

# Welcome to the space-code-platform wiki!

## Problem Description

I'm the newest engineer charged for this job by the Intergalactic Federation. My job is to build an application to manage the transport fleet of goods through the galaxy, including four planets. Read more in: <https://gist.github.com/talyssonoc/fa8094bc4f87ecee9f483f5fbc16862c>

## Solution

API DOCUMENTATION: <https://misshead.github.io/doc/>

The developed application works with 7 entities: Pilot, Resource, Contract, Ship, Planet, Travel, FuelRefill. Specified below:

Planet	type	required	description	default
name	string	true	The Planet name	-
created_at	datetime	true	The Planet creation date	current datetime
disabled_at	datetime	false	The Planet deactivation date	null

- The API provides insert, update, list all, show and delete actions.
- The application's initial migrations include creating 10 random planets to populate the bank.

Pilot	type	required	description	default
name	string	true	The Pilot name	-
pilot certification	string	true	The identification document permission to fly a ship composed by 6 digits and 1 check digit	-
age	integer	true	The Pilot age	-
credits	integer	false	The Pilot credits	0
location_planet	Planet Foreign Key	true	The current Planet	-
created_at	datetime	true	The Pilot creation date	current datetime
disabled_at	datetime	false	The Pilot deactivation date	null

- The API provides insert, update, list all, show and delete actions.
- If there is a request to update the location planet of a pilot and if he is associated with a contract, his credit balance will be discounted according to the fuel units provided for in the travel between the location planet and the destination planet.
- The API validates the location Planet id.

Ship	type	required	description	default
fuel_capacity	integer	true	The Ship fuel capacity	-
fuel_level	integer	true	The ship fuel level	-
weight_capacity	integer	true	The ship weight capacity	-
pilot	Pilot Foreign Key	true	The pilot who owns the Ship	-

Ship	type	required	description	default
created_at	datetime	true	The Ship creation date	current datetime
disabled_at	datetime	false	The Ship deactivation date	null

- The API provides insert, update, list all, show and delete actions.
- The fuel level is updated when the Pilot register a refill when the ship is on any planet. A fuel unit costs 7 credits and is validated according with the fuel capacity and the Pilot credits balance.

Resource	type	required	description	default
name	integer	true	Resource name	-
weight	integer	true	The Resource weight	-
created_at	datetime	true	The Resource creation date	current datetime
disabled_at	datetime	false	The Resource deactivation date	null

- The API provides insert, update, list all, show and delete actions.
- The API provides reports of resources total weight in tons of each resource sent and received by each planet.
- The API provides reports of resources percentage of each type transported by each pilot.
- The application's initial migrations include creating 10 random resources to populate the bank.

Travel	type	required	description	default
origin_planet	Planet Foreign Key	true	Resource name	-
destination_planet	Planet Foreign Key	true	The Resource weight	-
route	Json		The Travel route descreebed in a json with the key "map" with an array of origin and destination planet as key and the fuels costs between then as value	{}
fuel_costs	integer		The sum of all fuel costs inside the route map Json	-
created_at	datetime	true	The Travel creation date	current datetime
disabled_at	datetime	false	The Travel deactivation date	null

- The API provides insert, update, list all, show and delete actions.
- The API validates origin and destination Planets ids.

Contract	type	required	description	default
description	string	true	The Contract description	-

Contract	type	required	description	default
payload	Json	true	Json with "resources" keys and an array of resources ids	{}
origin_planet	Planet Foreign Key	true	The Contract origin Planet	-
destination_planet	Planet Foreign Key	true	The Contract destination Planet	-
value	integer	true	The Contract value	-
pilot	Pilot Foreign Key	true	The designated Pilot	-
travel	Travel Foreign Key	true	The Travel route	-
status	Boolean	false	The Contract status (If True, the mission is done)	False
created_at	datetime	true	The Contract submission date	current datetime
disabled_at	datetime	false	The Contract end date	null

- The API provides insert, update, list all, show and delete actions.
- The API validates origin and destination Planets ids.
- If the Contract status is True, the Contract is deactivated and the Pilot earns credits.

FuelRefill	type	required	description	default
pilot	Pilot Foreign Key	true	The Pilot payer	-
value	integer	true	The value payed	-
location_planet	Planet Foreign Key	true	The Planet where Pilot registered the fuel refill	-
created_at	datetime	true	The Fuel Refill register date	current datetime
disabled_at	datetime	false	The Fuel Refill cancelation date	null

- The API provides insert, update, list all, show and delete actions.
- The API validates the location Planet id.
- The API validates the Pilot credits balance.

- The API provides reports of Intergalactic Federation transactions ledger sorted by date (oldest to newest). Means that all contracts and all fuel refill registered are included.
- Credits are treated as integers, so they need two more decimal places to represent a value. Example: ₰1.00 is equivalent to 100 .
- A fuel unit costs 7 credits, this is why when a pillot register a fuel refill, the API divides the value payed by 700 (₰7.00 credits) and add the total of the fuel\_level of the Pilot Ship if the fuel\_capacity allow.