

ScheduledRequest API (Non-Technical Guide)

What is a Scheduled Request?

A **Scheduled Request** is a planned waste pickup. Unlike on-demand requests (which are created instantly when a client needs service), scheduled requests are tied to a specific date and time slot. They can also repeat (daily, weekly, monthly) and may be linked to a subscription.

Think of it as the “calendar” side of your waste management system.

Key Information Stored

Each scheduled request keeps track of:

- **Client** → Who requested the pickup.
- **Company** → Which company is responsible for fulfilling it.
- **Collector** → The worker assigned to do the pickup.
- **Pickup date & time slot** → When the pickup should happen.
- **Recurrence** → Whether it repeats (daily, weekly, monthly).
- **Location** → The exact pickup spot, stored as latitude and longitude.
- **Waste details** → Type of waste, bin size, number of bags.
- **Status** → Where the request is in its lifecycle (pending, assigned, in progress, completed, cancelled, suspected).
- **Timestamps** → When it was requested, accepted, completed, or cancelled.
- **Cancellation reason** → If cancelled, why.

How the API Works

The API provides endpoints (URLs) that let supervisors and collectors interact with scheduled requests.

Standard Actions

- **List all requests** → See requests relevant to you (filtered by role).
- **Create a request** → Add a new scheduled pickup.
- **View a request** → See details of one request.
- **Update a request** → Change details (like time slot or collector).
- **Delete a request** → Remove a request.

Workflow Actions

These actions move a request through its lifecycle:

- **Assign** → Supervisor assigns a collector.
- **Start** → Collector marks the request as “in progress.”
- **Complete** → Collector finishes the job.
 - GPS validation checks if the collector was near the client.
 - If too far (>300m), completion is rejected.
 - If somewhat far (>100m), it’s flagged as “suspected.”
- **Cancel** → Supervisor cancels the request with a reason.

Helpful List Endpoints

For quick filtering:

- **Pending requests** → /scheduled-requests/list_pending/
- **Today’s requests** → /scheduled-requests/list_today/
- **By collector** → /scheduled-requests/list_by_collector/?collector_id=12
- **By company** → /scheduled-requests/list_by_company/?company_id=3

Dashboard Summaries

Supervisors and collectors can see summaries of requests:

- **Company summary** → Counts of requests by status.
- **Time-bounded summary** → Counts for today, this week, and this month.
- **Collector summary** → A collector’s personal stats.
- **Combined summary** → Company + collector stats in one response.

Roles and Permissions

- **Supervisors**
 - Can assign and cancel requests.
 - Can see company-wide lists and summaries.
- **Collectors**
 - Can only see their own requests.
 - Can start and complete jobs.
 - Can view their personal summary.

The system automatically enforces these rules, so collectors cannot see or change company-wide data.

Why This Matters

- **Supervisors** get visibility into operations and can manage workloads.

- **Collectors** get a clear view of their assigned jobs and performance.
 - **Frontend developers** have predictable endpoints and simple latitude/longitude fields to work with.
 - **Business integrity** is protected by GPS validation and role-based access.
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Standard REST

- GET /on-demand-requests/ → List requests (role-filtered).
- POST /on-demand-requests/ → Create request.
- GET /on-demand-requests/{id}/ → Retrieve details.
- PUT/PATCH /on-demand-requests/{id}/ → Update request.
- DELETE /on-demand-requests/{id}/ → Delete request.

Custom Actions

- POST /on-demand-requests/{id}/assign/ → Assign collector (**Supervisor only**).
- POST /on-demand-requests/{id}/start/ → Mark request as in progress.
- POST /on-demand-requests/{id}/complete/ → Complete request with GPS validation.
 - Reject if collector >300m from client.
 - Flag as suspected if collector >100m.
- POST /on-demand-requests/{id}/cancel/ → Cancel request with reason (**Supervisor only**).

Custom List Endpoints

- GET /on-demand-requests/list_pending/ → All pending requests.
- GET /on-demand-requests/list_today/ → Requests created today.
- GET /on-demand-requests/list_by_collector/?collector_id=12 → Requests for a collector.
- GET /on-demand-requests/list_by_company/?company_id=3 → Requests for a company (**Supervisor only**).

Dashboard Summaries

- GET /on-demand-requests/summary/?company_id=3 → Company summary (counts by status).
- GET /on-demand-requests/summary_timebound/?company_id=3 → Company summary for today, week, month.
- GET /on-demand-requests/summary_collector/?collector_id=12 → Collector summary (personal stats).
- GET /on-demand-requests/summary_all/?company_id=3&collector_id=12 → Combined company + collector summary.

Role-Based Access Control

- **Supervisors** → Full company visibility, can assign/cancel, see company summaries.
- **Collectors** → Restricted to their own requests, can start/complete, see personal summary.
- **Backend enforcement** → get_queryset filters automatically by role; permission class blocks unauthorized actions.