



Query & Data format

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Green: Query format

Blue: Data format

Red: Notes

QUERIES

Name	Description
get_scores	Returns leaderboard data for a specific level
get_replay	Returns replay data for a specific run
query_levels	Returns a list of userlevels from a specific tab and page
search/levels	Returns a list of userlevel results for a specific search

PARAMETERS

Name	Obligatory	Description	Values	Default
app_id	No	?	Integer	None
steam_id	Yes	Steam64ID of an active N++ player	17-digit integer	None
steam_auth	Yes	Steam token, can be left empty	Base 16 integer	None
user_id	No	ID of the player in N++'s server	Integer (0~160K currently)	None
level_id	get_scores	Self-explanatory	Integer (0~100K currently)	None
replay_id	get_replay	Self-explanatory	Integer (0~3M currently)	None
player_id	No	?	Integer	None
qt	No	On <i>get_scores</i> , leaderboard tab	0 (global), 1 (around), 2 (friends)	0
		On <i>query_levels</i> , map tab	Integer, 7 to 31 (see below)	0
mode	search	Playing mode	0 (solo), 1 (coop), 2 (race)	0
page	No	Page of results from query_levels	Integer (0~100)	0
search	search	Text query to search	String of text	None

CATEGORIES (qt)

ID	Category
7	Best
8	Featured
9	Top Weekly
10	Newest
11	Hardest
12	Made by me, sorted by ++'s
13	Made by me, sorted by date
14	Favourited, sorted by date
15	Favourited, sorted by ++'s
16	?
17	-
18	Made by friends, sorted by date
19	Made by friends, sorted by ++'s
20	-
21	Favourited by friends
22	Tracked by friends, sorted by date
24	Tracked by friends, sorted by rank, scored
23	Tracked by friends, sorted by rank
25	Tracked by friends, sorted by rank, not scored
26	Tracked by me
27	-
28	-
29	-
30	Following, sorted by date
31	Following, sorted by ++'s

OBJECT IDS

ID	Object
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

Query format: <https://dojo.nplusplus.ninja/prod/steam/> + **query** + ? + **parameters**

Sample: Retrieve the first page of results from "Newest" in Solo mode:

https://dojo.nplusplus.ninja/prod/steam/query_levels?steam.id=76561198041272062&steam_auth=&qt=10&mode=0&page=0

QUERY LEVELS

HEADER (48 bytes)

#	Bytes	Description
16		Date of db update
04		N° of maps
04		Page
04		? (0)
04		Category
04		Game mode
04		? (1200, 5)
04		? (500, 25)
04		? (0, 5)

MAP HEADERS (44 bytes)

#	Bytes	Description
04		Map ID
04		User ID
16		Author name (padded)
04		Number of ++'s
16		Date of publishing

MAP DATA BLOCKS

#	Bytes	Description
04		Size of block in bytes
02		?
##		z-lib compressed map data

- All integers are little endian.
- Possible values in parenthesis.
- A query is capped at 500 results.

MAP FILE

HEADER

#	Bytes	Description
04		?
04		File length
04		?
04		Game mode
22		?

MAP DATA

128		Level name (padded)
##		Tile data
80		Object counts
##		Object data

EACH TILE

01		Tile ID
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EACH OBJECT

01		Object ID
01		X coordinate
01		Y coordinate
01		Orientation
01		Mode

- Tiles are stored left to right, up to down (23*42=966 B).
- Each object count is 2 bytes, thus there are 11 unused object counts (22 bytes).
- Objects are stored sorted by ID (see table).

REPLAY FILE

REPLAY DATA

#	Bytes	Description
04		? (0)
04		Replay ID
04		Level ID
04		User ID
##		z-lib compressed demo

DEMO DATA

01		? (0)
04		Length of data
04		? (1)
04		Frame count
04		Level ID
04		Game mode
04		? (0)
01		? (1, 3)
04		? (2 ³¹ - 1)
##		Demo (1 Byte/Frame)

FRAME VALUES

Bit	Description
0	Jump
1	Right
2	Left

Frame sample:

- Input: right + jump.
- Value: 2¹ + 2⁰ = 3.

ATTRACT FILE

HEADER

#	Bytes	Description
04		Length of map data
04		Length of demo data

MAP DATA

#	Bytes	Description
04		Level ID
04		Game mode
04		? (1)
18		? (0)
128		Level name (padded)
01		0
##		Author name
01		0
##		Map data

DEMO DATA

01		? (0)
04		Length of data
04		? (1)
04		Frame count
04		Level ID
04		Game mode
04		? (0)
01		? (1, 3)
04		? (2 ³¹ - 1)
##		Demo (1 Byte/Frame)

TILE IDS

ID	Tile
0	
1	
2-5	
6-9	
10-13	
14-17	
18-21	
22-25	
26-29	
30-33	

Final notes:

- For object orientation, the value 0 indicates looking East, and then it rotates clockwise until Northeast (7).
- For each group of 4 tiles, the first one is the pictured one, and each successive one is obtained by rotating it clockwise (for the first 4 groups), or by reflecting it horizontally and vertically (for the last 4 groups).

Thanks:

- Thanks to sidke and psenough for finding the required URLs for querying N++'s server.
- Thanks to ief015 and CoughSyrup for analyzing map data format, and Raif for analyzing attract and replay file formats.

Community:

- <https://discord.gg/nplusplus>
- <https://forum.droni.es/>

