

API REST SIPNG

(Sistem Informasi Perpustakaan New Generation)



Created By
Kelompok 04 :

12S20006	Nadya D. Tambunan
12S20008	Putri Tampubolon
12S20009	Agnes Maraung
12S20011	Gabriel Panggabean
12S20013	Lydia Tesalonika
12S20015	Niver Titi Sibuea
12S20035	Nemnem Sihombing
12S20036	Winda Sari ButarButar
12S20053	Andri A Hutapea
12S20056	Siska R Manullang

Fakultas Informatika dan Teknik Elektro
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Tugas

Pada tugas ini anda diminta untuk merancang REST APIs dari aplikasi yang anda sedang kembangkan. Perhatikan berbagai *rules* yang sudah anda pelajari dan terapkan dalam desain anda. Ikuti langkah-langkah berikut sebagai panduan.

1. Dengan melakukan diskusi, tentukan *collection* yang akan anda kembangkan dengan memperhatikan *functionality* yang ingin dicapai melalui proyek anda. Sebagai inspirasi, kandidat *collection* dapat dilihat dari ERD anda.
2. Sebuah *collection* ditanggungjawab oleh paling banyak 2 orang *group member*. *Collection* yang dipilih harus dapat didekomposisi menjadi paling sedikit tiga *service endpoints* yang bermakna. *Endpoints* tersebut akan anda realisasikan di masa mendatang.
3. Presentasikan dan laporkan hasil kerja kelompok anda.

(Link Presentasi: <https://youtu.be/eFDk3cJcqtE>)

General Information		
Collection	:	books
Business process	:	[FR01] Menambah buku (merujuk pada dokumen anda sebelumnya)
Tujuan	:	Menambah satu <i>resource</i> (book) ke dalam <i>collection</i>
Responsible Member	:	Sigurita Tralala (@sigurita)
Request		
HTTP Verb	:	POST
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	Librarian (<i>otherwise forbidden</i>)
Has payload data	:	Yes (JSON)
Data structure	:	<pre>{ "title": "book title", "isbn10": "xxxxxxxxxx", "isbn13": "xxxxxxxxxxxxxx", "author": "author name", "description": "book description", "published_year": "xxxx" }</pre>
Possible Response		
	:	Response 1
HTTP Status Code	:	201 (Created)
Has payload data	:	Yes (JSON)
Data structure	:	<pre>{ "title": "book title", "isbn10": "xxxxxxxxxx", "isbn13": "xxxxxxxxxxxxxx", "author": "author name", "description": "book description", "published_year": "xxxx" }</pre>
Possible Response		
	:	Response 2

HTTP Status Code	:	400 (Bad Request)
Has payload data	:	Yes (JSON)
Data structure	:	{ "error_message": "error message" }
...		...

1. REGISTER

General Information		
Resource URI	:	/create_accounts
Business process	:	[FR01] Melakukan register
Tujuan	:	mendaftarkan akun agar dapat masuk ke dalam sistem.
Responsible Member	:	Andri Hutapea(@andrianjeliahutapea), Winda Butarbutar(@WindaS036)
Applied Rules	:	#1: Forward slash "/" indicates resource #2: No trailing forward slash "/". #4: Underscore "_" should be avoided #5: Use lowercase
Request		
HTTP Verb	:	POST
Authenticated?	:	Yes, with token
User group	:	Student
Has payload data	:	Yes (JSON)
Data structure	:	{ "first name" : "Andri", "last name" : "Hutapea", "Email address" : "andri16@gmail.com", "Password" : "12345" }
Applied Rules	:	#19: POST must be used in the case of creating new resource in a collection
Possible Response	:	Response 1
HTTP Status Code	:	#26:201 (Created) indicates that a resource is successfully created.
Has payload data	:	Yes (JSON)
Data structure	:	{ { "success": true, "data": { "first name" : "Andri", "last name" : "Hutapea", "Email address" : "andri16@gmail.com", "Password" : "12345" }, "links" : "/home", } }
Applied Rules	:	#26: 201 (Created) indicates that a resource is successfully created.

Possible Response	:	Response 2
HTTP Status Code	:	#37: 404 (Not Found) indicates that the URI is not valid or simply does not exist.
Has payload data	:	Yes (JSON)
Data structure	:	{ "error message" : "can't create account", "links" : "/create_accounts", }
Applied Rules	:	#35: Using 401 (Unauthorized) status code indicates that the request has not been applied because it lacks valid authentication credentials for the target resource.
HATEOAS Links	:	Register Action
URI	:	"/register"
Description	:	This link will direct the consumer to the authors collection API.

2. LOGIN

General Information		
Resource URI	:	/login
Business process	:	[FR02] Melakukan Login
Tujuan	:	mengakses sistem setelah melakukan pendaftaran melalui fitur register.
Responsible Member	:	1. Nadya Dioranta Tambunan (@nadya06)s3 2. Nemnem Sihombing (@nemnemsihombing35)
Applied Rules	:	#1: Forward slash "/" #2: No trailing forward slash "/". #5: Use lowercase
Request		
HTTP Verb	:	POST
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	Users
Has payload data	:	Yes (JSON)
Data structure	:	{ "email" : "sihombingnemnem@gmail.com", "password" : "12345678", }
Applied Rules	:	#19: Using POST to read account
Possible Response	:	Response 1
HTTP Status Code	:	201 (Created)
Has payload data	:	Yes (JSON)
Data structure	:	{ "email" : "sihombingnemnem@gmail.com", "password" : "12345678", }
Applied Rules	:	#26: 200 (OK) for the request is completely
Possible Response	:	Response 2
HTTP Status Code	:	401 (Unauthorized)
Has payload data	:	Yes (JSON)

General Information		
Resource URI	:	/login
Business process	:	[FR02] Melakukan Login
Data structure	:	{ "error message" : "login failed", "links" : "/login", }
Applied Rules	:	#35: 401 (Unauthorized) karena tidak memiliki kredensial autentikasi yang valid untuk sumber daya yang diminta.
HATEOAS Links	:	Register
URI	:	/Register
Has payload data	:	Yes (JSON)
Description	:	Tautan akan langsung terhubung dengan url/daftar dan akan mengarah ke halaman daftar

3. User

General Information		
Resource URI	:	/user
Business process	:	[FR03] Melakukan peminjaman dan pengembalian buku
Tujuan	:	User dapat melakukan peminjaman dan pengembalian buku dengan memasukkan id user.
Responsible Member	:	1. Putri Tampubolon (@putritampubolon08) 2. Agnes Marpaung (@agnesmarpaung09)
Applied Rules	:	#1: Forward slash "/" #2: No trailing forward slash "/" #3: Hyphens "-" for a better readability #5: Use lowercase
Request		
HTTP Verb	:	POST
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	Civitas IT Del
Has payload data	:	Yes (JSON)
Data structure	:	{ "name" : "Putri Tampubolon", "email" : "putrirachelgeby@gmail.com", "password" : "ppwbest", }
Applied Rules	:	#19: POST must be used in the case of creating new resource in a collection.
Possible Response		
HTTP Status Code	:	#26:201 (Created) indicates that a resource is successfully created
Has payload data	:	Yes (JSON)
Data structure	:	{ "success": true, "data": {

		<pre> "name" : "Putri Tampubolon", "email" : "putrirachelgeby@gmail.com", "password" : "ppwbest", } } </pre>
Applied Rules	:	#26: 201 (Created) indicates that a resource is successfully created
Possible Response	:	Response 2
HTTP Status Code	:	400 (Bad Request) indicates a general failure.
Has payload data	:	Yes (JSON)
Data structure	:	<pre> { "error_message": "invalid password", "links" : "/create_new_password", } </pre>
Applied Rules	:	400 (Bad Request) indicates a general failure.
HATEOAS Links	:	Login
URI	:	"POST/login"
Description	:	The link will take the user to the author's book collection

4. Books

General Information		
Resource URI	:	/forum
Business process	:	[FR04] Menampilkan buku
Tujuan	:	Untuk mempermudah users untuk menambah dan menghapus data buku(mengolah buku)
Responsible Member	:	1. Lidya Tesalonika (@lydiaharianja) 2. Niver Titi Sibuea (@Nivertitisibuea15)
Applied Rules	:	#1: Forward slash "/" #2: No trailing forward slash "/" #5: Use lowercase
Request		
HTTP Verb	:	GET
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	User
Has payload data	:	Yes (JSON)
Data structure	:	<pre> { "status": true, "message": "Ok", "data": { </pre>
Applied Rules	:	GET method must be used to retrieve a resource's state representation.
Possible Response	:	Response 1
HTTP Status Code	:	200 (OK) indicates that the request is completely executed without problems
Has payload data	:	Yes (JSON)
Data structure	:	<pre> { "status": true, "message": "Ok", "data": { </pre>

		<pre> "total": 1, "books": [{ "id": 1, "isbn": "1111111", "title": "Si kancil yang kikir", "tipe": "anak-anak", "author": "Niver", "publisher": "lidya", "status": "Available", "created_at": null, "updated_at": null }] } </pre>
Applied Rules	:	200 (OK) indicates that the request is completely executed without problems
Possible Response	:	Response 2
HTTP Status Code	:	404 (Not Found) indicates that the URI is not valid or simply does not exist.
Has payload data	:	Yes (JSON)
Data structure	:	<pre> { "status": false, "message": "Format data tidak benar" } </pre>
Applied Rules	:	404 (Not Found) indicates that the URI is not valid or simply does not exist.
Request		
HTTP Verb		POST
Authenticated?		Yes, with token (<i>anonymous access is not allowed</i>)
User group		User
Has payload data		Yes (JSON)
Applied Rules		POST method must be used to add a resource state representation.
Possible Response		Response 1
Data structure		<pre> { "status": true, "message": "Berhasil menambahkan data" } </pre>
Has payload data		Yes (JSON)
Data structure		<pre> { "status": true, </pre>

		<pre> "message": "Ok", "data": { "total": 2, "books": [{ "id": 1, "isbn": "1111111", "title": "Si kancil yang kikir", "tipe": "anak-anak", "author": "Niver", "publisher": "lidya", "status": "Available", "created_at": null, "updated_at": null }, { "id": 2, "isbn": "12345", "title": "belajar membaca", "tipe": "anak - anak", "author": "Lydia", "publisher": "Niver", "status": "Available", "created_at": null, "updated_at": null }] } </pre>
Applied Rules		200 (OK) indicates that the request is completely executed without problems
Possible Response		Response 2
Data structure		<pre> { "status": false, "message": "Buku dengan ISBN ini telah tersedia" } </pre>
Applied Rules		404 (Not Found) indicates that the URI is not valid or simply does not exist.
Applied Rules		
HATEOAS Links	:	
URI	:	
Description	:	
HATEOAS Links	:	
URI	:	

Description	:	
HATEOAS Links	:	
URI	:	
Description	:	

5. Borrow

General Information		
Resource URI	:	/books/borrow
Business process	:	[FR05] borrowed book
Tujuan	:	untuk peminjam yang ingin meminjam buku dari perpustakaan
Responsible Member	:	Siska Manullang (@SiskaManullang)
Applied Rules	:	#1: Forward slash "/" #2: No trailing forward slash "/"
Request		
HTTP Verb	:	PUT
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	Users
Has payload data	:	Yes (JSON)
Data structure	:	<pre>{ "status": true, "message": "Ok", "data": { "total": 1, "borrow": [{ "borrow_date": 12-01-2022, "title": "Si kancil yang kikir", "author": "Niver", "return_date": 19-01-2022 }] } }</pre>
Applied Rules	:	#21: PUT must be used to both create or modify a resource in a store.
Possible Response	:	Response 1
HTTP Status Code	:	#26: 201 (Created) indicates that a resource is successfully created.
Has payload data	:	Yes (JSON)
Data structure	:	<pre>{ "status": false, "message": "Buku dengan ISBN ini telah tersedia"</pre>

		}
Applied Rules	:	#26: 201 (Created) indicates that a resource is successfully created
Possible Response	:	Response 2
HTTP Status Code	:	#34 : 400 (Bad Request) indicates a general failure.
Has payload data	:	Yes (JSON)
Data structure	:	{ "error_message": "can't create post", "links" : "/books/borrow" }
Applied Rules	:	#37: 404 (Not Found) indicates that the URI is not valid or simply does not exist.
HATEOAS Links	:	Borrow
URI	:	"PUT/borrow"
Description	:	untuk meminjam buku
HATEOAS Links	:	
URI	:	
Description	:	
HATEOAS Links	:	
URI	:	
Description	:	

6. Return

General Information		
Resource URI	:	/books/return
Business process	:	[FR06] Pengembalian buku
Tujuan	:	digunakan mahasiswa untuk mengembalikan buku yang telah dipinjam
Responsible Member	:	Gabriel Panggabean(@gabrielpanggabean011)
Applied Rules	:	#1: Forward slash "/" #2: No trailing forward slash "/"
Request		
HTTP Verb	:	POST
Authenticated?	:	Yes, with token (<i>anonymous access is not allowed</i>)
User group	:	Users
Has payload data	:	Yes (JSON)
Data structure	:	(['return_id' => "1", 'isbn' => "2345", 'borrow_date' => 20 November 2022, 'title' => "Membaca", 'author' => ['Gabriel'], 'return_date' => ['25 November'],]);
Applied Rules	:	#17: POST method must be used to add a resource state representation.
Possible Response	:	Response 1
HTTP Status Code	:	#25: 200 (OK) indicates that the request is completely executed without problems

Has payload data	:	Yes (JSON)
Data structure	:	<pre> "status": true, "message": "Ok", "data": { (['return_id' => "1", 'isbn' => "2345", 'borrow_date' => 20 November 2022, 'title' => "Membaca", 'author' => ['Gabriel'], 'return_date' => ['25 November'],]); } </pre>
Applied Rules	:	#25: 200 (OK) indicates that the request is completely executed without problems
Possible Response	:	Response 2
HTTP Status Code	:	#37: 404 (Not Found) indicates that the URI is not valid or simply does not exist.
Has payload data	:	Yes (JSON)
Data structure	:	<pre> { "error_message": "can't return this book", "links" : "/home", } </pre>
Applied Rules	:	#37: 404 (Not Found) indicates that the URI is not valid or simply does not exist.
HATEOAS Links	:	
URI	:	
Description	:	
HATEOAS Links	:	
URI	:	
Description	:	
HATEOAS Links	:	
URI	:	
Description	:	