Geographic Models CRUD Plan

This section outlines CRUD operations for the normalized geographic models (Country, State, City) and the specific address model (Location).

1. Country Model (Country)

Base Path: /api/v1/countries

Operation	HTTP Method	Endpoint	Action	Allowed Roles	Notes
Create	POST	/	Create a new country.	Admin	Requires unique name and potentially code.
Read	GET	/	List all countries.	Guest, User, Seller, Admin	Useful for populating dropdowns. Consider pagination.
Read	GET	/{country_id}	Get a specific country.	Guest, User, Seller, Admin	Returns details based on the ID.
Update	PATCH	/{country_id}	Update a country's details.	Admin	Allows partial updates to name or code.
Delete	DELETE	/{country_id}	Delete a country.	Admin	Caution: Check for existing linked State records first.

2. State Model (State)

Base Path: /api/v1/states

Operation	HTTP Method	Endpoint	Action	Allowed Roles	Notes
Create	POST	/	Create a new state.	Admin	Requires name and a valid country_id.
Read	GET	/	List all states.	Guest, User, Seller, Admin	Allow filtering by country_id. Consider pagination.
Read	GET	/{state_id}	Get a specific	Guest, User,	Returns details

			state.	Seller, Admin	based on the ID.
Update	PATCH	/{state_id}	Update a state's details.	Admin	Allows partial updates to name. Changing country_id is rare.
Delete	DELETE	/{state_id}	Delete a state.	Admin	Caution: Check for existing linked City records first.

3. City Model (City)

Base Path: /api/v1/cities

Operation	HTTP Method	Endpoint	Action	Allowed Roles	Notes
Create	POST	/	Create a new city.	Admin	Requires name and a valid state_id.
Read	GET	/	List all cities.	Guest, User, Seller, Admin	Allow filtering by state_id. Consider pagination.
Read	GET	/{city_id}	Get a specific city.	Guest, User, Seller, Admin	Returns details based on the ID.
Update	PATCH	/{city_id}	Update a city's details.	Admin	Allows partial updates to name. Changing state_id is rare.
Delete	DELETE	/{city_id}	Delete a city.	Admin	Caution: Check for existing linked Location records first.

4. Location Model (Location) - Specific Addresses

Base Path: /api/v1/locations

Operation	HTTP Method	Endpoint	Action	Allowed Roles	Notes
Create	POST	/	Create a new	Admin	Requires

			specific location.		address, zip_code, city_id. User-specific locations often created via User profile updates.
Read	GET	/	List all specific locations.	Admin	Filterable by city_id. Listing all might have privacy implications depending on use case.
Read	GET	/{location_id}	Get a specific location's details.	Admin, Associated User	'Associated User' means the authenticated user whose user.location_id matches this location.id.
Update	PATCH	/{location_id}	Update a location's details.	Admin, Associated User	Users can only update their *own* associated location (address, zip_code, name). Admins can update any.
Delete	DELETE	/{location_id}	Delete a specific location.	Admin	Caution: Check associated User records. May need to set user.location_id to NULL.

General Notes for Geographic/Location Models:
  ● **Authentication & Authorization:** Admin roles are required for most CUD operations on

Country, State, City. Location CUD involves both Admins and potentially the associated User. Read operations on Country, State, City are generally public.

- **Data Validation:** Inputs for POST/PATCH require validation (e.g., existence of foreign keys like city_id, string formats).
- **Relationships:** Deleting parent records (Country, State, City) requires checking for dependent child records. Deleting a Location requires checking for associated Users.
- **User Location Management:** The CRUD for Location above assumes direct manipulation. In practice, creating/updating a User's location might be handled via /api/v1/users/me/location or similar endpoints that internally manage the Location record linked to the authenticated user.
- **Error Handling:** Use standard HTTP status codes.