

Create a simple planning with one depot in Bielefeld and 6 vehicles belonging to the categories 2 x

Bernd Welter (04/05/2026 14:01:48)

Create a simple planning with one depot in Bielefeld and 6 vehicles belonging to the categories 2 x "Junior", 2 x "Standard", 2 x "Senior"

Then define a set of 30 service orders in the city of Bielefeld each requiring 60 minutes

PTV Mira (04/05/2026 14:02:16)

Now I have the pattern for generating test scenarios. I need to fetch the startOptimization schema before writing the query. Now I have everything I need. Let me plan the optimization:

- **Depot:** Center of Bielefeld
- **6 vehicles:** 2 x "Junior", 2 x "Standard", 2 x "Senior" (using `categories` field)
- **30 service orders:** Random locations in Bielefeld, each with 60 min (3600s) duration
- **Duration:** 1 minute (per user preference #9)
- **Working hours:** 08:00–18:00 Europe/Berlin (standard day)
- **Routing profile:** EUR_VAN (Europe)

Bernd Welter (04/05/2026 14:04:03)

PTV Mira (04/05/2026 14:04:52)

Let me check what returns for Bielefeld: Bielefeld is at level 6 (kreisfreie Stadt), not level 8. Let me adjust the query accordingly. Optimization [Bielefeld Categories 6V 30S](#) created and running (60s).

Summary:

Component	Details
Depot	Center of Bielefeld
Vehicles	6 x EUR_VAN, 08:00–18:00 Europe/Berlin
Categories	2 x Junior, 2 x Standard, 2 x Senior
Orders	30 service orders, 60 min each
Costs	€40/h, €0.35/km

Optimization ID: beb8c23b-b158-433d-87ca-06b09f92c7d4

The optimization should complete around 14:03 Europe/Berlin. The vehicle categories are assigned but currently have no constraints — all vehicles can serve all orders equally. You can add category-based rules or constraints to differentiate their behavior.

Bernd Welter (04/05/2026 14:06:05)

now apply the following rules: - "Senior" requires 0.8 factor of duration (is faster) - "Junior" requires 1.2 (is slower)

PTV Mira (04/05/2026 14:06:27)

I need the getOptimizationRequest schema too: Now I have everything. The approach is: - Use **task rules** with `vehicleCategory` matching to apply duration factors - Senior vehicles get factor 0.8 (faster), Junior vehicles get factor 1.2 (slower) - Standard vehicles have no rule (default factor 1.0) - The vehicles already have categories "Junior", "Standard", "Senior" — I can match directly on those

Bernd Welter (04/05/2026 14:06:34)

PTV Mira (04/05/2026 14:07:03)

Done. [Bielefeld Categories 6V 30S TaskRules](#) is running (60s).

Task rules applied:

Vehicle Category	Duration Factor	Effective Task Time
Senior	0.8	48 min
Standard	1.0 (default)	60 min
Junior	1.2	72 min

This means Senior drivers can handle more orders per route (faster execution), while Junior drivers will fit fewer orders into their working day. The optimizer will naturally assign more work to Senior vehicles since they're more cost-efficient per task.

Optimization ID: `686152f4-8683-4c90-8e5a-2adde751bbe4`

Bernd Welter (04/05/2026 14:08:12)

double the number of orders

PTV Mira (04/05/2026 14:08:23)

Bernd Welter (04/05/2026 14:08:28)

PTV Mira (04/05/2026 14:08:56)

Done. [Bielefeld Categories 6V 60S TaskRules](#) is running (60s).

Property	Before	Now
Service orders	30	60
Vehicles	6	6
Task rules	Senior 0.8x, Junior 1.2x	Same

With 60 orders × 60 min base duration and only 10 hours per vehicle (6 vehicles × 10h = 60h total capacity), this could be tight — especially considering driving time. Some orders will likely remain unplanned.

Optimization ID: [6043ff65-5017-4e80-8a80-8cd87272bd45](#)

Bernd Welter (04/05/2026 14:09:51)

Show the result once the optimization is finished

PTV Mira (04/05/2026 14:10:33)

The optimization has finished. Let me get the key metrics:Here are the results:

Overall Summary

Metric	Value
Status	SUCCEEDED
Scheduled orders	52 / 60
Unscheduled orders	8
Routes used	6 / 6
Total distance	231.4 km
Total duration	58.3 h
Total cost	€2,411.78

Per-Vehicle Breakdown

Vehicle	Category	Orders	Tasks (h)	Driving (h)	Distance (km)	Cost (€)
SENIOR_2	Senior	11	8.8	1.1	31.8	408.8
SENIOR_1	Senior	10	8.0	1.6	36.6	396.4

Vehicle	Category	Orders	Tasks (h)	Driving (h)	Distance (km)	Cost (€)
STANDARD_1	Standard	9	9.0	0.9	25.1	406.0
STANDARD_2	Standard	8	8.0	1.5	56.3	399.1
JUNIOR_1	Junior	7	8.4	1.4	54.5	409.1
JUNIOR_2	Junior	7	8.4	1.2	27.1	392.4

Task rules effect is clearly visible: - Senior (0.8× factor): 10–11 orders per vehicle - Standard (1.0×): 8–9 orders per vehicle - Junior (1.2× factor): 7 orders per vehicle

The optimizer assigns more orders to Senior vehicles since they complete tasks faster (48 min effective vs 72 min for Junior). All 6 vehicles are fully utilized (~9.5–9.9h each), yet 8 orders remain unplanned due to insufficient total capacity.