

To achieve full CRUD functionality on the Song model using Django Rest and Graphene-Django, you will need to define mutations for each CRUD operation (create, read, update, delete). Here's an example implementation:

1. Create a new song:

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```
class CreateSongMutation(graphene.Mutation):  
    class Arguments:  
        title = graphene.String(required=True)  
        artist_id = graphene.ID(required=True)  
        album_id = graphene.ID(required=True)  
        track_number = graphene.Int(required=True)  
        length = graphene.String(required=True)
```

```
    song = graphene.Field(SongType)
```

```
    def mutate(self, info, title, artist_id, album_id,  
track_number, length):  
        artist = Artist.objects.get(id=artist_id)  
        album = Album.objects.get(id=album_id)  
        song = Song.objects.create(title=title,  
artist=artist, album=album, track_number=track_number,  
length=length)  
        return CreateSongMutation(song=song)
```

2. Update an existing song:

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```
class UpdateSongMutation(graphene.Mutation):  
    class Arguments:  
        id = graphene.ID(required=True)  
        title = graphene.String()
```

```
artist_id = graphene.ID()
album_id = graphene.ID()
track_number = graphene.Int()
length = graphene.String()
```

```
song = graphene.Field(SongType)
```

```
def mutate(self, info, id, title=None,
artist_id=None, album_id=None, track_number=None,
length=None):
    song = Song.objects.get(id=id)
    if title:
        song.title = title
    if artist_id:
        song.artist =
Artist.objects.get(id=artist_id)
    if album_id:
        song.album = Album.objects.get(id=album_id)
    if track_number:
        song.track_number = track_number
    if length:
        song.length = length
    song.save()
    return UpdateSongMutation(song=song)
```

3. Delete a song:

python

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```
class DeleteSongMutation(graphene.Mutation):
    class Arguments:
        id = graphene.ID(required=True)
```

```
success = graphene.Boolean()
```

```
def mutate(self, info, id):
```

```
song = Song.objects.get(id=id)
song.delete()
return DeleteSongMutation(success=True)
```

You can then add these mutations to your Mutation class:

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```
class Mutation(graphene.ObjectType):
    create_song = CreateSongMutation.Field()
    update_song = UpdateSongMutation.Field()
    delete_song = DeleteSongMutation.Field()
```