900 services Trial Experience

Thank you for your interest to experience our world-class Last Mile Digital Platform© SaaS Trial.

Setting expectations: what does the word Optimization mean to YOU?

Probably the most categorical answer is … it depends!

It is a moving target.

No matter what Last Mile operation you run, the only constant is change.

Every season, every day, you have to solve a different puzzle, balancing varying conflicting objectives.

Our Last Mile Digital Platform© allows you to solve every Last Mile puzzle, every season, every day, anywhere in the world, with a single software product.

We will quickly drive you through a Last Mile optimization with a set of requirements and constraints, run the same exercise with different requirements and constraints, and compare its results to illustrate the dramatic cost-to-serve differences of two optimal results under different circumstances.

Please NOTE that, if you repeat a planning run **with the same data set**, you will get slightly different results, due to the nature and execution order of the different algorithms, as shown in page 11.

Differences are immaterial when solving complex real-life optimization problems.

About this Trial Experience

This Trial Experience is about our **basic** Transport Optimization features.

Setting up your particular case is straightforward but will take up your valuable time and resources. That's why we have prepared this Trial Experience, to help you easily evaluate some of our functionalities and quickly decide if you want to go ahead.

Our Platform offers, always As-a-Service, an extraordinarily rich Customer Experience, from minute 1, of same-day and next-day delivery.

End-to-end management of the purchase to delivery process. Engage your customers giving them all available delivery choices. Seamlessly integrate them with store, warehouse, delivery and customer support personnel. Orchestrate all resources and technologies and deliver a perfect service through a single, simple and user-friendly interface.

The next step would be to configure exactly your operation at a scale relevant to you, and decide how to work to produce the results YOU desire.

Consistently.

Let's get started

Congratulations! You've just got an additional job for the next two weeks. You will be, throughout this Trial Experience, the Distribution Manager of a five zip-code Distribution Point located in Secoya 28, 28044 Madrid (40.368854, -3.747203), Carabanchel, Madrid, Spain.

Please see below images to get situated and browse your end-users' neighborhood with Google Earth to get a glance on your territory, if you fancy.

We have an Administrative structure that caters for any company organizational structure. Customer and Distribution Point are mandatory, and cover simpler structures. If there is a Franchisor (Customer), there may exist several Multi-franchisees (Level2), that own several Franchises (Level 3), bound to the Franchisor (Customer). Each multi-franchise could have two or more Franchises (Level 3), and each of the Franchises could have more than one Distribution Point.

The simplest structure will be a single Distribution Point bound directly to a Customer.

The Distribution Point is the lowest level of your network. There your drivers pick-up and load in the vans the parcels to be delivered, and there they will return at the end of their journey with the parcels they might have picked up at your Originators or end-user locations.

You directly belong to one Level 3 entity, N3 Sur. This is your injection and distribution Platform, say a Province Platform (Madrid). Your company has a higher-level center (Level 2, N2 Sur), say a National Platform.

You have 900 services for your next Planning Run, that breakdown as shown in the table below, by zip code and service type.

					Services			
Customer	Level 2	Level 3	Distribution Point	Zip Code	Deliveries 70%	Pick-ups 25%	Swaps 5%	Total
TE#	N2 Sur	N3 Sur	Carabanchel	28024	116	42	7	165
				28025	145	52	10	207
				28044	147	53	9	209
				28047	143	51	9	203
				28054	82	29	5	116
					633	227	40	900

You only have three Service Types in the Trial. Each could have its own time span (early service, a.m, p.m, etc.). These are set at the highest Customer level, and only Last Mile Team can access its configuration, as typically are standard for the whole network. In the Trial, the three Service Types are between 08:00 and 20:00.

A fundamental element of the Optimization is to consider the different Service times per zip code (a documents envelope delivery or a return pick-up takes much less time than a smartphone swap, and the housing density in an Industrial Area has little to do with a Finance District or Housing State). There is a specific screen where you can set-up these parameters.

For simplicity, we have set-up the same service time per service type for all zip codes as follows:

- Deliveries: 5 minutes.
- Pick-ups: 7 minutes.
- Swap: 10 minutes.

Driving time is calculated using cartography speed data per street segment. Service time can be set-up per zip code and service type.

You also have:

- 10 real vans, available from 00:00 to 23:59, and one Generic (you will love what we can do with Generic vehicles), available only 08:00 20:00.
- 10 drivers, one per real van. Available regular time from 08:00 to 20:00, one-hour lunch break between 13:00 to 16:00, if their workday is greater than 6 hours.

But do not worry about the size of the Trial Experience. Our SaaS Platform is built to scale and travel. Our typical SLA is to process up to 100.000 services routing optimization in one hour. It can operate in 140+ countries.

Scenarios Description and Comparison

Scenario 1 – Improved "as-is"

Please note: The results of this Scenario 1 are probably 20% better at least than current no route optimized practice.

Current practice broadly speaking starts servicing pick-ups (returns) after lunch, to ensure there is space available on the vehicle.

Time windows and services breakdown of scenario 1 are:

	Services		Time windows
	Number	Service time	Scenario 1
Deliveries	633	5 min	$08^h 00^m$ to $20^h 00^m$
Pick-ups	227	7 min	$16^h 00^m$ to $20^h 00^m$
Swaps	40	10 min	$08^h 00^m$ to $20^h 00^m$

The summary of the optimized results of this Scenario 1 is as shown in the table below:

Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	19	767	$137^h 09^m$	$32^h 15^m$	$85^h 54^m$	$19^h 00^m$	5.640	33,8

Please note: We have configured 10 real vans because are enough to deliver the 900 services in Scenario 2, as we will see later. The Last Mile Digital Platform© is capable to consider and plan against infinite resource. In real life you might wish to do it for next-day or same-day deliveries, if you have the possibility to procure additional resource between the optimization run and routes planned start time.

If you repeat a planning run **with the same data set**, you will get slightly different results, due to the nature and execution order of the different algorithms.

Differences are immaterial when solving complex real-life optimization problems. Below results obtained repeating three times the planning run **with the same data set**.

Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	19	766	$137^h 38^m$	$33^h 44^m$	$85^h 54^m$	$18^h 00^m$	5.640	33,8
900	19	704	$135^h 26^m$	$30^h 32^m$	$85^h 54^m$	$19^h 00^m$	5.640	33,8
900	19	725	$135^h 38^m$	$31^h 44^m$	$85^h 54^m$	$18^h 00^m$	5.640	33,8

Scenario 2 – Combined deliveries, pick-ups and swaps

Scenario 2 illustrates the massive resource use difference by "just" starting pick-ups (returns) servicing since the vehicle starts working. It might very well be the case that some vehicles leave the City Hub not full, because their first service will be a pick-up, to produce the optimal result for that specific services load.

Side-by-side time windows comparison, and services breakdown of both scenarios:

	Services		Time windows	
	Number	Service time	Scenario 1	Scenario 2
Deliveries	633	5 min	$08^h 00^m$ to $20^h 00^m$	$08^h 00^m$ to $20^h 00^m$
Pick-ups	227	7 min	$16^h 00^m$ to $20^h 00^m$	
Swaps	40	10 min	$08^h 00^m$ to $20^h 00^m$	

Optimization results

The summary of the optimized results of this Scenario 2 is as shown in the table below:

Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	10	258	$106^h 11^m$	$12^h 17^m$	$85^h 54^m$	$8^h 00^m$	5.640	33,8

Comparing side-by-side both scenarios **OPTIMAL** results, **Scenario 2 is MUCH better**:

Vehicles	Kms	Time			
		Total	Driving	Service	Break
9	509	$30^h 58^m$	$19^h 58^m$	n/a	$11^h 00^m$
53 %	**34 %**	**77 %**	**38 %**	n/a	**42 %**

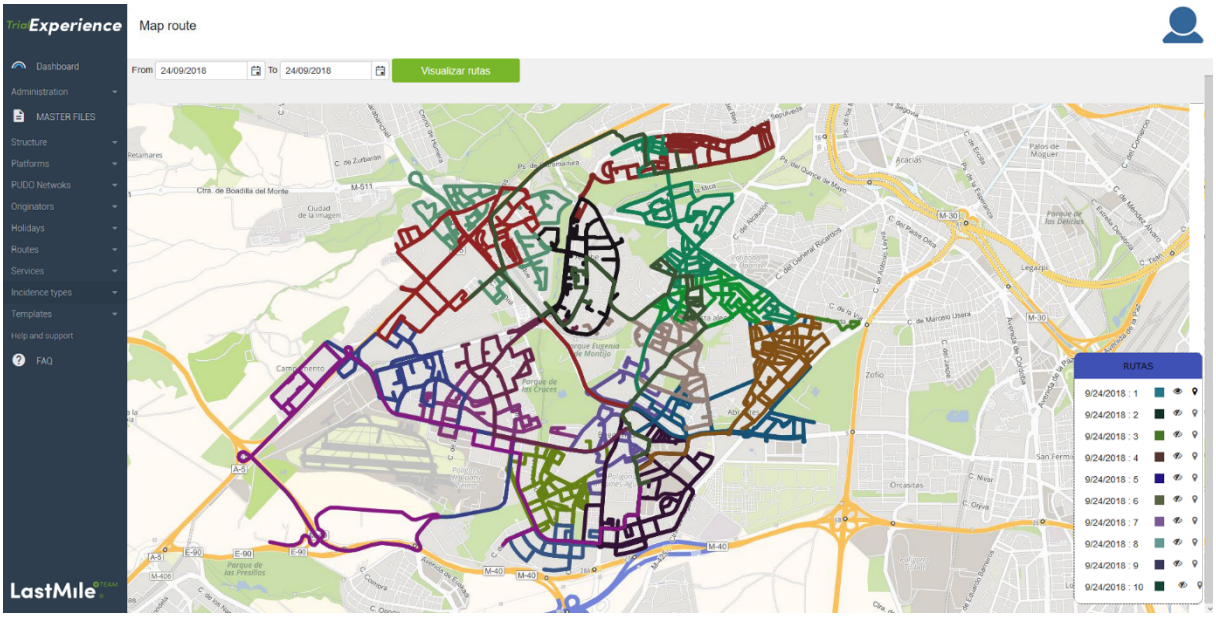
Again, if you repeat a planning run **with the same data set**, you will get slightly different results, due to the nature and execution order of the different algorithms.

Differences are immaterial when solving complex real-life optimization problems. Below results obtained repeating three times the planning run **with the same data set**.

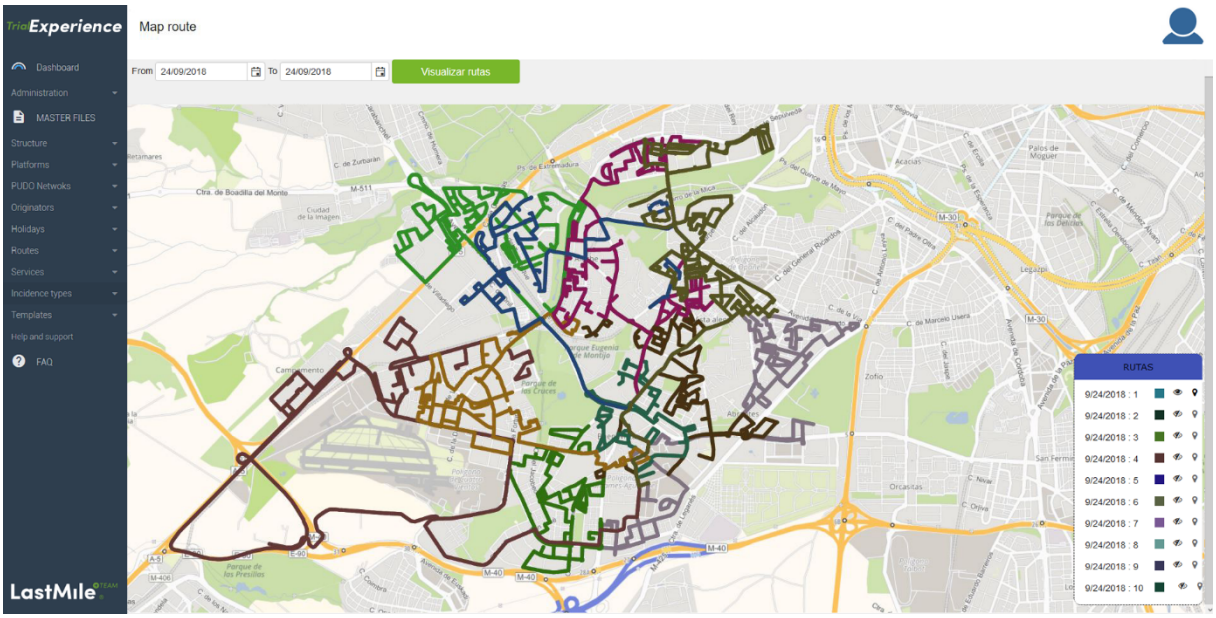
Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	10	260	$106^h 11^m$	$12^h 17^m$	$85^h 54^m$	$8^h 00^m$	5.640	33,8
900	10	255	$106^h 04^m$	$12^h 10^m$	$85^h 54^m$	$8^h 00^m$	5.640	33,8
900	10	262	$106^h 19^m$	$12^h 25^m$	$85^h 54^m$	$8^h 00^m$	5.640	33,8

Graphically:

Scenario 1



Scenario 2



Scenario 3 – Customer-chosen delivery time windows

What would happen if every customer chooses a two-hour delivery time window at check-out?

To answer that question, we have prepared an additional Services file with the same 900 services used in former scenarios of this Trial Experience. We have randomly assigned a two-hour time window to each service, ensuring the time-windows distribution is representative of customer requests to e-Commerce sites.

The services per zip code and time window of this scenario 3 is as follows:

	Time windows						
Zip	08:00 – 10:00	10:00 – 12:00	12:00 – 14:00	14:00 – 16:00	16:00 – 18:00	18:00 – 20:00	TOTAL
28024	16	25	15	23	36	50	165
28025	25	32	25	26	44	55	207
28044	22	38	26	21	52	50	209
28047	19	28	29	26	55	46	203
28054	8	21	13	12	29	33	116
	90	144	108	108	216	234	900

The summary of the optimized results of this Scenario 3 is as shown in the table below:

Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	39	951	$148^h\ 45^m$	$38^h\ 51^m$	$85^h\ 54^m$	$24^h\ 00^m$	5.640	33,8

Comparing side-by-side both scenarios **OPTIMAL** results, **Scenario 2 is MUCH better**:

Vehicles	Kms	Time			
		Total	Driving	Service	Break
- 29	- 693	$- 18^h\ 34^m$	$- 02^h\ 34^m$	n/a	$- 16^h\ 00^m$
- 74 %	**- 73 %**	**- 29 %**	**- 68 %**	n/a	**- 67 %**

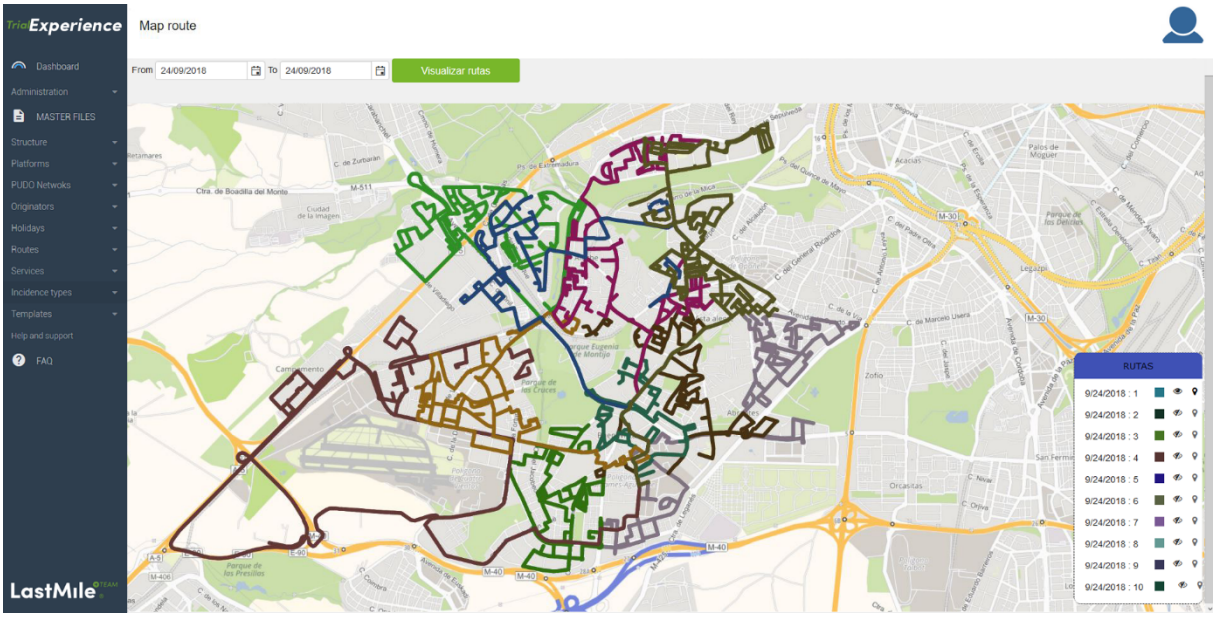
Again, if you repeat a planning run **with the same data set**, you will get slightly different results, due to the nature and execution order of the different algorithms.

Differences are immaterial when solving complex real-life optimization problems. Below results obtained repeating three times the planning run **with the same data set**.

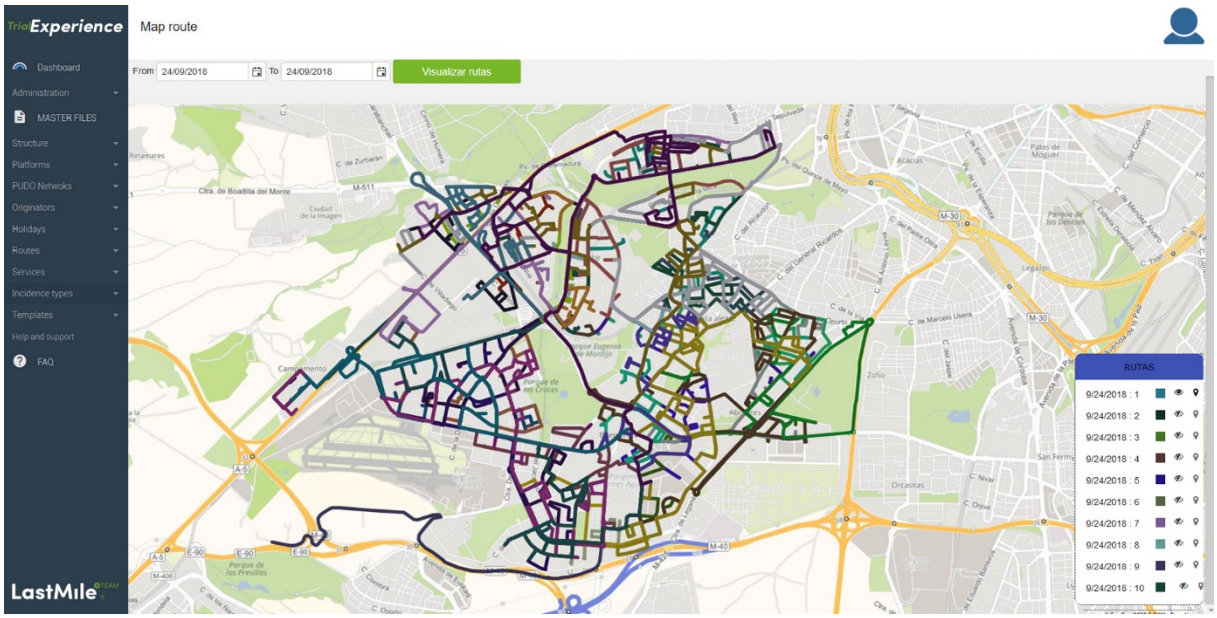
Services	Vehicles	Kms	Time				Kg.	M^3
			Total	Driving	Service	Break		
900	38	961	$149^h\ 59^m$	$39^h\ 05^m$	$85^h\ 54^m$	$25^h\ 00^m$	5.640	33,8
900	38	921	$147^h\ 01^m$	$38^h\ 07^m$	$85^h\ 54^m$	$23^h\ 00^m$	5.640	33,8
900	37	925	$150^h\ 09^m$	$38^h\ 15^m$	$85^h\ 54^m$	$26^h\ 00^m$	5.640	33,8

Graphically:

Scenario 2



Scenario 3



Let's get our hands dirty

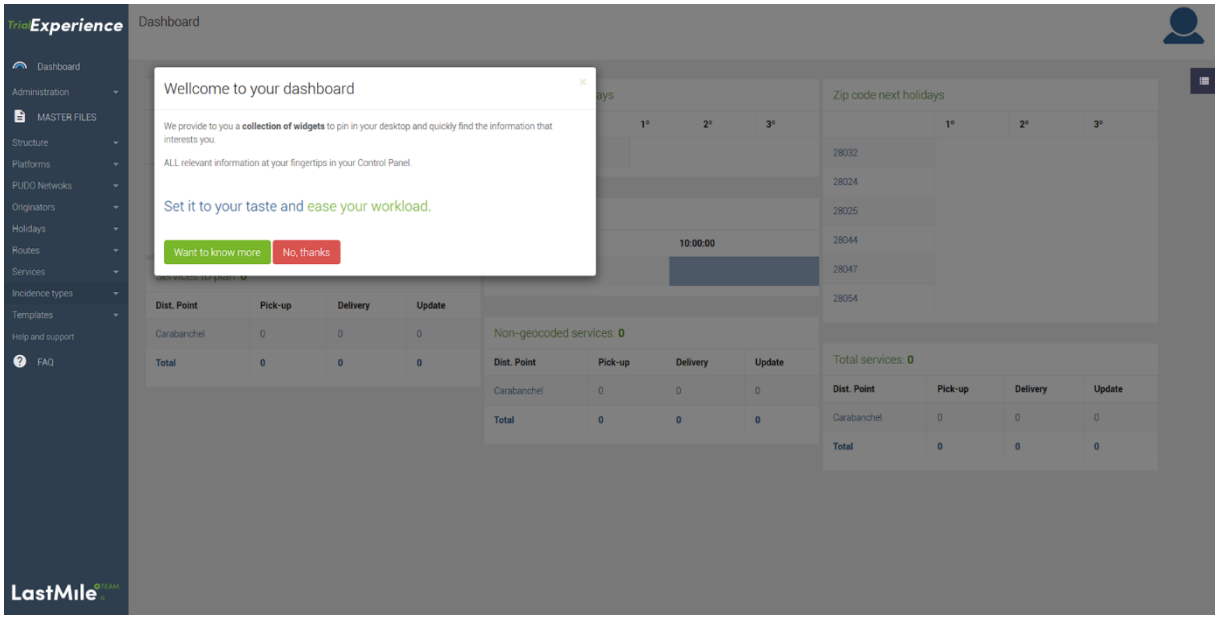
You have full Administrator privileges and thus can create, modify, update and delete any component of your logistics network: users, profiles, roles, structures, plans, etc.

We recommend you to execute first the process as configured and described in this document, to get used to the interface. Make later some changes on some of the planning parameters to see its effect in a known scenario and compare results.

During the next two weeks Trial Experience, you can modify the configuration with your preferences, to adequate it as close as possible to your Last Mile, and simulate your business scenarios.

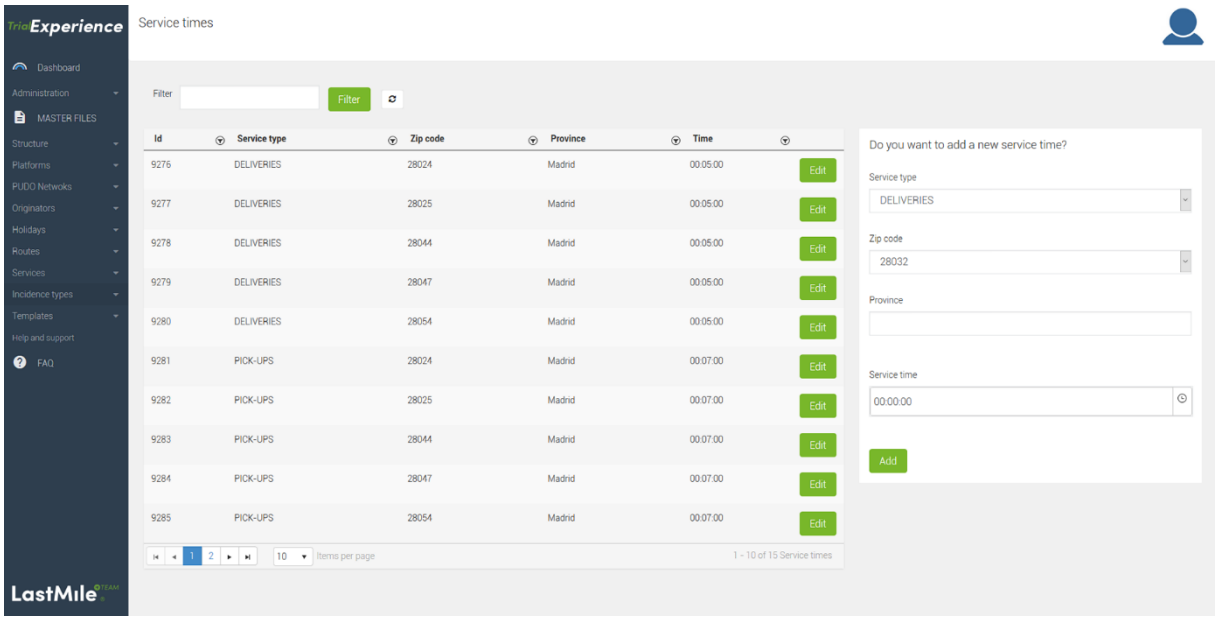
Please, log-in with your Microsoft® account or username and password. Give your consent or accept T&C and you will be in.

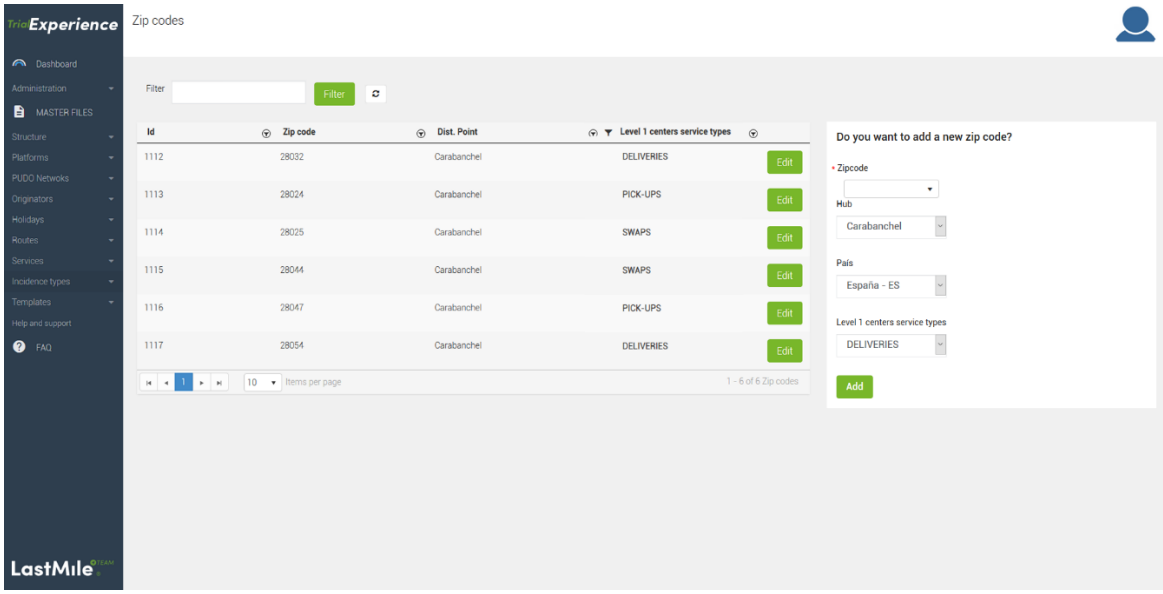
You will see a welcome pop-up to your Control Panel, with useful navigation information.

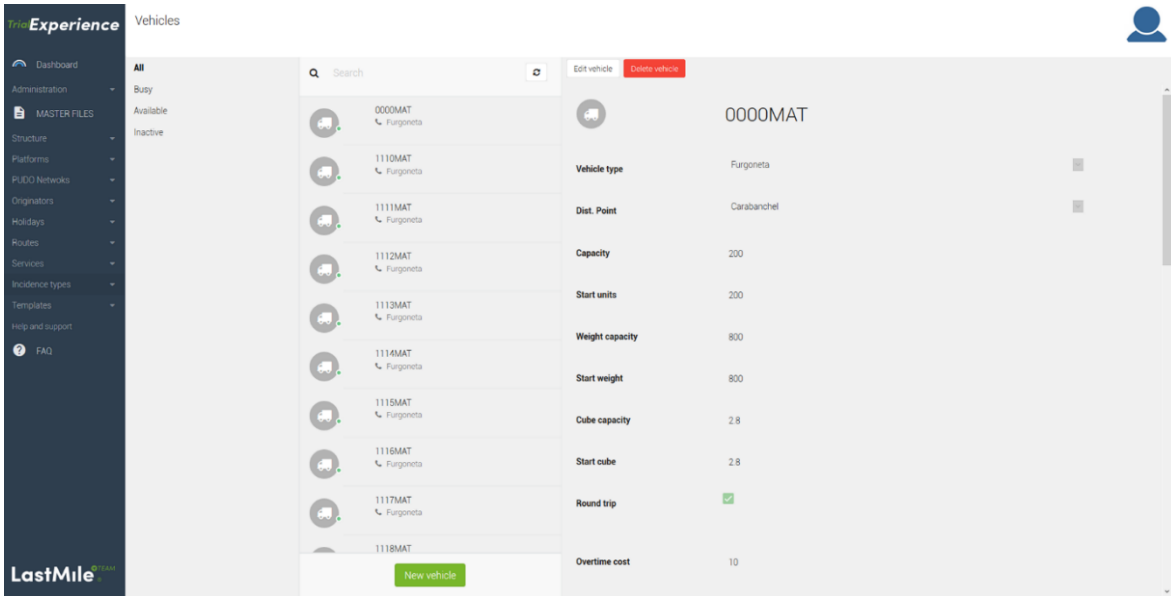


On the left blade is the main menu, with all options you need for the Trial. Click “Structure” and browse the views under options “Service times”. “Zip codes”, “Vehicles”, and “Drivers”. These are the options you will use throughout this Trial Experience.

In “Service Times” you set-up service time **per service type and zip code** (a documents envelope delivery or a return pick-up takes much less time than a smartphone swap, and the housing density in an Industrial Area has little to do with a Finance District or Housing State).




TrialExperience
Zip codes
Dashboard
Administration
MASTER FILES
Structure
Platforms
PUDO Networks
Originators
Holidays
Routes
Services
Incidence types
Templates
Help and support
FAQ
Filter
Filter
Id
Zip code
Dist. Point
Level 1 centers service types
1112 28032 Carabanchel DELIVERIES Edit
1113 28024 Carabanchel PICK-UPS Edit
1114 28025 Carabanchel SWAPS Edit
1115 28044 Carabanchel SWAPS Edit
1116 28047 Carabanchel PICK-UPS Edit
1117 28054 Carabanchel DELIVERIES Edit
Items per page
1 - 6 of 6 Zip codes
Do you want to add a new zip code?
Zipcode
Hub
Carabanchel
País
España - ES
Level 1 centers service types
DELIVERIES
Add
LastMile


TrialExperience
Vehicles
Dashboard
Administration
MASTER FILES
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Round trip
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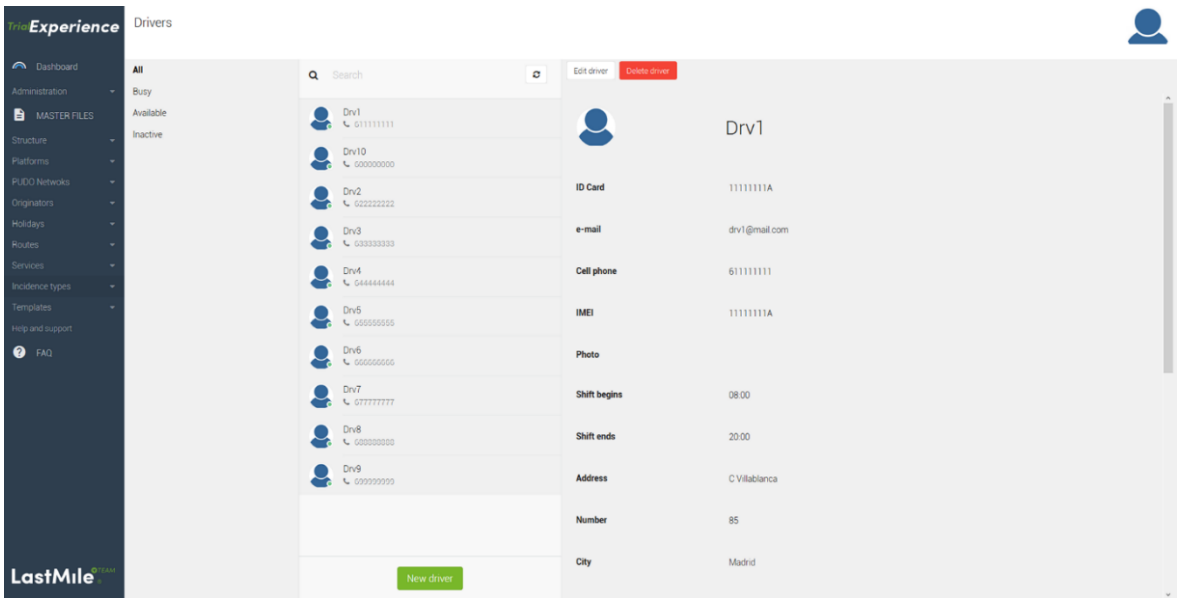
TrialExperience
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MASTER FILES
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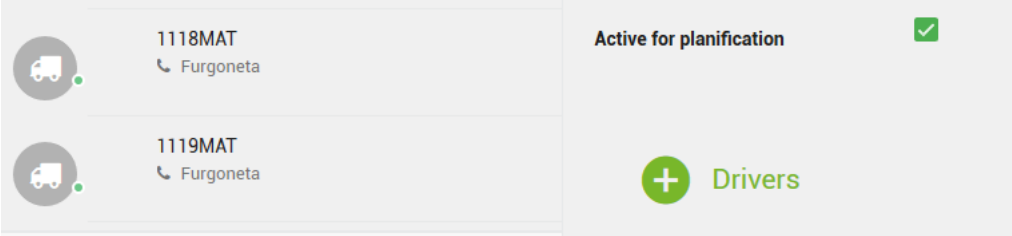
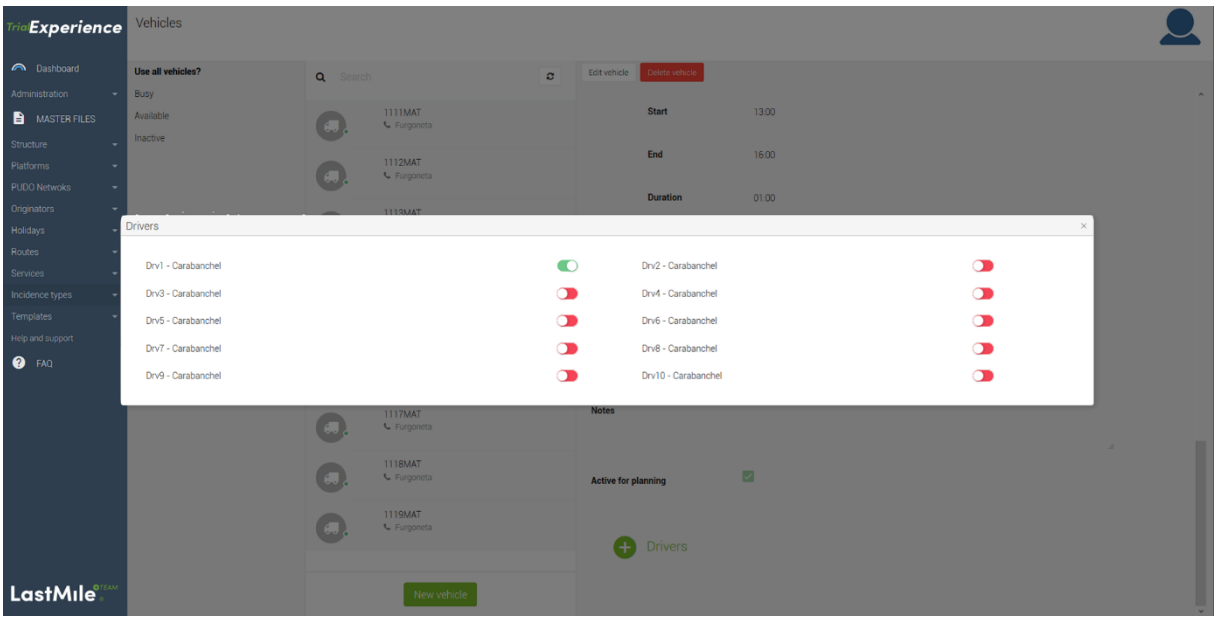
Drv10
Drv2
Drv3
Drv4
Drv5
Drv6
Drv7
Drv8
Drv9
New driver
Edit driver
Delete driver
Drv1
ID Card 11111111A
e-mail drv1@mail.com
Cell phone 611111111
IMEI 11111111A
Photo
Shift begins 08:00
Shift ends 20:00
Address C Villablanca
Number 85
City Madrid
LastMile

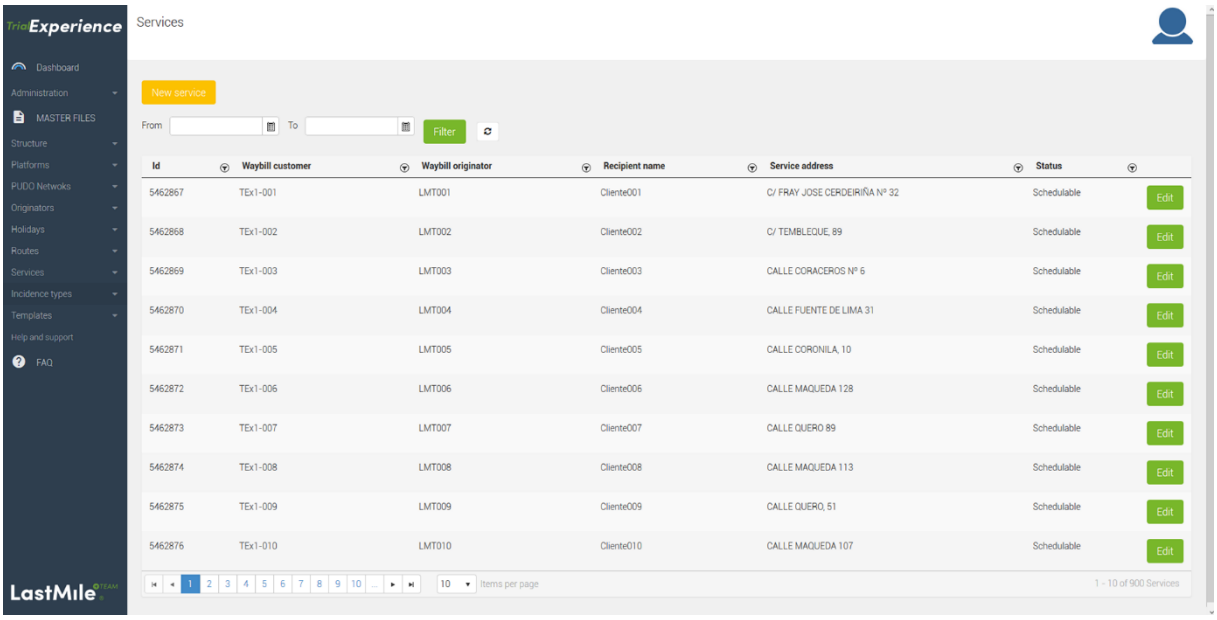
Before launching a Plan make sure you have updated all these to reflect available resources.

It is important that you have one driver, at least, assigned to every physical vehicle. If in doubt, go to "Vehicles", click on the specific vehicle, scroll to the bottom of the screen and click the button "Drivers".



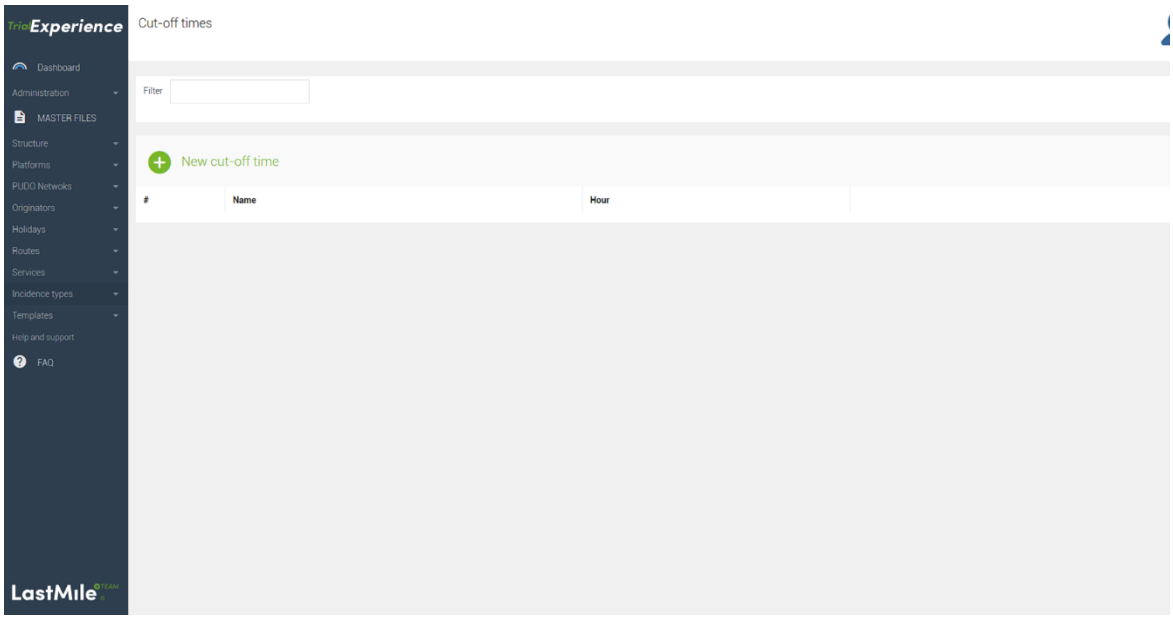


Go to "Services" menu, click on "Services" option and browse the 900 services with status "Schedulable." These are what will be included in your next Planning Run.



And now …. let's do our first Planning Run!

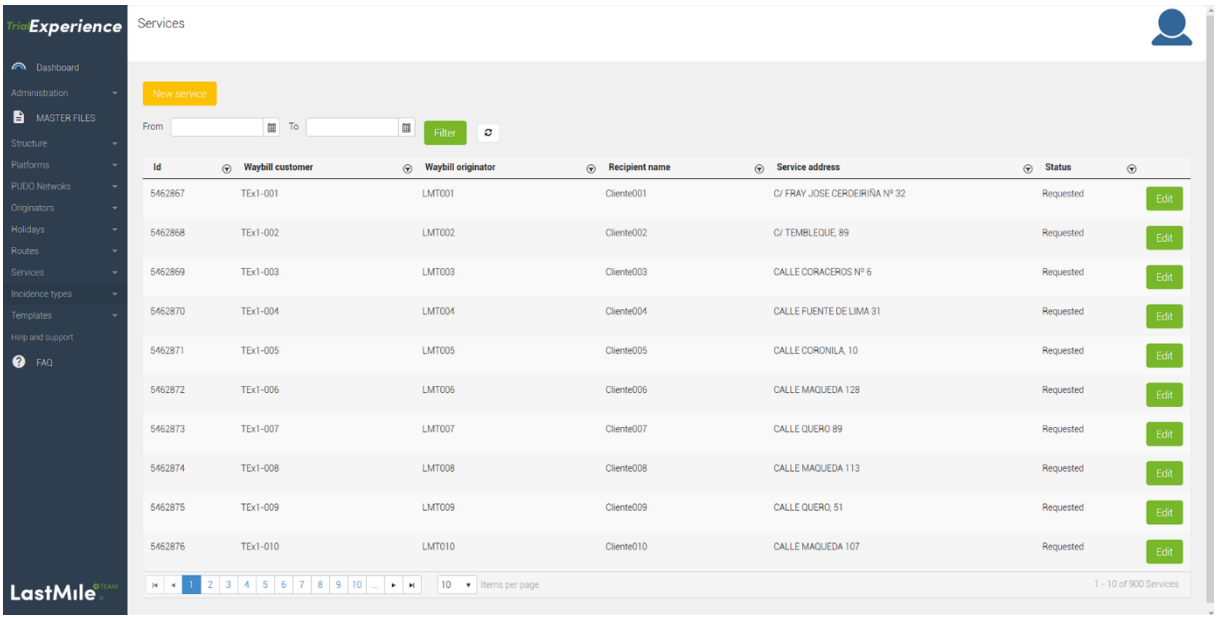
Go to the option "Routes" "Cut-off times" and add a cut-off hitting the "New cut-off time icon", few minutes after current time.



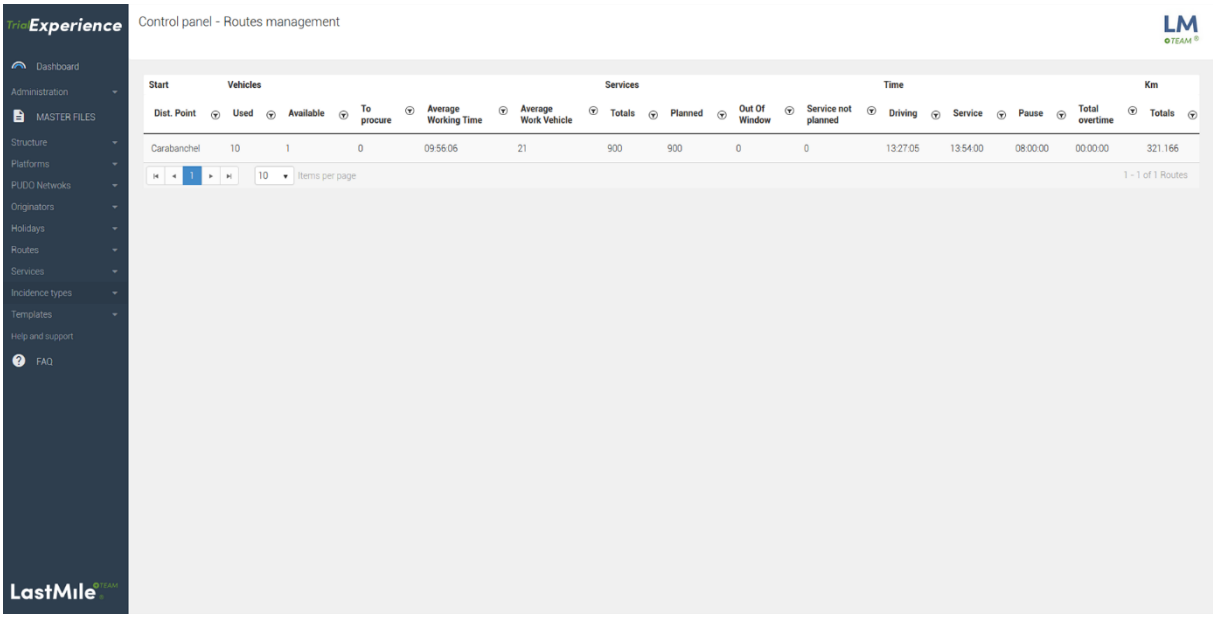
And that's all!

The process will start at your specified time, and in 15 minutes, you will have the Plan!

Please click "Services". Notice Status is now "Requested".

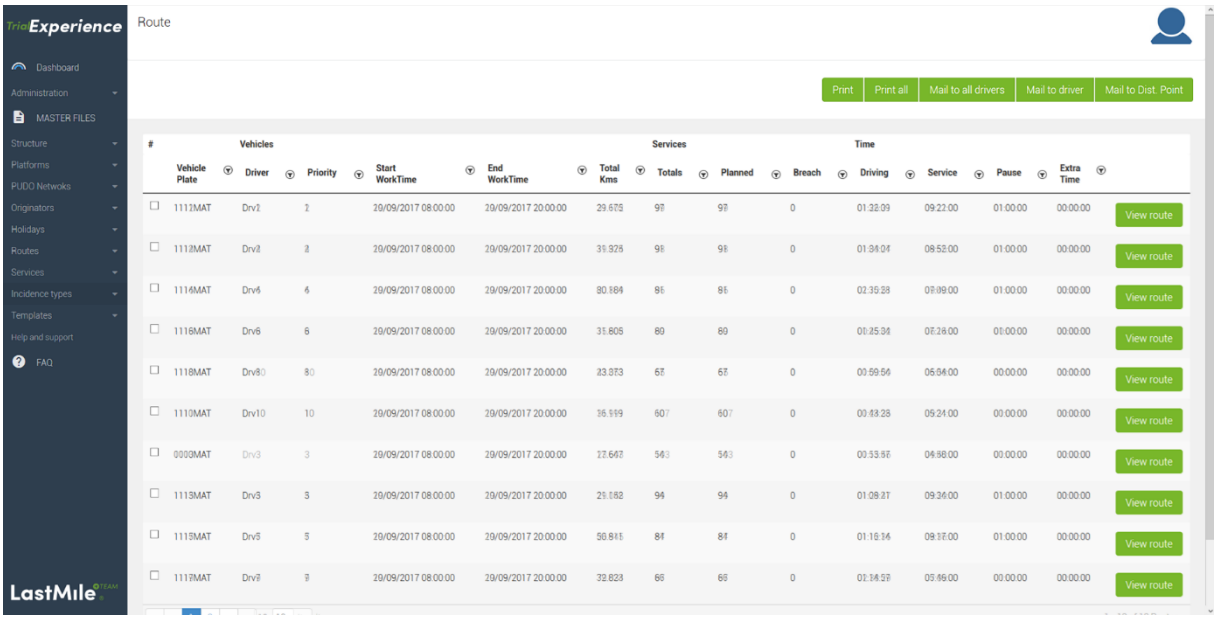


Click “Routes”, you will see the Distribution Point and Plan information summary. Note that all 10 available vehicles have been used, and that all services will be served within the specified time windows.

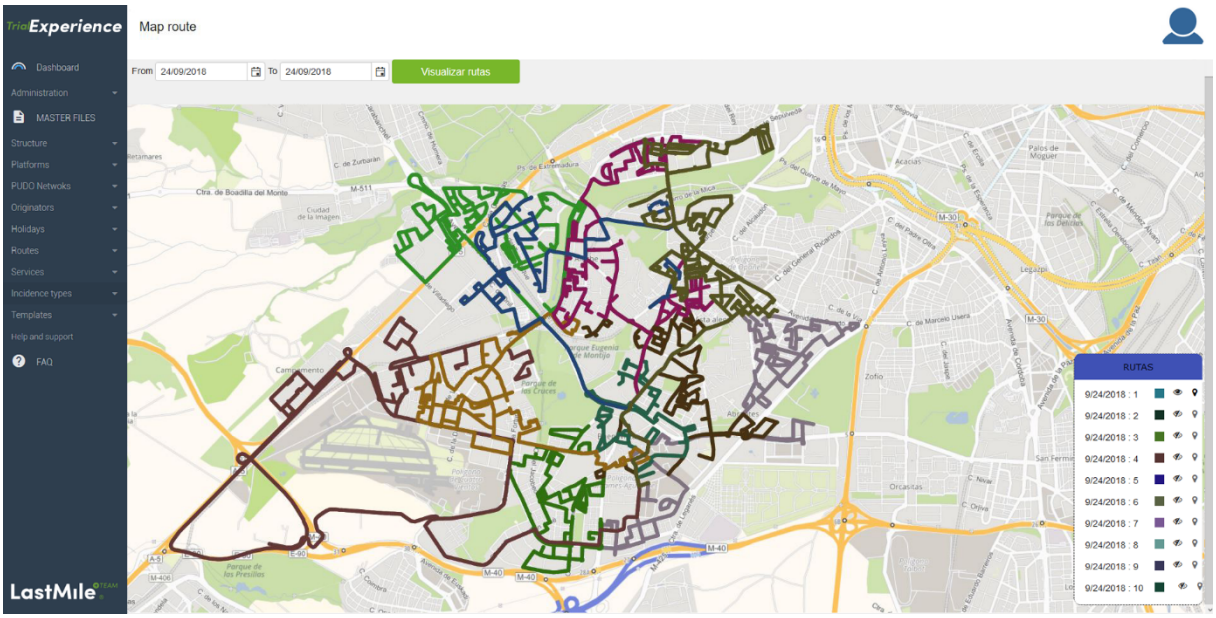


Click on the Distribution Point “Carabanchel” to see a detailed view. For each route, the assigned services, the working hours, assigned driver etc.

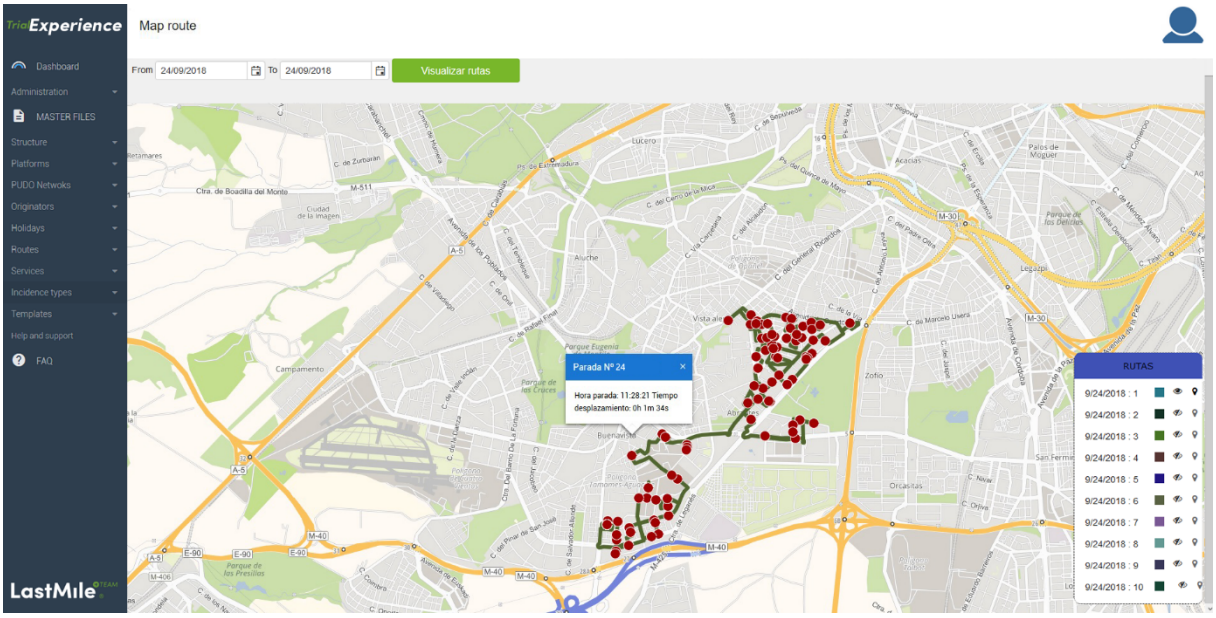
And you can see, print or send one or all Route Sheets.



Click “Map”, and then click *"Visualize routes"*, you will see on the map all the routes of the day, being able to hide/show them and seeing or not the stops in the bottom right panel.



You can also show the information of each stop by positioning the cursor at each point.



Your information space

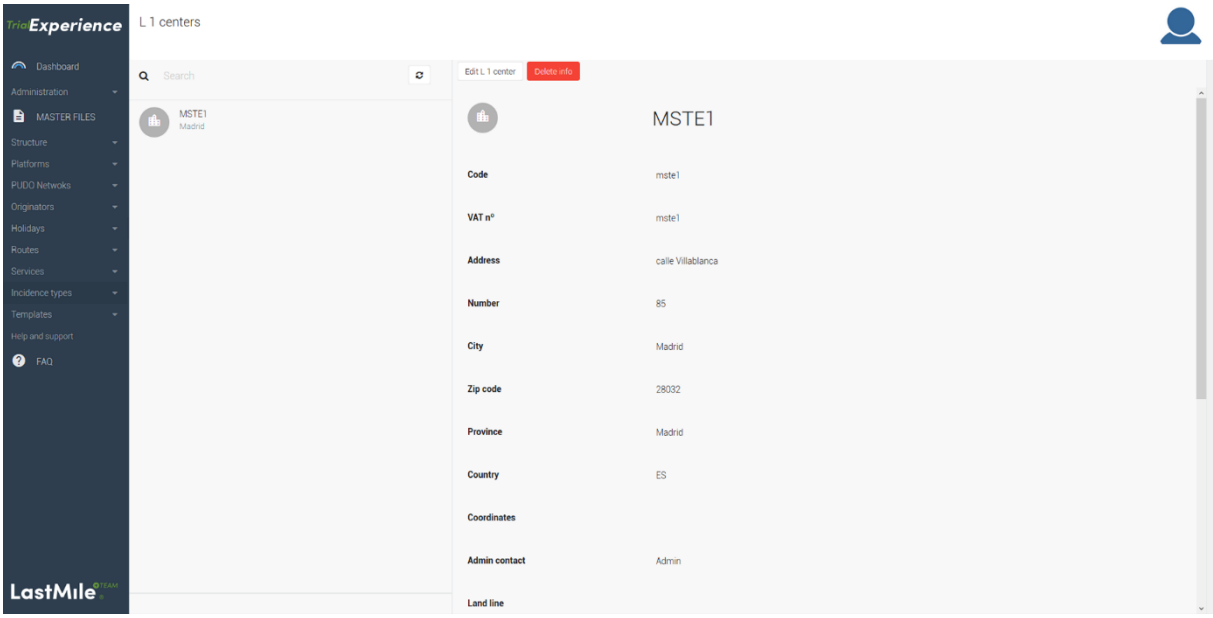
The Services, Optimization Requests and Responses files are stored during the Trial Experience in a private FTP folder in our Data Center. Your username and password were included in the welcome e-mail.

If you are curious, download and browse these files to see their structure, or capture data for your reference and comparison among different planning runs results.

Want to re-run the Plan?

To make it easier for you, and faster, you will use again the same resources (Drivers and Vehicles) if you want to run more than a Plan, the same or any of the Trial Experience remaining days, **delete** existing resource information.

To delete the resource information, go to "Administration", "L1 centers" and click in "Delete info" red button.



CAUTION: You will lose all stored data from prior plan. But you have a back-up of ALL planning runs Requests and Responses safely stored in the folders with the same name on your FTP folder.

The 900 Services and Parcels files you already run are stored, as .csv, in your FTP "OUT" folder. The files names are "*TE 900 (Carabanchel) - SERVICES.csv*" and "*TE 900 (Carabanchel) - PARCELS.csv*".

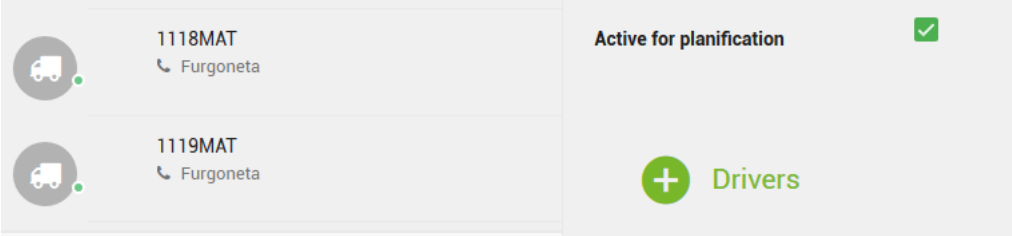
Just copy the files from "OUT" folder, and paste them in each subfolder of "IN" folder to get started again. The services will be in your Panel in an eye blink.

We suggest you test one of our greatest functionalities: use of generic vehicles, or "infinite capacity planning."

- This feature is particularly useful for next day delivery after the high peak days (St. Valentin, Single's day, Cyber Monday, significant industry or retailer promotions, etc.) where you do not

know how many services you will receive until sales cut-off, but you have alternate distribution resource to call on relatively short notice.

- To do that, go to “Vehicles”, click on “1118MAT”, click “Edit”, scroll to the bottom and uncheck the property “Active for planning”.



- Run the plan again. The result of the plan will be the same: all services will be served within the specified time windows, but go to “Routes” menu, click on “Routes” option and look at the “To Seek” field!

Thank you for your interest to experience our world-class Last Mile Digital Platform© SaaS Trial.