right: 15px; }  button { padding: 5px 20px; margin-right: 10px; }  </style> |

    async save() {

      await this.updateStudent(this.student);

      this.goList();

    },

리턴값을 받지 않는데도, await 키워드를 붙인 이유 =>

async 키워드가 붙어있는 메소드는 비동기 메소드이다.

즉 updateStudent 메소드는 비동기 메소드이다.

비동기 메소드가 끝날 때까지 기다리려면, 비동기 메소드 호출 앞에 await 키워드를 붙여야 한다.

updateStudent 메소드가 완료될 때까지 여기서 기다린 후,

완료되면 그 다음에 goList 메소드를 호출하라

updateStudent 메소드 호출 앞에 await 키워드를 붙이지 않으면,

저장 작업이 끝나기도 전에 목록 화면으로 넘어가서 학생 목록을 다시 조회해서 보여준다.

따라서 혹시 저장되기 전 데이터 목록이 보일 수 도 있기 때문에,

await 키워드를 붙여주었다.

A screenshot of a computer

Description automatically generated with medium confidence

# axios 호출 코드 분리

## 개요

StudentListView, StudentEditView 두 컴포넌트에 axios 호출 코드가 들어있다.

axios 호출 코드를 studentService.js 파일로 분리하자.

## studentService.js

src/studentService.js

|  |
| --- |
| import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";  export async function loadStudents() {    try {      const response = await axios.get("/students");      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function loadStudent(id) {    try {      const response = await axios.get("/students/" + id);      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function updateStudent(student) {    try {      await axios.put("/students/" + student.id, student);    } catch (error) {      alert('저장 에러: ' + (error instanceof Error ? error.message : error));    }  } |

studentService 파일에 구현된 함수들을 다른 파일에서 import 할 수 있으려면,

export 키워드가 필요하다.

## StudentListView.vue

src/views/StudentListView.vue

|  |
| --- |
| <template>    <div id="StudentListView">      <h1>학생 목록</h1>      <table>        <tr><td>id</td><td>학번</td><td>이름</td><td>전화</td><td>성별</td>            <td>이메일</td><td>학과</td></tr>        <tr v-for="student in students" v-bind:key="student.id" v-on:click="goEdit(student.id)">          <td>{{ student.id }}</td>          <td>{{ student.studentNo }}</td>          <td>{{ student.name }}</td>          <td>{{ student.phone }}</td>          <td>{{ student.sex }}</td>          <td>{{ student.email }}</td>          <td>{{ student.departmentId }}</td>        </tr>      </table>    </div>  </template>  <script>  import { loadStudents } from '../studentService';  export default {    name: "StudentListView",    data() {      return {        students: [ ]      }    },    async mounted() {     this.students = await loadStudents();    },    methods: {      goEdit(id) {        this.$router.push("/edit/" + id);      }    }  }  </script>  <style scoped>  h1 { border-bottom: 1px solid gray; }  table { border-collapse: collapse; margin: 20px 0; width: 100%; }  tr:nth-child(1) { background-color: #eee; text-align: center; }  td { border: 1px solid gray; padding: 6px; }  td:nth-child(1) { text-align: center; width: 30px; }  tr:hover { background-color: #ffd; cursor: pointer }  </style> |

## StudentEditView.vue

src/views/StudentEditView.vue

|  |
| --- |
| <template>    <div id="StudentEdit">      <h1>학생 수정</h1>      <div>        <input type="text" v-model="student.studentNo" />      </div>      <div>        <input type="text" v-model="student.name" />      </div>      <div>        <input type="phone" v-model="student.phone" />      </div>      <div>        <label><input type="radio" value="남" v-model="student.sex" /> 남자</label>        <label><input type="radio" value="여" v-model="student.sex" /> 여자</label>      </div>      <div>        <input type="email" v-model="student.email" />      </div>      <div>        <select v-model="student.departmentId">          <option value="1">소프</option>          <option value="2">컴공</option>          <option value="3">정통</option>          <option value="4">글티</option>        </select>      </div>      <div>        <button type="button" v-on:click="save">저장</button>        <button type="button" v-on:click="goList">취소</button>      </div>    </div>  </template>  <script>  import { loadStudent, updateStudent } from '../studentService';  export default {    name: "StudentEditView",    data() {      return {        student: { }      }    },    async mounted() {      const id = this.$route.params.id;      this.student = await loadStudent(id);    },    methods: {      async save() {        await updateStudent(this.student);        this.goList();      },      goList() {        this.$router.push("/");      }    }  }  </script>  <style>  input[type=text], input[type=phone], input[type=email] { padding: 6px; width: 200px; }  select { padding: 6px; width: 150px }  div { margin-bottom: 15px; }  label { margin-right: 15px; }  button { padding: 5px 20px; margin-right: 10px; }  </style> |

# 학생 등록 기능

## studentService.js

src/studentService.js

|  |
| --- |
| import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";  export async function loadStudents() {    try {      const response = await axios.get("/students");      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function loadStudent(id) {    try {      const response = await axios.get("/students/" + id);      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function updateStudent(student) {    try {      await axios.put("/students/" + student.id, student);    } catch (error) {      alert('저장 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function insertStudent(student) {    try {      await axios.post("/students", student);    } catch (error) {      alert('저장 에러: ' + (error instanceof Error ? error.message : error));    }  } |

## StudentCreateView.vue

src/views/StudentCreateView.vue

|  |
| --- |
| <template>    <div id="StudentEdit">      <h1>학생 등록</h1>      <div>        <input type="text" v-model="student.studentNo" placeholder="학번" />      </div>      <div>        <input type="text" v-model="student.name" placeholder="이름"  />      </div>      <div>        <input type="phone" v-model="student.phone" placeholder="전화번호"  />      </div>      <div>        <label><input type="radio" value="남" v-model="student.sex" /> 남자</label>        <label><input type="radio" value="여" v-model="student.sex" /> 여자</label>      </div>      <div>        <input type="email" v-model="student.email"  placeholder="이메일" />      </div>      <div>        <select v-model="student.departmentId">          <option value=undefined>학과를 선택하세요</option>          <option value=1>소프</option>          <option value=2>컴공</option>          <option value=3>정통</option>          <option value=4>글티</option>        </select>      </div>      <div>        <button type="button" v-on:click="save">저장</button>        <button type="button" v-on:click="goList">취소</button>      </div>    </div>  </template>  <script>  import { insertStudent } from '../studentService';  export default {    name: "StudentCreateView",    data() {      return {        student: { }      }    },    methods: {      async save() {        await insertStudent(this.student);        this.goList();      },      goList() {        this.$router.push("/");      }    }  }  </script>  <style>  input[type=text], input[type=phone], input[type=email] { padding: 6px; width: 200px; }  select { padding: 6px; width: 150px }  div { margin-bottom: 15px; }  label { margin-right: 15px; }  button { padding: 5px 20px; margin-right: 10px; }  </style> |

## StudentListView.vue 수정

src/views/StudentListView.vue

|  |
| --- |
| <template>    <div id="StudentListView">      <h1>학생 목록</h1>      <button type="button" v-on:click="goCreate">등록</button>      <table>        <tr><td>id</td><td>학번</td><td>이름</td><td>전화</td><td>성별</td>            <td>이메일</td><td>학과</td></tr>        <tr v-for="student in students" v-bind:key="student.id" v-on:click="goEdit(student.id)">          <td>{{ student.id }}</td>          <td>{{ student.studentNo }}</td>          <td>{{ student.name }}</td>          <td>{{ student.phone }}</td>          <td>{{ student.sex }}</td>          <td>{{ student.email }}</td>          <td>{{ student.departmentId }}</td>        </tr>      </table>    </div>  </template>  <script>  import { loadStudents } from '../studentService';  export default {    name: "StudentListView",    data() {      return {        students: [ ]      }    },    async mounted() {     this.students = await loadStudents();    },    methods: {      goEdit(id) {        this.$router.push("/edit/" + id);      },      goCreate() {        this.$router.push("/create/");      },    }  }  </script>  <style scoped>  button { float: right; margin-top: -40px; }  table { border-collapse: collapse; margin: 20px 0; width: 100%; }  tr:nth-child(1) { background-color: #eee; text-align: center; }  td { border: 1px solid gray; padding: 6px; }  td:nth-child(1) { text-align: center; width: 30px; }  tr:hover { background-color: #ffd; cursor: pointer }  </style> |

## router/index.js 수정

src/router/index.js

|  |
| --- |
| import { createRouter, createWebHistory } from 'vue-router'  import StudentListView from '../views/StudentListView.vue'  import StudentEditView from '../views/StudentEditView.vue'  import StudentCreateView from '../views/StudentCreateView.vue'  const routes = [    {      path: '/',      name: 'StudentListView',      component: StudentListView    },    {      path: '/edit/:id',      name: 'StudentEditView',      component: StudentEditView    },    {      path: '/create',      name: 'StudentCreateView',      component: StudentCreateView    },  ]  const router = createRouter({    history: createWebHistory(process.env.BASE\_URL),    routes  })  export default router |

# 삭제 기능

## studentService.js

|  |
| --- |
| import axios from 'axios';  axios.defaults.baseURL = "http://localhost:3000";  export async function loadStudents() {    try {      const response = await axios.get("/students");      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function loadStudent(id) {    try {      const response = await axios.get("/students/" + id);      return response.data;    } catch (error) {      alert('조회 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function updateStudent(student) {    try {      await axios.put("/students/" + student.id, student);    } catch (error) {      alert('저장 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function insertStudent(student) {    try {      await axios.post("/students", student);    } catch (error) {      alert('저장 에러: ' + (error instanceof Error ? error.message : error));    }  }  export async function deleteStudent(id) {    try {      await axios.delete("/students/" + id);    } catch (error) {      alert('삭제 에러: ' + (error instanceof Error ? error.message : error));    }  } |

## StudentEditView.vue

|  |
| --- |
| <template>    <div id="StudentEdit">      <h1>학생 수정</h1>      <div>        <input type="text" v-model="student.studentNo" />      </div>      <div>        <input type="text" v-model="student.name" />      </div>      <div>        <input type="phone" v-model="student.phone" />      </div>      <div>        <label><input type="radio" value="남" v-model="student.sex" /> 남자</label>        <label><input type="radio" value="여" v-model="student.sex" /> 여자</label>      </div>      <div>        <input type="email" v-model="student.email" />      </div>      <div>        <select v-model="student.departmentId">          <option value=1>소프</option>          <option value=2>컴공</option>          <option value=3>정통</option>          <option value=4>글티</option>        </select>      </div>      <div>        <button type="button" v-on:click="save">저장</button>        <button type="button" v-on:click="remove">삭제</button>        <button type="button" v-on:click="goList">취소</button>      </div>    </div>  </template>  <script>  import { loadStudent, updateStudent, deleteStudent } from '../studentService';  export default {    name: "StudentEditView",    data() {      return {        student: { }      }    },    async mounted() {      const id = this.$route.params.id;      this.student = await loadStudent(id);    },    methods: {      async save() {        await updateStudent(this.student);        this.goList();      },      async remove() {        if (confirm('삭제하시겠습니까?')) {          await deleteStudent(this.student.id);          this.goList();        }      },      goList() {        this.$router.push("/");      }    }  }  </script>  <style>  input[type=text], input[type=phone], input[type=email] { padding: 6px; width: 200px; }  select { padding: 6px; width: 150px }  div { margin-bottom: 15px; }  label { margin-right: 15px; }  button { padding: 5px 20px; margin-right: 10px; }  </style> |