AI Model Management Flow - Admin Service

Participants: Admin User, Gateway, AdminController, AIModelOperationsService, Validator, CacheManager, Database, MessageBus

Model Creation Flow

- Admin User → Gateway: Create Model Request
- Gateway → AdminController: POST /api/models
- AdminController → Validator: Validate Model Request
- Validator --> AdminController: Validation Result

alt [Validation Success]

- AdminController → AIModelOperationsService: CreateModelAsync
- AIModelOperationsService → Database: Check Model Exists
- Database --> AIModelOperationsService: Result

  alt [Model Doesn't Exist]

- AIModelOperationsService → Database: Save Model
- Database --> AIModelOperationsService: Success
- AIModelOperationsService → CacheManager: Invalidate Models Cache
- AIModelOperationsService → MessageBus: Publish ModelCreated Event
- AIModelOperationsService --> AdminController: Success Response
- AdminController --> Gateway: 201 Created
- Gateway --> Admin User: Model Created Successfully

  [Model Exists]

- AIModelOperationsService --> AdminController: Model Already Exists
- AdminController --> Gateway: 409 Conflict
- Gateway --> Admin User: Model Already Exists Error

[Validation Failed]

- AdminController --> Gateway: 400 Bad Request
- Gateway --> Admin User: Validation Error Details

Model Update Flow

- Admin User → Gateway: Update Model Request
- Gateway → AdminController: PUT /api/models/{id}
- AdminController → Validator: Validate Update Request
- Validator --> AdminController: Validation Result

alt [Validation Success]

- AdminController → AIModelOperationsService: UpdateModelAsync
- AIModelOperationsService → Database: Find Model
- Database --> AIModelOperationsService: Model

  alt [Model Found]

- AIModelOperationsService → Database: Update Model
- Database --> AIModelOperationsService: Success
- AIModelOperationsService → CacheManager: Invalidate Model Cache
- AIModelOperationsService → MessageBus: Publish ModelUpdated Event
- AIModelOperationsService --> AdminController: Success Response
- AdminController --> Gateway: 200 OK
- Gateway --> Admin User: Model Updated Successfully

  [Model Not Found]

- AIModelOperationsService --> AdminController: Model Not Found
- AdminController --> Gateway: 404 Not Found
- Gateway --> Admin User: Model Not Found Error

[Validation Failed]

- AdminController --> Gateway: 400 Bad Request
- Gateway --> Admin User: Validation Error Details

Flow Legend
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Green: Success Path
Red: Error Path
Blue: Validation
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Includes caching and
event publishing