

Layout File Specification

A guide on how the layout files for the Off The Rails project are defined

Layout files for the Off The Rails project are defined as simple text files containing information about the track layout that the simulation is run on and the trains that run on top of it. Every layout file is split into three sections with one section dedicated to rails, turnouts, and trains each. Let's take a look at an example layout file:

```
test.rail - Notepad
File Edit Format View Help
R0;-;R1;0;0;0
R1;R0;T0;0;1;0
R2;T0;R3;0;3;0
R3;R2;R4;0;4;0
R4;R3;R5;0;5;0
R5;R4;T1;0;6;0
R6;T1;R7;0;8;0
R7;R6;-;0;9;0
R8;-;R9;0;0;3
R9;R8;R10;0;1;3
R10;R9;R11;0;2;3
R11;R10;T2;0;3;3
R12;T3;R13;0;6;3
R13;R12;R14;0;7;3
R14;R13;R15;0;8;3
R15;R14;-;0;9;3
R16;T0;T2;3;3;1
R17;T1;T3;1;6;1
#
T0;R1;R2;R16;0;2;0
T1;R6;R5;R17;4;7;0
T2;T3;R11;R16;3;4;2
T3;T2;R12;R17;1;5;2
#
E0;R0;-;0
E1;R8;-;0
#
```

Notice how the file is broken into three sections, each ended by a '#' sign. The first section is for rails, the second is for turnouts, and the third is for trains. Items are listed via a tag with a prefix and a number, and they are listed in-line with other items they are connected to. Items with a 'R' prefix are rails, with a 'T' prefix are turnouts, and with an 'E' prefix are train engines. The '-' character signifies there is no rail at that connection.

Each entry in the section is formatted the following way:

- Rail Section: *rail_number;rail_connection_A;rail_connection_B;orientation;x;y*
- Turnout Section:
turnout_number;base_rail_connection;straight_rail_connection;curved_rail_connection;orientation;x;y
- Train Section: *train_number;current_rail;last_rail;initial_speed*