FINÁLNÍ PROJEKT
č.1

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OBSAH

ZADÁNÍ

Cílem finálního projektu bylo otestovat funkčnost aplikace, která slouží k manipulaci s daty o studentech. Aplikace má rozhraní REST-API, které umožňuje vytvoření, smazání a získání dat..

Přístupové údaje:

Databáze	**Default scheme**: qa_demo **Host**: aws.connect.psdb.cloud **Port**: 3306
REST-API	http://108.143.193.45:8080/api/v1/students/

TESTOVACÍ SCÉNÁŘE

Na základě níže uvedených testovacích scénářů jsem ověřila funkčnost aplikace.

ID	Test case	Description and Data	Expected result	Actual result	Actual result status	Notes	Status
	FUNCTIONALITY TESTS						
0	Kontrola dostupnosti REST-API	Ve webovém prohlížeči zadám URL http://108.143.193.45:8080/api/v1/students/	Ve webovém prohlížeči se zobrazí výpis z databáze studentů	Ve webovém prohlížeči se zobrazil výpis z databáze studentů			passed
1	Test GET endpointu (úspěšný požadavek)	GET http://108.143.193.45:8080/api/v1/students/354	Status: 200 Response body: [{ "id": 354, "firstName": "alfred", "lastName": "HITCHCOCK", "email": "alfred@mail.com", "age": 18}]	{ "id": 354, "firstName": "alfred", "lastName": "HITCHCOCK", "email": "alfred@mail.com", "age": 18}	200		passed
2	Test GET endpointu (neexistující zdroj)	GET http://108.143.193.45:8080/api/v1/students/344	Status: 400 Response body: {"error":"Student not found"}	{ "timestamp": "2025-01-19T15:39:56.418+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/344"}	500		failed
3	Test POST endpointu (platná data)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 200 Response body: {"id": 1,"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	{ "id": 2695, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200	Testuje úspěšné vytvoření nového záznamu.	failed

4	Test POST endpointu (neplatná data)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"","lastName":"Mustermann","email":"","age":18}	Status: 400 Response body: {"error":"First name and email are required"}	{ "id": 2696, "firstName": "", "lastName": "MUSTERMANN", "email": "", "age": 18}	200	Testuje validaci povinných polí.	failed
5	Test POST endpointu (neplatný datový typ pro firstName nebo lastName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":3,"lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 400	{ "id": 2698, "firstName": "3", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200		failed
6	Test POST endpointu (speciální znaky pro firstName)	POST http://108.143.193.45:8080/api/v1/students/ {"firstName":"!@#$%^&*()_","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 400	{ "id": 2706, "firstName": "!@#$%^&*()_", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200		failed
7	Test POST endpointu (chybějící firstName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 400 Response body: {"error":"First name is required"}	{ "timestamp": "2025-01-19T17:34:09.705+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	500	Testuje chybějící povinné pole.	failed
8	Test POST endpointu (chybějící lastName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","email":"max.mustermann@gmail.com","age":18}	Status: 400 Response body: {"error":"Last name is required"}	{ "timestamp": "2025-01-19T17:34:44.416+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	500	Testuje chybějící povinné pole.	failed
9	Test POST endpointu (použití diakritiky u firstName, lastName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":Růžena,"lastName":"Nováková","email":"ruza.novak@email.cz","age":18}	Status: 200 Response body: [{ "id": 2761, "firstName": "Růžena", "lastName": "NOVÁKOVÁ", "email": "ruza.novak@email.cz", "age": 18}]	{ "id": 2761, "firstName": "Růžena", "lastName": "NOVÁKOVÁ", "email": "ruza.novak@email.cz", "age": 18}	200		passed
10	Test POST endpointu (speciální znaky pro lastName)	{"firstName":"Max","lastName":"!@#$%^&*()_","email":"max.mustermann@gmail.com","age":18}	Status: 400	{ "id": 2707, "firstName": "Max", "lastName": "!@#$%^&*()_", "email": "max.mustermann@gmail.com", "age": 18}	200		failed

11	Test POST endpointu (neplatný formát e-mailu)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"invalid-email","age":18}	Status: 400 Response body: {"error":"Invalid email format"}	{ "id": 2699, "firstName": "Max", "lastName": "MUSTERMANN", "email": "invalid-email", "age": 18}	200	Testuje validaci formátu e-mailu.	failed
12	Test POST endpointu (neplatný e-mail, chybí doména)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@","age":18}	Status: 400 Response body: {"error":"Invalid email format"}	{ "id": 2710, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@", "age": 18}	200	Testuje validaci e-mailového formátu.	failed
13	Test POST endpointu (chybějící email)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","age":18}	Status: 400 Response body: {"error":"Email is required"}	{ "timestamp": "2025-01-19T15:46:49.708+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	500	Testuje chybějící povinné pole.	failed
14	Test POST endpointu (neplatný datový typ pro email)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":123,"age":18}	Status: 400 Response body: {"error":"Email must be a string"}	{ "id": 2713, "firstName": "Max", "lastName": "MUSTERMANN", "email": "123", "age": 18}	200	Testuje validaci datového typu.	failed

15	Test POST endpointu (maximální délka e-mailu)	POST http://108.143.193.45:8080/api/v1/students/ Body: Body: {"firstName":"Max","lastName":"Mustermann","email":"C"*245+"@gmail.com","age":18} {"firstName":"Max","lastName":"Mustermann","email":"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA@gmail.com","age":18}	Status: 200 Response body: {"id":5,"firstName":"Max","lastName":"Mustermann","email":"A"*245 + "@gmail.com","age":18}	{ "id": 2711, "firstName": "Max", "lastName": "MUSTERMANN", "email": "AAA@gmail.com", "age": 18}	200	Testuje povolenou maximální délku e-mailu.	passed

| 16 | Test POST endpointu (maximální délka všech textových polí) | POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"A"*255,"lastName":"B"*255,"email":"C"*250+"@gmail.com","age":18} { "firstName": "AAA", "lastName": "BBB", "email": "CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC@gmail.com", "age": 20 } | Status: 200 Response body: {"id":6,"firstName":"A"*255,"lastName":"B"*255,"email":"C"*245+"@gmail.com","age":18} | { "id": 2712, "firstName": "AA", "lastName": "BB", "email": "CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC@gmail.com", "age": 20} | 200 | Testuje maximální délku všech polí. | passed |

17	Test POST endpointu (příliš dlouhý firstName nebo lastName)	POST http://108.143.193.45:8080/api/v1/students/ Body: Body: {"firstName":"A"*256,","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18} {"firstName":"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 400 Response body: {"error":"First name exceeds maximum length of 255 characters"}	{ "id": 2697, "firstName": "AA", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200	Testuje maximální délku polí.	failed

#	Test	Request	Expected	Actual	Status	Note	Result
18	Test POST endpointu (příliš dlouhý firstName nebo lastName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max,"lastName":"A"*256,"email":"max.mustermann@gmail.com","age":18} {"firstName":"Max","lastName":"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA","email":"max.mustermann@gmail.com","age":18}	Status: 400 Response body: {"error":"Last name exceeds maximum length of 255 characters"}	{ "id": 2705, "firstName": "Max", "lastName": "AAA", "email": "max.mustermann@gmail.com", "age": 18}	200		failed
19	Test POST endpointu (neplatný datový typ pro age)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":"eighteen"}	Status: 400 Response body: {"error":"Age must be a number"}	{ "timestamp": "2025-01-19T15:47:21.403+00:00", "status": 400, "error": "Bad Request", "message": "", "path": "/api/v1/students/"}	400	Testuje validaci datového typu.	passed

20	Test POST endpointu (záporná hodnota age)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":-1}	Status: 400 Response body: {"error":"Age must be a positive integer"}	{ "id": 2701, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": -1}	200	Testuje validaci rozsahu hodnot.	failed
21	Test POST endpointu (příliš velká hodnota age)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":150}	Status: 400 Response body: {"id":3,"firstName":"Max","lastNam e":"Mustermann","email":"max.mu stermann@gmail.com","age":150}	{ "id": 2702, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 150}	200		failed
22	Test POST endpointu (datový typ float pro age)	{"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":1.5}	Status: 400	{ "id": 2708, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 1}	200		failed
23	Test POST endpointu (chybějící age)	{"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"}	Status: 400	{ "timestamp": "2025-01-19T15:49:18.723+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	500		failed
24	Test POST endpointu (věk jako nula)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":0}	Status: 400 Response body: {"error":"Age must be at least 1"}	{ "id": 2714, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 0}	200	Testuje dolní hranici věku.	failed

25	Test POST endpointu (prázdný JSON objekt)	POST http://108.143.193.45:8080/api/v1/students/ Body: {}	Status: 400 Response body: {"error":"First name, last name, email, and age are required"}	{ "timestamp": "2025-01-19T15:49:44.775+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	500	Testuje úplnou absenci dat.	failed
26	Test POST endpointu (duplicita)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":18}	Status: 400 Response body: {"error":"Student with this email already exists"}	{ "id": 2704, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200	Testuje kontrolu na duplicitu e-mailu.	failed
27	Test POST endpointu (maximální počet parametrů)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Musterman n","email":"max.mustermann@gmail.com"," age":18,"extraField":"value"}	Status: 200 or 400 Response body: {"error":"Unexpected field: extraField"}	{ "id": 2715, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	200		passed
28	Test PUT endpointu (aktualizace zdroje)	PUT http://108.143.193.45:8080/api/v1/students/ 2704 Body: {"firstName":"Maximilian","lastName":"Must ermann","email":"max.muster@gmail.com"," age":19}	Status: 200 or 405 Response body: {"id":1,"firstName":"Maximilian","la stName":"Mustermann","email":"m ax.muster@gmail.com","age":19}	{ "timestamp": "2025-01-19T15:52:23.707+00:00", "status": 405, "error": "Method Not Allowed", "message": "", "path": "/api/v1/students/2704"}	405Me thod Not Allowe d		passed
29	Test PUT endpointu (neexistující zdroj)	PUT http://108.143.193.45:8080/api/v1/students/ 2800 Body: {"firstName":"Test","lastName":"User","emai l":"test@gmail.com","age":25}	Status: 400 or 405 Response body: {"error":"Student not found"}	{ "timestamp": "2025-01-19T15:53:39.764+00:00", "status": 405, "error": "Method Not Allowed", "message": "", "path": "/api/v1/students/2800"}	405Me thod Not Allowe d		passed
30	Test DELETE endpointu (existující zdroj)	DELETE http://108.143.193.45:8080/api/v1/students/ 2704	Status: 200 Response body: prázdné		200		passed

31	Test DELETE endpointu (neexistující zdroj)	DELETE http://108.143.193.45:8080/api/v1/students/2704	Status: 400 Response body: {"error":"Student not found"}	{ "timestamp": "2025-01-19T15:56:49.075+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/2704"}	500	failed
32	Test DELETE endpointu (neplatný formát ID)	DELETE http://108.143.193.45:8080/api/v1/students/abc123	Status: 400 Response body: {"error":"Invalid resource ID"}	{ "timestamp": "2025-01-20T11:43:56.140+00:00", "status": 400, "error": "Bad Request", "message": "", "path": "/api/v1/students/abc123"}	400	Testuje validaci ID v URL.	passed
	SECURITY TESTS					
33	Test POST endpointu (SQL injection v firstName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max'; DROP TABLE students; --","lastName":"Test","email":"test@gmail.com","age":20}	Status: jakýkoliv, dle nastavení serveru. Nesmí se smazat tabulka students. Response body: {"error":"Invalid input detected"}	{ "id": 2720, "firstName": "Max'; DROP TABLE students; --", "lastName": "TEST", "email": "test@gmail.com", "age": 20 }	200	Testuje odolnost proti SQL injection.	passed
34	Test DELETE endpointu (SQL injection v URL)	DELETE http://108.143.193.45:8080/api/v1/students/1;%20DROP%20TABLE%20students;%20--	Status: jakýkoliv, dle nastavení serveru Nesmí se smazat tabulka students. Response body: {"error":"Invalid resource ID"}		200	Testuje odolnost proti SQL injection v URL.	passed
35	Test POST endpointu (XSS útok ve firstName)	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"<script>alert('XSS')</script>","lastName":"Test","email":"test@gmail.com","age":20}	Status: jakýkoliv, dle nastavení serveru Response body: {"error":"Invalid input detected"}	{ "id": 2723, "firstName": "<script>alert('XSS')</script>", "lastName": "TEST", "email": "test@gmail.com", "age": 20}	200	Testuje ochranu proti XSS útokům.	passed
	PERFORMANCE TESTS					
36	Testování rychlosti odpovědi	Více požadavků na http://108.143.193.45:8080/api/v1/students/	**Status: 200** **Odpověď v čase < 200 ms**	146 ms	200	Testuje výkonnost API.	passed
37	Testování limitu požadavků	Velké množství požadavků na http://108.143.193.45:8080/api/v1/students/ Simulate 100 virtual users repeatedly running the collection, in parallel, for 1 minute	**Status: 429** **Response body: {"error":"Rate limit exceeded"}**				passed

EXEKUCE TESTŮ

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1. Testovací prostředí

- Popis hardwaru:
- Notebook Lifebook S Series
  Procesor: Intel(R) Core(TM) i5-6300U CPU @ 2.40GHz   2.50 GHz
  RAM: 12,0 GB)
- Popis softwaru:
  Windows 10 Pro, 22H2
  Mozilla Firefox 134.0
- **Testovací nástroje:**
  Postman, Postman for Windows, Version 11.28.3
  MySQL Workbench 8.0, Version 8.0.38

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2. Průběh testování

- Datum a čas provedení testů:19. a 20. 1. 2025
- Metodika testování: kombinace: manuálního a automatizovaného
- Použité testovací scénáře: TC-00 až TC-37

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3. Výsledky testování

- Provedeno bylo 38 testů, z toho:
  - 16 PASSED.
  - 22 FAILED (viz bug reporty).

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4. Problémy a omezení

- Žádné problémy a omezení nenastaly.

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5. Závěry z exekuce testů

- Méně jak polovina scénářů byla úspěšná, nalezené chyby byly zapsány do jednotlivých bug reportů.

- Doporučuje se provést opakované testování po opravě chyb.

BUG REPORT

Na základě provedených scénářů jsem objevila uvedené chyby aplikace. Zadání požadavků prováděno pomocí nástroje Postman s následnou kontrolou databáze

TC-ID	BR-ID	Bug Details					Severity	Priority	Attachment
		Bug	Steps to reproduce Description	Steps to reproduce	Expected result	Actual result			
TC-02	BR-01	API vrací chybně kód 500 při GET požadavku na neexistujícího studenta	Odeslat GET požadavek na neexistujícího studenta s ID 344	GET http://108.143.193.45:8080/api/v1/students/344	Vrácení statusu 400. Response body: {"error":"Student not found"}	Vrácen status 500	Minor	Medium	BR-01.png
TC-03	BR-02	API ukládá lastName s velkými písmeny	Odeslat POST požadavek s lastName = "Mustermann"	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18} DB: kontrola zaznamenaného studenta	Uložení přesné podoby jména. Response body: {"id": 1,"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Do DB uloženo velkými písmeny "MUSTERMANN". Výstup z Postman: { "id": 2695, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18} Printscreen z DB: priloha BR-02.png	Minor	Medium	BR-02.png
TC-04	BR-03	API nesprávně akceptuje neplatná data	Odeslat POST požadavek s prázdným firstName a email	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"","lastName":"Mustermann","email":"","age":18}	Vrácení statusu 400. Response body: {"error":"First name and email are required"}	Vrácen status 200 a student byl vytvořen RB: { "id": 2696, "firstName": "", "lastName": "MUSTERMANN", "email": "", "age": 18}	Minor	High	
TC-05	BR-04	API nesprávně akceptuje číselnou hodnotu pro firstName	Odeslat POST požadavek s "firstName":3	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":3,"lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400	Vrácen status 200 a student byl vytvořen RB:{ "id": 2698, "firstName": "3", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	Minor	High	

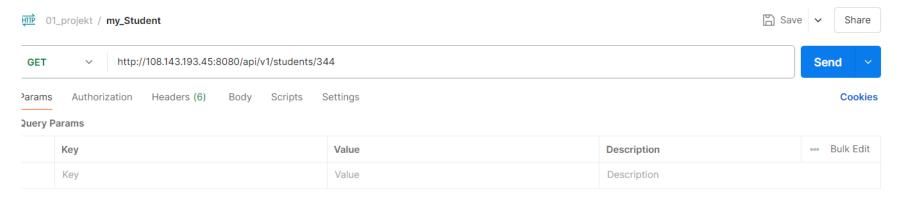| TC-06	BR-05	API nesprávně akceptuje speciální znaky ve jménu	Odeslat POST požadavek s firstName = !@#$%^&*()_	POST http://108.143.193.45:8080/api/v1/students/ {"firstName":"!@#$%^&*()_","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400	Vrácen status 200 a student byl vytvořen. RB: { "id": 2706, "firstName": "!@#$%^&*()_", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	Minor	Medium	
TC-07	BR-06	API vrací chybně status 500	Odeslat POST požadavek s prázdným s „firstName":""	POST http://108.143.193.45:8080/api/v1/students/ Body: {"lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400. Response body: {"error":"First name is required"}	Vrácen status 500 RB:{ "timestamp": "2025-01-19T17:34:09.705+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	Minor	Medium	
TC-08	BR-07	API vrací chybně status 500	Odeslat POST požadavek s prázdným s „lastName":""	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400. Response body: {"error":"Last name is required"}	Vrácen status 500 RB: { "timestamp": "2025-01-19T17:34:44.416+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	Minor	Medium	
TC-10	BR-08	API nesprávně akceptuje speciální znaky v lastName	Odeslat POST požadavek s "lastName":"!@#$%^&*()_"	{"firstName":"Max","lastName":"!@#$%^&*()_","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400	Vrácen status 200 a student byl vytvořen. RB: { "id": 2707, "firstName": "Max", "lastName": "!@#$%^&*()_", "email": "max.mustermann@gmail.com", "age": 18}	Minor	Medium	
TC-11	BR-09	API nesprávně akceptuje požadavek bez pole „lastName"	Odeslat POST požadavek bez parametru lastName	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"invalid-email","age":18}	Vrácení statusu 400. Response body: {"error":"Invalid email format"}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2699, "firstName": "Max", "lastName": "MUSTERMANN", "email": "invalid-email", "age": 18}	Minor	High	

TC-12	BR-10	API nesprávně akceptuje neplatný email bez domény	Odeslat POST požadavek s telefonním číslem "max.mustermann@	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@","age":18}	Vrácení statusu 400. Response body: {"error":"Invalid email format"}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2710, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@", "age": 18}	Minor	High	
TC-13	BR-11	API nesprávně akceptuje požadavek bez pole „email"		POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","age":18}	Vrácení statusu 400 Response body: {"error":"Email is required"}	Vrácen status 500 a student byl vytvořen. RB: { "timestamp": "2025-01-19T15:46:49.708+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	Minor	High	
TC-14	BR-12	API vrací chybně kód 200 při POST požadavku	Odeslat POST požadavek s datovým typem int pro email	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":123,"age":18}	Vrácení statusu 400 Response body: {"error":"Email must be a string"}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2713, "firstName": "Max", "lastName": "MUSTERMANN", "email": "123", "age": 18}	Minor	High	
TC-17	BR-13	API umožňuje firstName delší než 255 znaků	Odeslat POST požadavek s firstName = 256 znaků	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"A"*256,","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18} {"firstName":"256 x 'A'","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400 Response body: {"error":"First name exceeds maximum length of 255 characters"}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2697, "firstName": ……….}	Minor	High	

TC-18	BR-14	API umožňuje lastName delší než 255 znaků	Odeslat POST požadavek s lastName = 256 znaků	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"'A'"*256,"email":"max.mustermann@gmail.com","age":18} {"firstName":"Max","lastName":"256xA","email":"max.mustermann@gmail.com","age":18}	Vrácení statusu 400. Response body: {"error": lastName exceeds maximum length of 255 characters"}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2705, "firstName": "Max", "lastName":……}	Minor	High	
TC-20	BR-15	API nesprávně akceptuje záporné hodnotu věku	Odeslat POST požadavek s "age":-1	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":-1}	Vrácení statusu 400. Response body: {"error":"Age must be a positive integer"}	Vrácen status 200 a student byl vytvořen. { "id": 2701, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": -1}	Minor	High	
TC-21	BR-16	API akceptuje extrémně vysoký věk	Odeslat POST požadavek s "age" = 150	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":150}	Vrácení statusu 400. Response body: {"id":3,"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":150}	Vrácen status 200 a student byl vytvořen. RB: { "id": 2702, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 150}	Minor	High	
TC-22	BR-17	API nesprávně ukládá pouze celé číslo	Odeslat POST požadavek s "age" = 1.5	{"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":1.5}	Vrácení statusu 400	Vrácen status 200, do DB uloženo pouze číslo před desetinnou tečkou	Minor	High	BR-17.png

TC-23	BR-18	API vrací chybně status 500	Odeslat POST požadavek s chybějícím "age"	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com"} Kontrola DB zda se nevytvoří nový student.	Vrácení statusu 400. Response body: {"error":"age is required"}	Vrácen status 500. { "timestamp": "2025-01-19T15:49:18.723+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/"}	Minor	Medium	BR-18.png
TC-24	BR-19	API vrací chybně status 200 a vytvoří studenta	Odeslat POST požadavek s "age":0	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":0}	Vrácení statusu 400 s požadavkem na uvedení platného věku. Response body: {"error":"Age must be at least 1"}	Vrácen status 200 a byl vytvořen student. RB: { "id": 2714, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 0}	Minor	High	
TC-25	BR-20	API vrací chybně status 500	Odeslat POST požadavek s prázdným JSON tělem	POST http://108.143.193.45:8080/api/v1/students/ Body: {}	Vrácení statusu 400. Response body: {"error":"First name, last name, email, and age are required"}	Vrácen status 500 bez zprávy	Minor	Medium	
TC-26	BR-21	API nesprávně akceptuje duplicitní e-mail	Odeslat POST požadavek s e-mailem, který už v DB existuje	POST http://108.143.193.45:8080/api/v1/students/ Body: {"firstName":"Max","lastName":"Mustermann","email":"max.mustermann@gmail.com","age":18}	Status: 400 Response body: {"error":"Student with this email already exists"}	Vrácen status 200 a byl vytvořen nový student s duplicitním emailem. Body response: { "id": 2704, "firstName": "Max", "lastName": "MUSTERMANN", "email": "max.mustermann@gmail.com", "age": 18}	Major	High	
TC-31	BR-22	API vrací chybně kód 500	Odeslat DELETE požadavek na studenta s neplatným ID	DELETE http://108.143.193.45:8080/api/v1/students/2704	Status: 400 Response body: {"error":"Student not found"}	Vrácen status 500 Body response: { "timestamp": "2025-01-19T15:56:49.075+00:00", "status": 500, "error": "Internal Server Error", "message": "", "path": "/api/v1/students/2704"}	Minor	Medium	

PŘÍLOHY

Příloha BR_01.png:

Příloha BR_02.png:

id	age	email	first_name	last_name
2671	25	pepa.novak@seznam.cz	Pepa	NOVÁK
2672	30	jana.kovarova@seznam.cz	Jana	KOVÁŘOVÁ
2678	40	siriusjepes@gmail.com	Sirius	ČERNÝ
2679	40	siriusjepes@gmail.com	Sirius	ČERNÝ125*.
2684	25	max.mustermann@gmail.com	Erika	MUSTERMANN
2685	25	max.mustermann@gmail.com	Erika	MUSTERMANN
2686	25	max.mustermann@gmail.com	Erika	MUSTERMANN
2690	20	max.mustermann@gmail.com	11	MUSTERMANN
2691	20	max.mustermann@gmail.com		MUSTERMANN
2692	105	miki.zbirka@seznam.cz	MIKI	ZBIRKA
2695	18	max.mustermann@gmail.com	Max	MUSTERMANN
2696	18			MUSTERMANN
2697	18	max.mustermann@gmail.com	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA...	MUSTERMANN
2698	18	max.mustermann@gmail.com	3	MUSTERMANN
2699	18	invalid-email	Max	MUSTERMANN
2701	-1	max.mustermann@gmail.com	Max	MUSTERMANN
2702	150	max.mustermann@gmail.com	Max	MUSTERMANN
2705	18	max.mustermann@gmail.com	Max	AAAAAAAAAAAAAAAAAA...
2706	18	max.mustermann@gmail.com	!@#$%^&*()_	MUSTERMANN
2707	18	max.mustermann@gmail.com	Max	!@#$%^&*()_

Příloha BR_17.png:

id	age	email	first_name	last_name
2706	18	max.mustermann@gmail.com	!@#$%^&*()_	MUSTERMANN
2707	18	max.mustermann@gmail.com	Max	!@#$%^&*()_
2708	1	max.mustermann@gmail.com	Max	MUSTERMANN
2709	18	max.mustermann@gmail.com	123	MUSTERMANN
2710	18	max.mustermann@	Max	MUSTERMANN
2711	18	AAAAAAAAAAAAAAAAAAAA...	Max	MUSTERMANN
2712	20	CCCCCCCCCCCCCCCCCCCCC...	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA...	BBBBBBBBBBBBBBBBBBBBB...
2713	18	123	Max	MUSTERMANN
2714	0	max.mustermann@gmail.com	Max	MUSTERMANN
2715	18	max.mustermann@gmail.com	Max	MUSTERMANN
2718	66	miki.fiserseznam.cz	Misa	FISER
2719	66	miki.fiserseznam.cz	Misa	11
2722	20	test@gmail.com	<>&"	TEST
2725	52	ema@gmail.com	LOOOOL	PRIJ
2726	53	ema@gmail.com	LOOOOL	PRIJ
2727	25	emailova_adresa	Jiří	NOVÁK
2728	18	muj.mail@seznam.cz		
2730	18	fiserova@seznam.cz	Marketa	FISEROVA
2731	11	fiserova@seznam.cz	MarketaMarketaMarketaMarketaMarketaMarketaMarketaMar...	FISEROVA
2732	25	emailova_adresa	Jiří	NOVÁK

student 1 ✕

Příloha BR_18.png: