Configuration: calculated activity duration rules (what, why and how)

Configure rule-based stop activity durations that automatically scale with freight volume and operational context, replacing fixed durations for more accurate ETAs and route planning.

Updated April 7, 2026

Summary

- **What?**
  - A rule-based feature that dynamically calculates stop activity durations based on freight characteristics and operational conditions
  - Configured under **Configuration > Rules**, following the same pattern as other rule types in Qargo
- **Why?**
  - Fixed stop durations do not scale with freight volume or transportation context, which leads to inaccurate route ETAs
  - Planners were updating duration values manually, a time-consuming and error-prone process
- **How?**
  - Create **stop duration rules** that define either a flat time (fixed) or a per-unit formula (e.g., 5 minutes per pallet)
  - Scope rules with conditions such as transportation service, vehicle category, customer, or activity label
  - Durations recalculate automatically on each route calculation trigger

---

Terminology

Term	Definition
Stop activity	The action performed at a stop, such as pickup, delivery, or terminal unload
Stop activity group	All stop activities at the same location within a route. Duration is calculated based on the combined goods workload across the group
Stop duration	The time a vehicle spends at a stop, used by the planning engine for ETAs and route optimization
Fixed rule	A duration rule that applies a flat time value to a matched stop activity, regardless of freight volume
Formula rule	A duration rule that calculates stop time dynamically based on a goods metric (e.g., pallets, loading meters, weight)
Calculation collection	One or more calculations combined to produce a final stop duration (e.g., a fixed base time plus a per-pallet formula)
Goods metric	A measurable freight characteristic used in a formula rule, such as pallet count, loading meters, or weight
Condition	A filter applied to a rule that restricts when it applies, for example only for a specific transportation service, vehicle category, or customer

---

Overview

Stop activity durations tell the planning engine how long a vehicle spends at each stop. Previously, they were configured as fixed values per activity type under **Configuration > Order input**.

- The calculated activity duration rules feature introduces a more powerful approach: rule-based duration calculation under **Configuration > Rules**. This allows durations to scale dynamically with freight volume and operational context.

Duration priority order

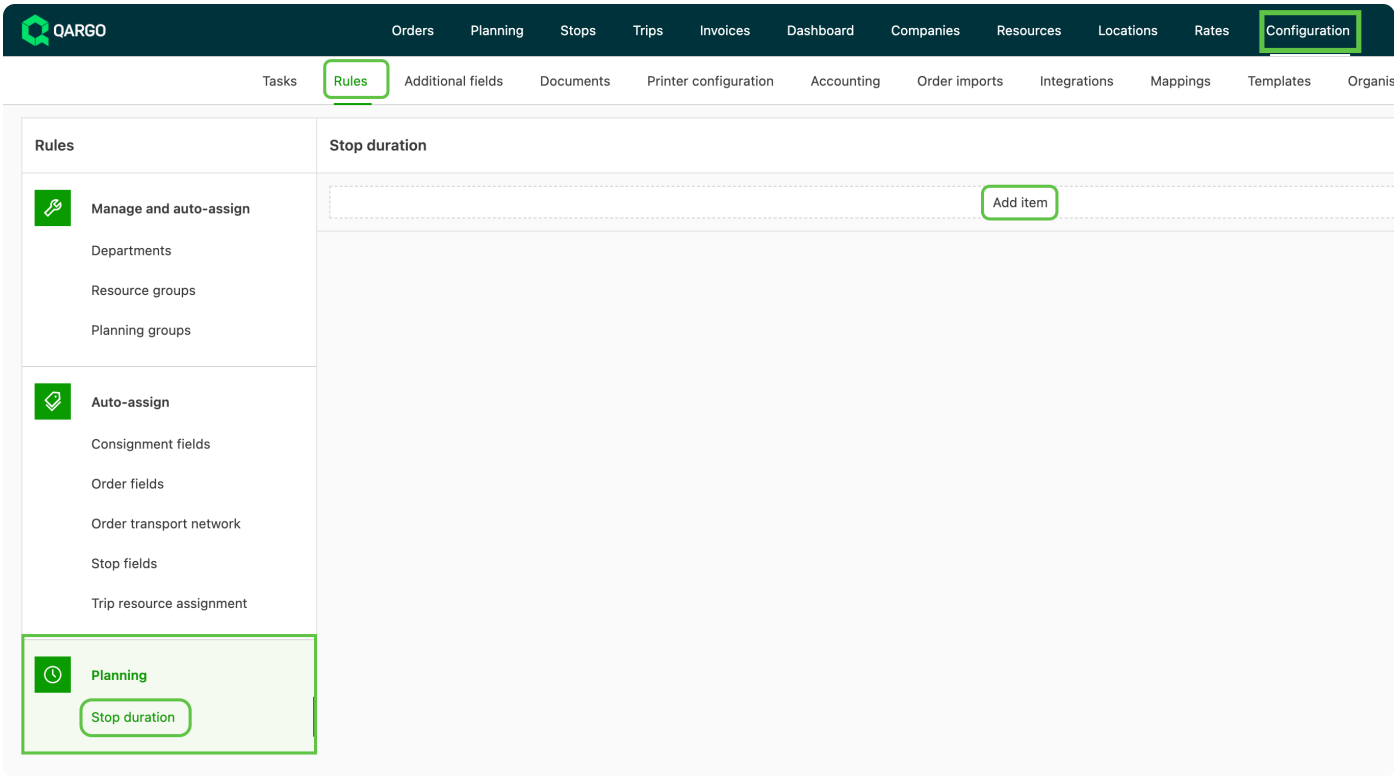
When a stop duration is determined, the system applies the following priority order:

1. **Location-specific duration**: a duration configured directly on the location in **Locations > Locations** always takes precedence
2. **Calculated activity duration rule**: if a matching rule is found under **Configuration > Rules > Stop duration**, it is applied
3. **Activity default**: if no rule matches, the value configured per activity type under **Configuration > Order input > Stop options > Activities** is used as a fallback

🧰 **Internal stop default change:** Internal stops (e.g., terminals, parking locations) without an explicitly configured duration now default to **01:00** instead of 00:00. To keep a 0-minute duration on an internal stop, set it explicitly on the stop action in **Locations > Internal stop actions**.

Configuring stop duration rules

- **Navigate** to **Configuration > Rules**.
- **Select Stop duration** from the left-hand menu to open the rule list.



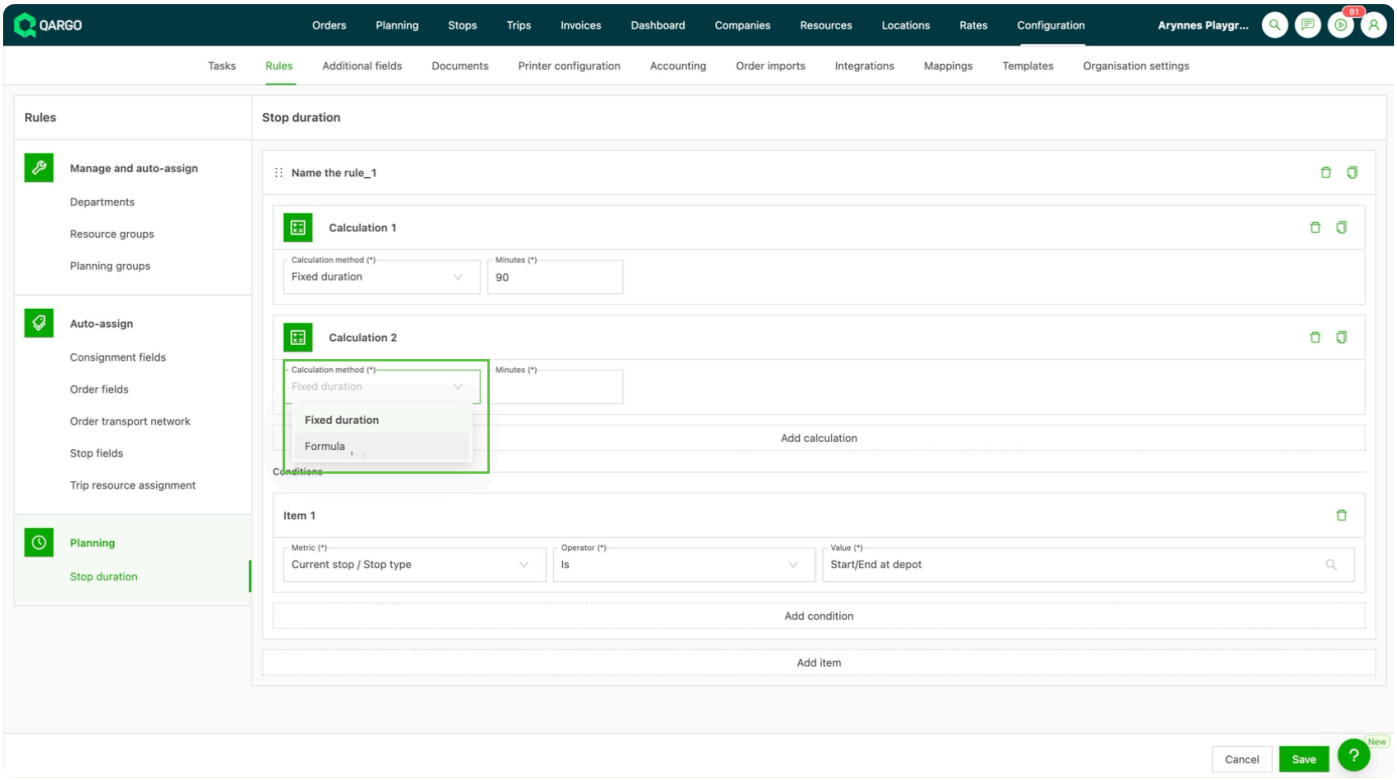
- **Click Add item** to create a new stop duration rule.

- **Name** the rule for easy identification, for example *"Pallets – Groupage"* or *"Fixed – General freight"*.

Select the rule type

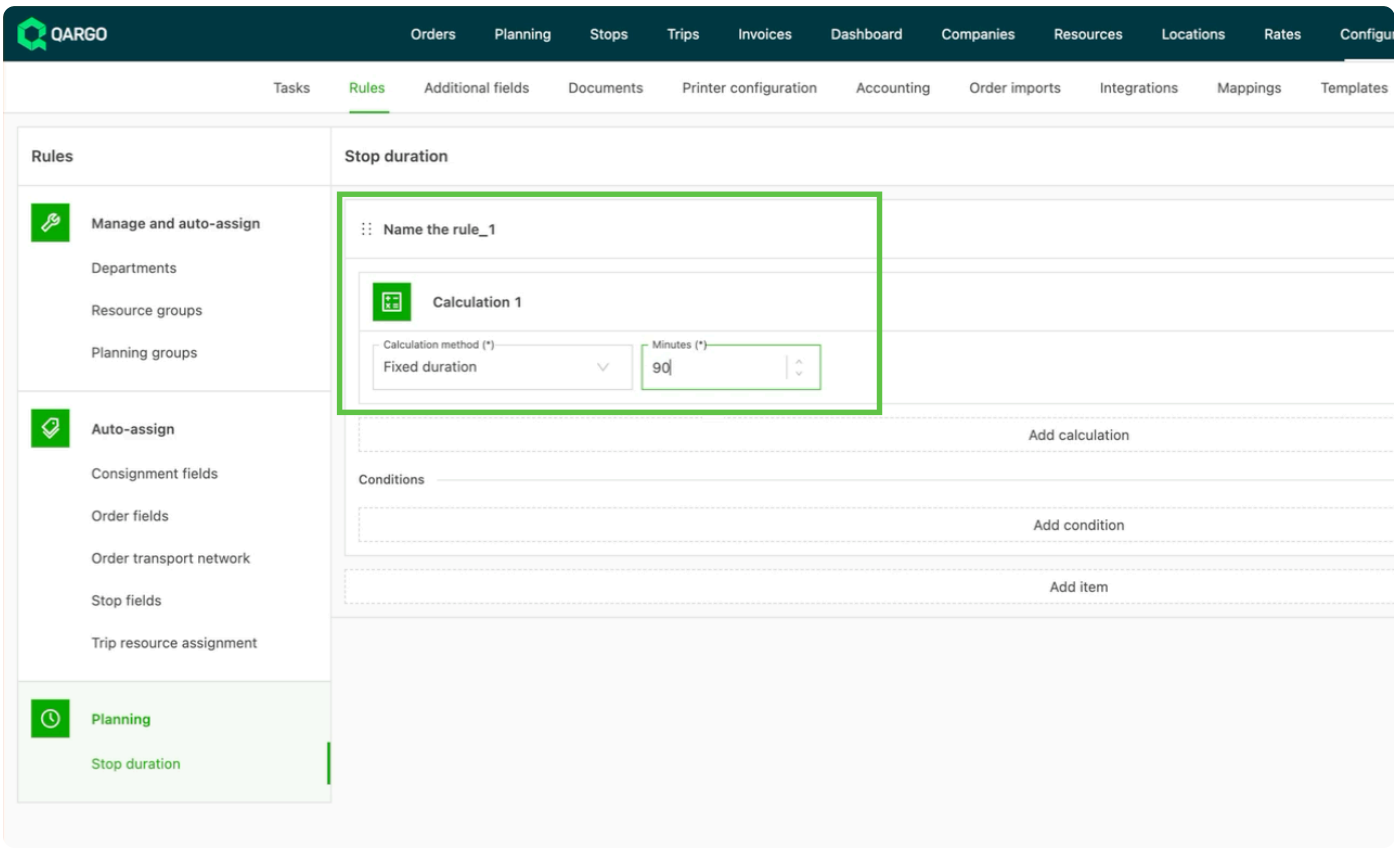
Two rule types are available:

- **Fixed**: applies a flat time value to the matched stop activity. Suitable when stop time is consistent regardless of freight volume.
- **Formula**: calculates stop duration dynamically based on a goods metric. Suitable when stop time should scale with the amount of freight being loaded or unloaded.



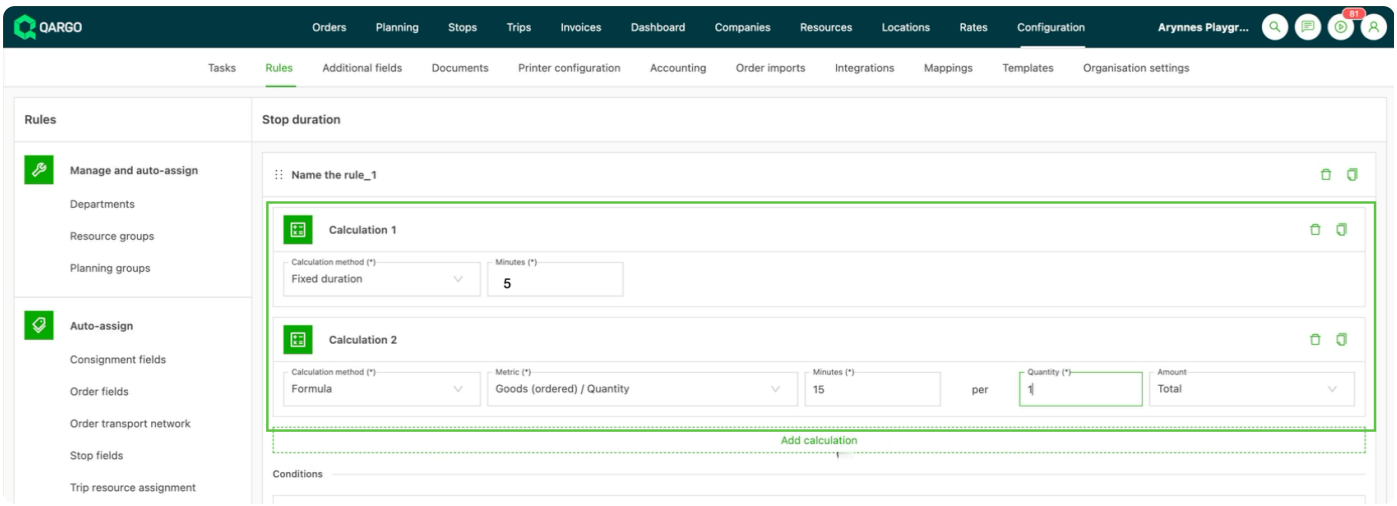
Configure a fixed rule

- **Select Fixed** as the rule type.
- **Enter** the duration value (hours and minutes) to apply to matching stops.



Configure a formula rule

- **Select Formula** as the rule type.
- **Select** the goods metric to calculate against. Available options include pallet count, loading meters, weight, and volume.
- **Enter** the time value per unit (for example, *5 minutes per pallet*).



- Multiple calculations (optional) can be combined within a single rule to form a *calculation collection*. For example, a base loading time of 15 minutes plus 5 minutes per pallet.
- **Click Add calculation** to add further steps to the same rule.

📚 Rules can be scoped to specific stop activity types, for example **Pickup** or **Delivery**. If no activity type is set, the rule applies to all activity types.
A single rule cannot combine an activity type condition with an internal stop type condition. Where both scenarios need coverage, create two separate rules.

Add conditions (optional)

Conditions restrict when a rule applies, allowing different durations for different operational contexts. The following condition types are available:

- Transportation service
- Vehicle category
- Customer
- Container type
- Service level
- Stop action
- Stop activity label
- Location
- Goods-related metrics (e.g., quantity, loading meters)

Click Add condition
Select the relevant metric, operator, and value



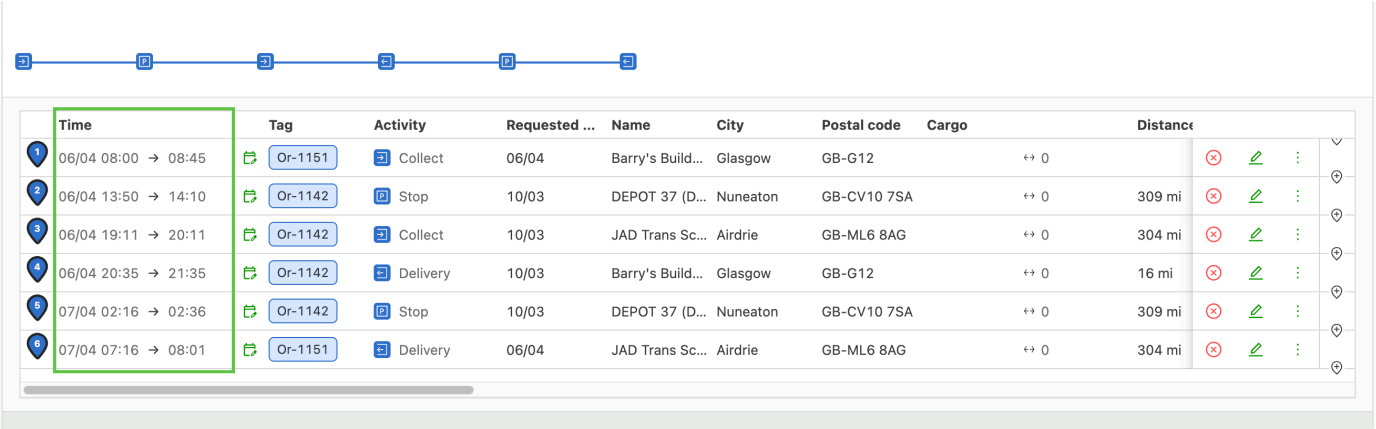
📚 Rules are evaluated in the order they appear in the rule list. The **first matching rule** is applied. To adjust priority, **drag** rules to reorder them.

Calculation behavior

Stop durations are recalculated on **each route calculation trigger**. The following actions trigger a recalculation:

- Adding or removing a stop from a route
- Reordering stops on a route
- Updating shipment goods data (e.g., changing the pallet count)

Duration is calculated at the **stop activity group** level. This means the system sums goods data across all shipments that share the same stop location. For example, if three shipments are picked up at the same warehouse, the system combines their pallet counts to determine the total stop duration.



‼️ Changes to certain order-level condition fields (such as transportation service or customer) do not immediately trigger a duration recalculation. The updated duration is applied on the next route recalculation, for example when a stop is next added, removed, or reordered.

Additional use case examples

- **Multi-service operations**: A transportation company running both full truckload (FTL) and pallet-network services configures a fixed 45-minute rule for FTL deliveries and a formula rule of 8 minutes per pallet for pallet-network deliveries. Durations are applied automatically based on the transportation service on each order.
- **Customer-specific loading times**: A logistics provider creates a condition-based rule scoped to a specific customer whose terminal consistently requires longer handling time. This improves ETA accuracy for that customer's orders.
- **Vehicle category differentiation**: A carrier sets distinct durations for vans (shorter) and tractor-trailers (longer) at the same stop type. This reflects real-world differences in handling time per vehicle category.

Troubleshooting

Issue	Likely cause	Resolution
Duration not updating after changing goods data	Route recalculation may not have been triggered	Add or remove a stop to trigger a new route calculation
Wrong rule being applied	A higher-priority rule matches first	Review the rule order in **Configuration > Rules > Stop duration** and drag rules to reorder them
Rule not applying at all	The rule's conditions do not match the order context	Verify that the rule's conditions (transportation service, vehicle, activity type) match the order being planned
Stop unexpectedly showing a 00:00 duration	Internal stop defaults have changed	If 0 minutes is required, configure it explicitly on the stop action in **Locations > Internal stop actions**
Need to cover both activity type and internal stop type in one rule	This combination is not supported in a single rule	Create two separate rules: one scoped to the activity type and one to the internal stop type
Duration recalculation not reflecting a condition change	Order-level condition changes do not trigger recalculation	The updated duration is applied on the next route recalculation