

IISE Transactions L^AT_EX Template

John Doe ^a and Jane Roe ^b

^a Department, University, City, Country

^b Department, University, City, Country

Abstract

This document provides a L^AT_EX template for *IISE Transactions*. Your paper should be compiled in the following order: title; abstract; keywords; main text, including an introduction and a conclusion or summary; acknowledgments; declaration of interest statement; references; appendices (as appropriate). Figures and tables should be inserted into the text as close to first mention as possible (NOT appended to the end of the manuscript). In-text citations and the reference list must follow *IISE Transactions* guidelines. Use 11 point font, 1 inch margins, and double-spacing for the manuscript. A typical paper for this journal should be no more than 30 pages in manuscript format, counting from the title page to references. Appendices should be included as supplemental online materials. Do not use footnotes. *IISE Transactions* uses a double-blind review process. Please make sure that you submit the **blind version** of your manuscript, which does not contain any information identifying the authors. This includes removing the authors information on the title page as well as the information that may be identifying in the Acknowledgment section.

We strongly encourage authors to address the following three questions in their **abstract**, preferably following the order shown: (1) Research problem statement: what is the research problem to be addressed? (2) Methods and results: how do the authors address the research problem and what are the main results? (3) Insights and implications: What have the authors learned (as opposed to what they did, which is covered in point (2)) from conducting this research? What is the knowledge gained and why does it matter? The abstract should be written in a **single paragraph**.

We thank you for your attention to these details.

Keywords: *IISE Transactions*; L^AT_EX; Manuscript format; Taylor & Francis.

Contents

1	Documentation conventions	7
2	Introduction	8
2.1	Destiny	8
2.2	Response	8
2.3	Operation	9
2.4	Arguments	9
2.4.1	Character	9
2.4.2	Integer	9
2.4.3	Boolean	9
2.4.4	Float	10
2.4.5	String	10
2.4.6	Array	10
2.4.7	File	11
2.4.8	Server type	11
2.4.9	Block	11
2.4.10	Item	12
3	Server manager petition	13
3.1	Start server operation	13
3.1.1	Maps	15
3.1.2	Plugins	16
3.1.3	Server version	17
3.1.4	Config files	17
3.2	Server started notification	18
3.3	Error notification	18
4	Server petition	19
4.1	Server petition group	19
4.2	Server petition operation	20
4.3	Base operations	20

4.3.1	Server stop operation	20
4.3.2	Server stopped notification	21
4.3.3	Server started notification	21
4.3.4	Whitelist player operation	21
4.3.5	OP player operation	22
4.3.6	Error notification	22
4.4	Performance operations	23
4.5	WorldGuard operations	23
4.6	Residence operations	23
5	? petition	24
5.1	<i>Subsection heading 3.1</i>	24
5.1.1	<i>Sub-subsection heading 3.1.1</i>	24
5.2	<i>Subsection heading 3.2</i>	24
5.3	<i>Subsection heading 3.3</i>	24
6	Revision history	25
A	Blocks	26
A.1	Material modifiers	26
A.1.1	Unused modifiers	26
A.1.2	Age	26
A.1.3	Attachment	27
A.1.4	Axis	27
A.1.5	Berries	28
A.1.6	Bites	29
A.1.7	Candles	29
A.1.8	Charges	29
A.1.9	Conditional	29
A.1.10	Delay	29
A.1.11	Down	30
A.1.12	North, South, East and West	30

A.1.13 Waterlogged	39
A.2 Material modifiers concatenation	43
References	43

Figures

2.1	Packet structure	8
2.2	True packet with the LSB at 1	10
2.3	True packet with all bits at 1	10
2.4	Structure of a String	10
2.5	Example of a string array	11
2.6	File structure	12
3.1	Server manager petition structure	13
3.2	Start server petition structure	14
3.3	Start server response structure	15
3.4	Start server error response structure	15
3.5	Usual plugin structure	17
3.6	File plugin structure	17
3.7	Server started notification structure	18
3.8	Error notification structure	18
4.1	Server petition structure	19
4.2	Implemented group response structure	20
4.3	Stop server operation structure	21
4.4	Server stopped response structure	21
4.5	Server started response structure	22
4.6	Whitelist player operation structure	22
4.7	OP player operation structure	22

Tables

2.1	DST bits meaning	8
4.1	Extended types	20
6.1	Revision history	25
A.1	Unused Spigot BlockData's modifiers	27
A.2	Unused Spigot BlockData's modifiers on certain blocks	28

1 Documentation conventions

..

abbreviations

2 Introduction

explicar los distintos protocolos que se hablaran a continuacion

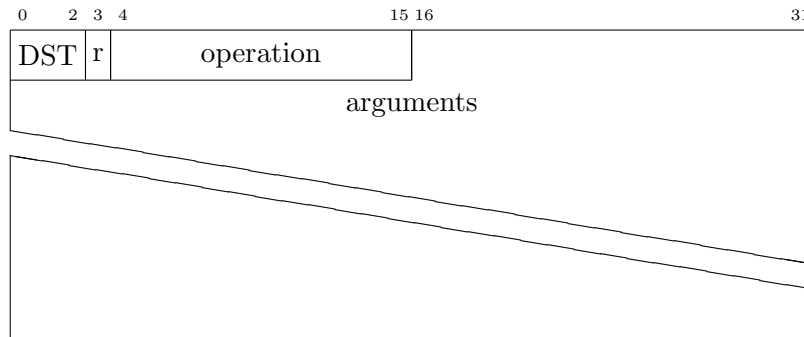


Figure 2.1: Packet structure

2.1 Destiny

explain

reference to the interconnected blocks

DST[2]	DST[1]	DST[0]	Destination
0	0	0	ServerManagerPetition
0	0	1	ServerPetition
0	1	0	ClientConnectorPetition
0	1	1	ClientPetition
1	X	X	<i>Reserved</i>

Table 2.1: DST bits meaning

2.2 Response

Some of the petitions have return objects. Those petitions will return to the sender (Tester-Connector) with the same code, but with a '1' on the Response parameter. In that case, the parameter Destiny now means 'Origin'.

Some petitions have async "returns" (for example: **examples**). Those will be sent using petitions without return's operations (so, petitions without a mirror petition with a '1' as

Response), marked as responses (Response bit at '1').

2.3 Operation

The Operation parameter specifies the desired request. Those change according to the Destiny, so they will be discussed in more detail in their respective sections.

The only exception is the all-zeroes operation (0b000000000000) which represents a NOP request. That way, if you need to perform a long test, you won't be **explain the 'kicked by inactivity' concept** kicked by inactivity if you send this request every few minutes.

2.4 Arguments

The Arguments parameter specifies the arguments (if any) to the *Operation* request. Those change according to the Destiny, so the amount of arguments, and their types and order will be discussed in more detail in their respective sections.

Now there will be discussed the most common data types, so they will be independent of any programming language.

2.4.1 Character

Characters are sent as a 1-byte integer, representing its ASCII **ref?** value.

2.4.2 Integer

Integers are signed 4-bytes integers.

2.4.3 Boolean

Booleans are 1-bit element that represents *true* (0b1), or *false* (0b0).

For alignment **define?** reasons, booleans will be sent as 1-byte element. To avoid misunderstandings, let's define *false* as 0x00, and *true* as 'not **define?** *false*'. That way, this two packets are valid *true* elements:

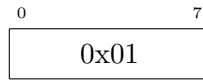


Figure 2.2: True packet with the LSB at 1

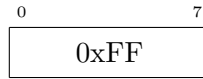


Figure 2.3: True packet with all bits at 1

2.4.4 Float

Floats are 4-bytes floating-point numbers. They are represented following the IEEE 754¹.

2.4.5 String

Strings are arrays of characters. Refer to the respective subsections for more information.

2.4.6 Array

Arrays are a set of n elements of the same type.

The structure is a 2-byte **first (0..7) MSB, then (8..15) LSB** integer (representing the number of elements, n), followed by n elements of the same type. As a note here, by representing the size with a 2-byte integer the maximum number of elements per array is 65,535.

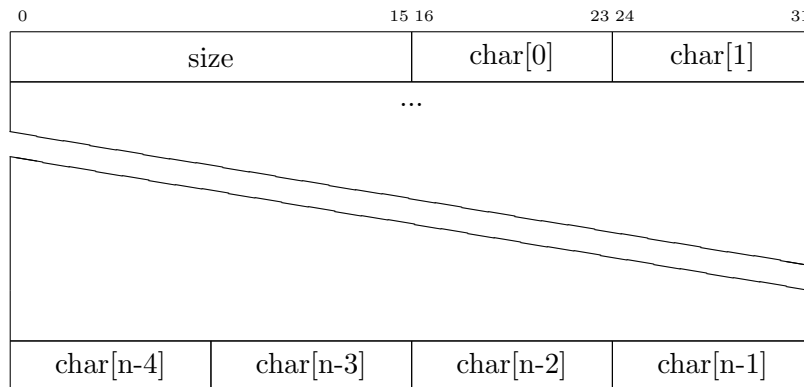


Figure 2.4: Structure of a String

¹This standard should be used by C, Java and Python. **cite?**

Arrays can be multidimensional, holding n arrays of the same type. It's worth mentioning that they don't have to be arrays of the same length, as can be seen in Figure 2.5, Example of a string array.

0	15 16		23 24		31
2 [number of arrays]			5 [str[0]'s length]		
h	e	l	l		
o	6 [str[1]'s length]			w	
o	r	l	d		
!	next type				

Figure 2.5: Example of a string array

2.4.7 File

Similar to the Array, a File is a name (String), followed by a group of bytes.

The problem here is that if we stick with the Array structure, the maximum size of a file will be around 8kB. To solve this, the File structure implements some kind of 'extended array', that extends the 'size' parameter to 32 bits. That way, the file size restriction by protocol definition² is 4GB.

2.4.8 Server type

The Server type specifies the Minecraft server.

As a standard, we only support Spigot (*Spigot* (n.d.)) and Paper (*PaperMC* (n.d.)), but for major compatibility this parameter is a String specifying the server type.

2.4.9 Block

...

²Besides defining here what's allowed, remember that this packet will be inside a TCP payload **definition**.

This means that the maximum file size will be probably redefined by the machine's TCP firewalls.

³The path must be relative, and you can't go outside the Server directory (using '../'). Both " and './' means the root of the Server directory.

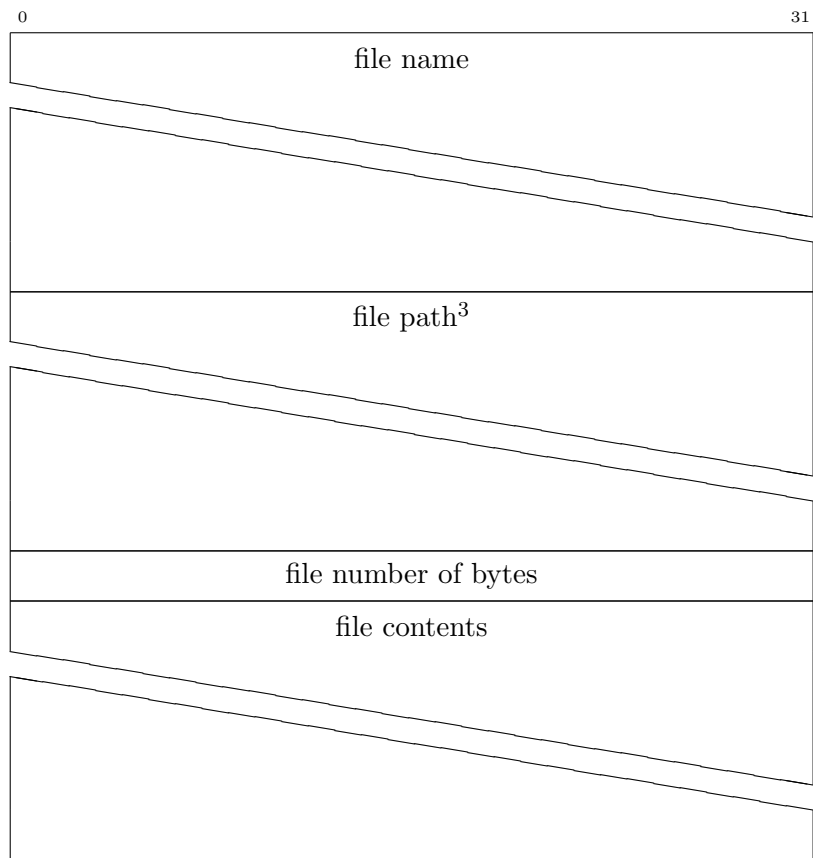


Figure 2.6: File structure

2.4.10 Item



3 Server manager petition

...

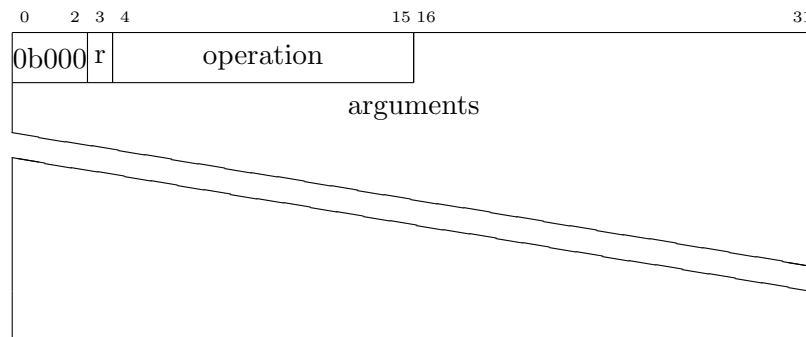


Figure 3.1: Server manager petition structure

Table of operations

You don't have to implement the NOP operation in this destiny block because the timeout happens inside the Server petition block. That is, if you don't call operations (or send NOPs) to the Server petition for a long time, the server will stop, and because the server stopped the Server manager will close the established connection.

3.1 Start server operation

...

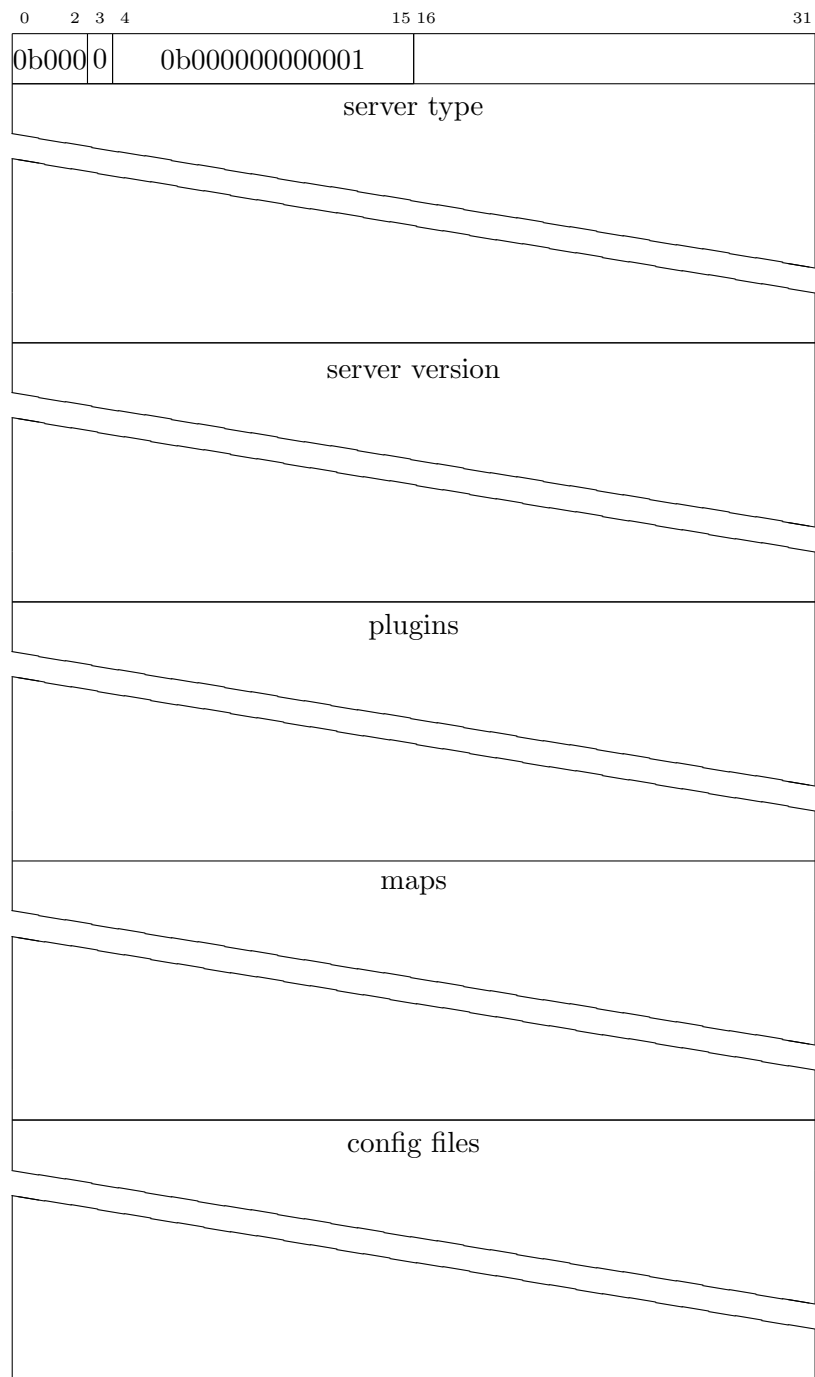


Figure 3.2: Start server petition structure

Once a 'start server' request is received the program should create a server with the specified arguments, and return its IP:Port (for example, '127.0.0.1:25565', a 15-characters string; see Figure 3.3, Start server response structure). The IP to send the Server Petitions is the same, but the next port (IP:<port+1>).

If it's not possible to create it (for example: one argument is invalid, the user sent a plugin when it's specified that only Usual Plugins are allowed **explain**, or there's no free servers of that type), then an empty IP is returned (see Figure 3.4, Start server error response structure).

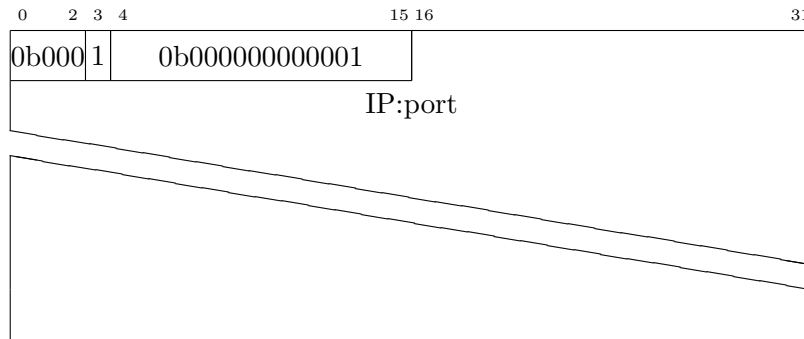


Figure 3.3: Start server response structure

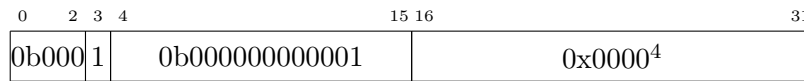


Figure 3.4: Start server error response structure

3.1.1 Maps

Array of maps (worlds; Map[]). To have more information about arrays check the subsection 2.4.6, Array.

About the Map type, Minecraft is divided on different worlds (*World - Minecraft Wiki* (n.d.)). By default there's only three, but with some plugins this number can increase.

In order to properly test some plugins, there may be needed some kind of known place. To avoid overusing the Set block operation **link** you can send using this argument your(s) world(s).

⁴Being the argument an array, the first 2 bytes specifies its size. As we must return an empty array, the argument should be exactly 16 zeroes.

Map in more detail

3.1.2 Plugins

Array of plugins (Plugin[]). To have more information check the subsection 2.4.6, Array.

About the Plugin type, there's three types of plugins:

1. Usual plugins

The Usual plugins are plugins that you expect everyone to have for being extremely common, like WorldGuard (*WorldGuard* (n.d.)), or to allow the user to test plugins with Premium plugins⁵ dependencies. This allows both security and performance.

Something to highlight is the fact that, as mentioned in the operation Allows non usual plugins [reference](#), some ServerManager will only allow plugins that are already in the machine.

As can be seen in the Figure 3.5, Usual plugin structure, the first argument (that specifies the Plugin type) is 0x00.

The plugin version is optional, and can't be specified in the parameter *name*. If no version is provided (an empty string) then the Server Manager will pick the plugin with the highest version that is compatible with the desired server version.

2. Uploaded plugins

The Uploaded plugins are plugins available in some website, thus can be sent through an URL.

[structure?](#)

3. File plugins

File plugins are plugins that are non-usual and aren't uploaded in any website, so they must be sent as a file.

As can be seen in the Figure 3.6, File plugin structure, the first argument (that specifies the Plugin type) is 0x02.

⁵Premium plugins are paid plugins. For that reason, only the purchaser can download them (so you can't send a link to the plugin), and sending them through the internet via file upload may not be legal, so the plugin must be already downloaded in the machine.

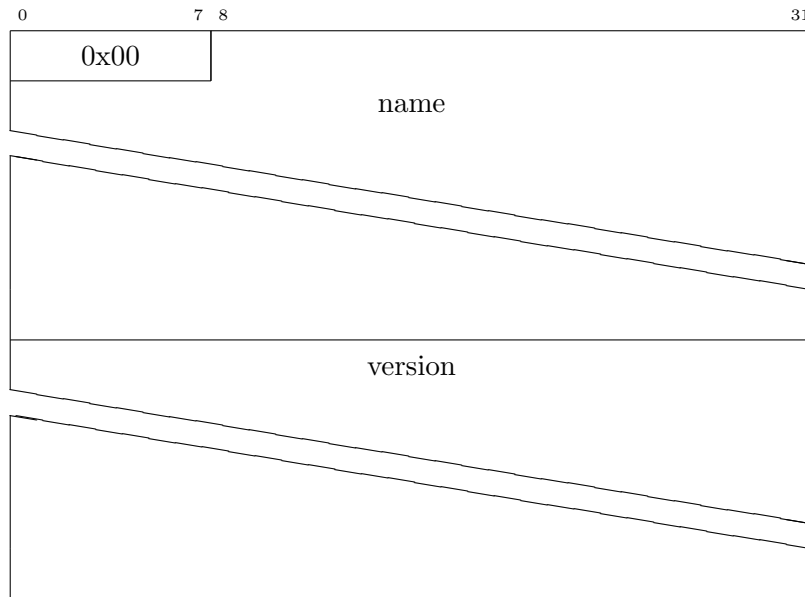


Figure 3.5: Usual plugin structure

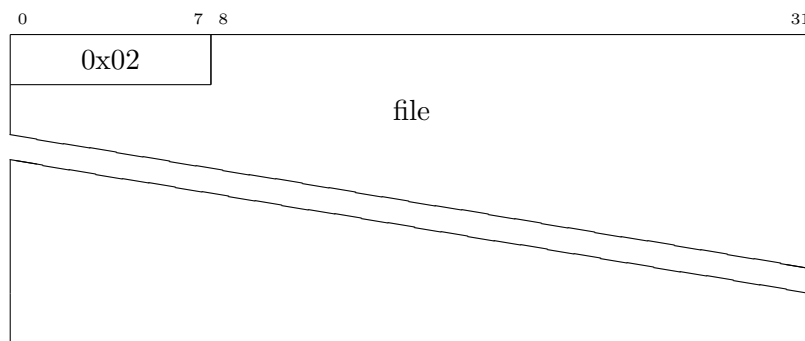


Figure 3.6: File plugin structure

mixed plugin types example?

3.1.3 Server version

String specifying the server type's version. For example, '1.12.2'.

3.1.4 Config files

...

3.2 Server started notification

After a Start server operation the server will start. Due to the unpredictable amount of time that the server takes to start up you'll receive a Server started notification once the server socket is available.

You may notice that there's another Server started notification under the Server petition section. That notification goes to the ServerManager ref?, while this goes to the Tester ref?. Also, the Server one have a token that is only shared between Server and the ServerManager, and the Tester doesn't have to know it too.

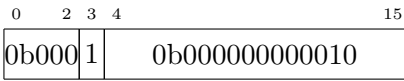


Figure 3.7: Server started notification structure

3.3 Error notification

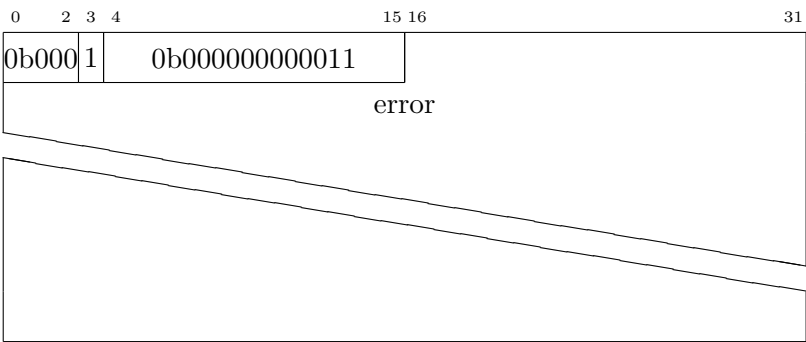


Figure 3.8: Error notification structure

4 Server petition

...

The server petitions are a bit different from the rest. The server petitions are designed in a way that everyone have some common operations, and then you can add some others optionally (and even non-standard ones). We'll define this 'set of operations' as groups.

For that reason, the operation field (defined on the Figure 2.1, Packet structure) becomes the group, and then the operation is defined on the next 2 bytes, as shown in the Figure 4.1, Server petition structure.

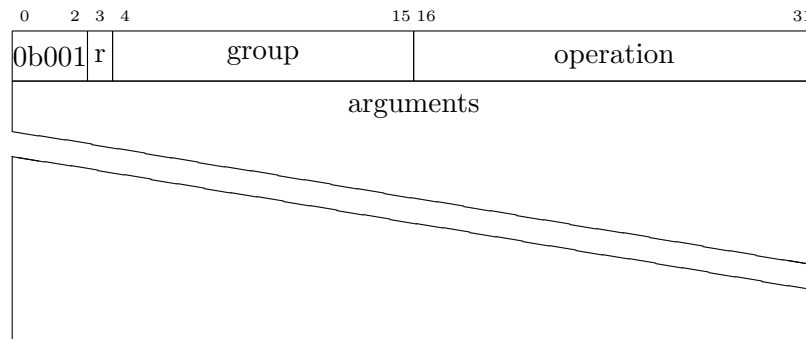


Figure 4.1: Server petition structure

4.1 Server petition group

The group tells which kind of petitions we're talking about.

The MSB **abbreviation?** tells if the group is one of the standards, thus must be followed by specification, or if it's non-standard, so the petition can be whatever the user want it to be. This is useful if you want to implement a petition not followed by the standard, or if the petition only makes sense in your personal environment.

The 0b0000000000001 group represents the 'base group'. This group implements some basic operations, and must be implemented. All the others are optional.

If you've implemented an extended type and you believe that it makes sense to be part of the standard contact contacto@rogermiranda1000.com to reserve one of the addresses.

⁶As stated on the subsection 2.3, Operation, the all-zeroes operation represents a NOP request.

type[15]	type[14..4]	Extended type
0	0b000000000000	NOP ⁶
0	0b000000000001	Base operations
0	0b000000000010	Performance operations
0	0b000000000011	WorldGuard operations
0	0b000000000100	Residence operations
1	XXXXXXXXXXXX	Reserved for internal use

Table 4.1: Extended types

4.2 Server petition operation

Like the parameter Operation, it specifies the desired request. For more information, refer to the subsection 2.3, Operation.

The only reserved operation is the all-zeroes operation (0x0000). It represents the question 'is this extended petition implemented?'. The server must response (with the response bit at 1) with *true* (group implemented on this machine) or *false* (unknown/unimplemented group), as it can be seen in Figure 4.2, Implemented group response structure.

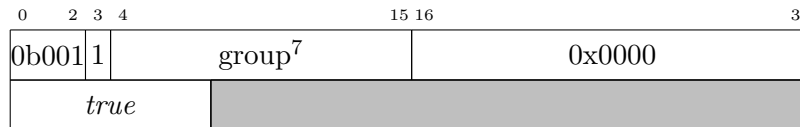


Figure 4.2: Implemented group response structure

4.3 Base operations

...

'is implemented' (all zeroes) optional

4.3.1 Server stop operation

...

⁷except for groups 0b000000000000 and 0b000000000001

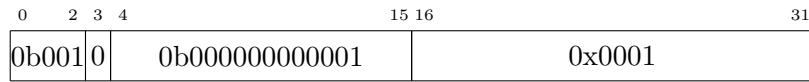


Figure 4.3: Stop server operation structure

4.3.2 Server stopped notification

... response to...

To have more information about the *server id* parameter check the Subsection 4.3.3, Server started notification.

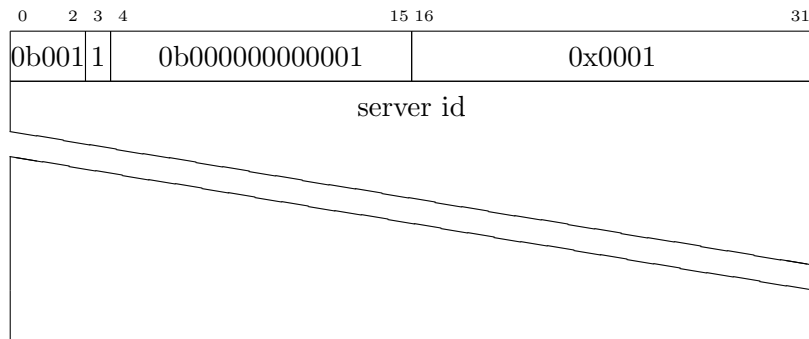


Figure 4.4: Server stopped response structure

4.3.3 Server started notification

This notification is sent to the Server Manager [ref?](#), as a response for the Start server operation, thus not really a response of a Server's operation.

As one IP can have multiple servers, a string that identifies the server must be sent with the response. This argument can be whatever you want (for example, <server ip>:<server port> will be unique), but must be shared between both the Server Manager and the Server. For security reasons [cite IP spoofing or similar](#) (because the Tester [ref?](#) also knows the server's IP and port) a hash function is encouraged to be used.

4.3.4 Whitelist player operation

...

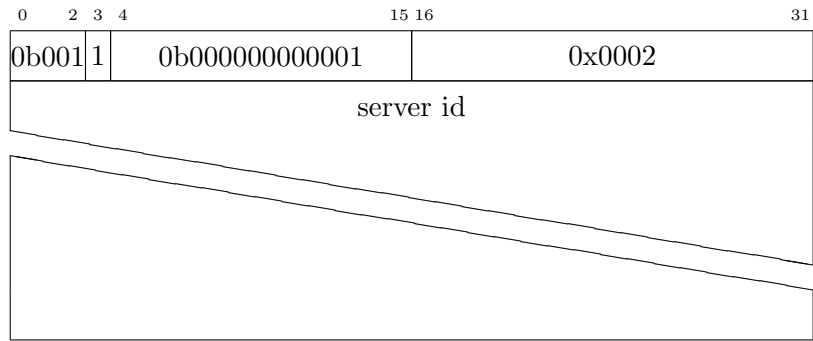


Figure 4.5: Server started response structure

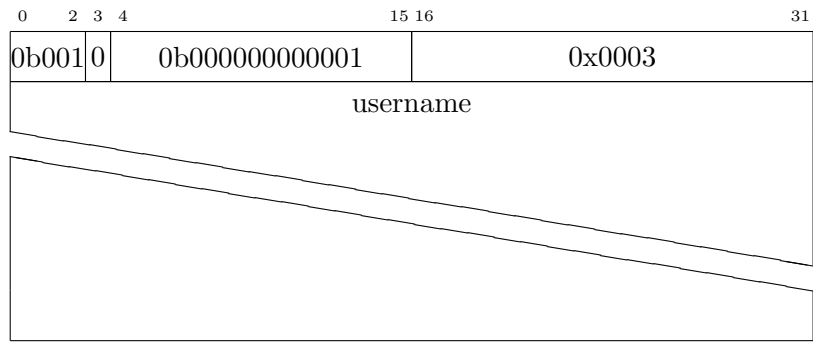


Figure 4.6: Whitelist player operation structure

4.3.5 OP player operation

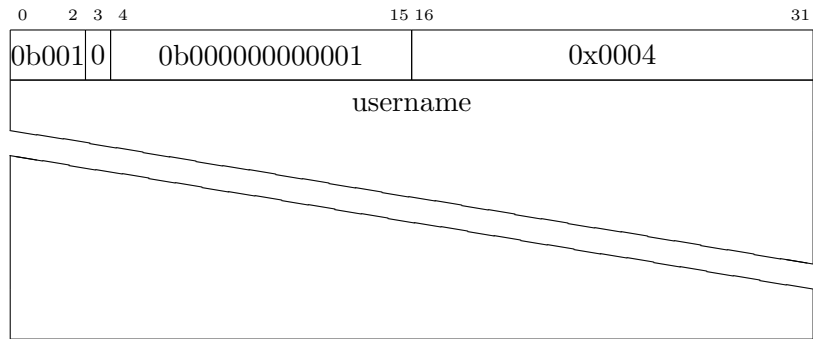


Figure 4.7: OP player operation structure

4.3.6 Error notification



4.4 Performance operations



4.5 WorldGuard operations



4.6 Residence operations



5 ? petition

First-level headings should be in bold.

5.1 *Subsection heading 3.1*

Second-level headings should be in bold italics.

5.1.1 *Sub-subsection heading 3.1.1*

Third-level headings should be in italics.

5.2 *Subsection heading 3.2*

5.3 *Subsection heading 3.3*

6 Revision history

Date	Revision	Changes
date	1	Initial release.

Table 6.1: Revision history

A Blocks

For generating the blocks enum Spigot 1.19 was used. That means that all the block names *should* be the exact same as *Spigot - Enum Material* (n.d.).

A.1 Material modifiers

There's one downside on using Spigot's Material: it doesn't describes perfectly the block. In some aspects it will, for example, distinguish between wood types, but it won't differentiate between a wooden stair and a wooden stair with water.

That's why there's some prefixes and suffixes (that will be discussed in the following subsections) surrounding the original Spigot name, to make every possible Minecraft block combination appear in the block enum. Just to clarify, this has also been extracted from Spigot (all *Spigot - Interface BlockData* (n.d.)'s subinterfaces in Spigot 1.19).

A.1.1 Unused modifiers

There's some Spigot modifiers that beside existing it won't be imported because there aren't a distinguished block in their own. You can find those in Figure A.1, Unused Spigot BlockData's modifiers.

In addition to this, some modifiers applied to certain blocks doesn't change the block itself. Those are mentioned in Figure A.2, Unused Spigot BlockData's modifiers on certain blocks.

A.1.2 Age

Represents the different growth stages that a crop-like block can go through.

Defaults to 0.

BEETROOTS 0-3 BAMBOO 0-1 CARROTS 0-7 CHORUS_FLOWER 0/5 0=; 0; 5=; 1 (the other stages are the same block) COCOA 0-2 FROSTED_ICE 0-3 MELON_STEM 0-7 NETHER_WART 0-3 POTATOES 0-7 PUMPKIN_STEM 0-7 SWEET_BERRY_BUSH 0-3 WHEAT 0-7

Modifier name	Reason for discarding
has_bottle_X	Inventory dependent
has_record	Inventory dependent
enabled	Adjacent redstone dependent
triggered	Adjacent redstone dependent
instrument	Bottom-block dependent
occupied	Entity dependent
persistent	Admin block
unstable	Admin block
distance	Block dependent
stage	Same block
short	Tick dependent
attached	Block dependent
disarmed	Block dependent
power	Block/event dependent
tilt	Entity dependent
can_summon	Admin block
shrieking	Entity dependent
bloom	Admin block
bottom	Bottom-block dependent

Table A.1: Unused Spigot BlockData’s modifiers

A.1.3 Attachment

Denotes how the bell is attached to its block.

Defaults to floor.

BELL ceiling/double_wall/floor/single_wall

A.1.4 Axis

Represents the axis along whilst this block is oriented.

Except for NETHER_PORTAL (which defaults to x), it defaults to y.

Block name	Modifier name
CAVE_VINES	age
CACTUS	age
FIRE	age
KELP	age
SUGAR_CANE	age
MANGROVE_PROPAGULE	age
TWISTING_VINES	age
WEeping_VINES	age

Table A.2: Unused Spigot BlockData's modifiers on certain blocks

NETHER_PORTAL x/z ACACIA_LOG x/y/z ACACIA_WOOD x/y/z BASALT x/y/z
 BIRCH_LOG x/y/z BIRCH_WOOD x/y/z BONE_BLOCK x/y/z CHAIN x/y/z CRIM-
 SON_HYPHAE x/y/z CRIMSON_STEM x/y/z DARK_OAK_LOG x/y/z DARK_OAK_WOOD
 x/y/z DEEPSLATE x/y/z HAY_BLOCK x/y/z INFESTED_DEEPSLATE x/y/z JUN-
 GLE_LOG x/y/z JUNGLE_WOOD x/y/z MANGROVE_LOG x/y/z MANGROVE_WOOD
 x/y/z MUDDY_MANGROVE_ROOTS x/y/z OAK_LOG x/y/z OAK_WOOD x/y/z OCHRE_FROGLIGHT
 x/y/z PEARLESCENT_FROGLIGHT x/y/z POLISHED_BASALT x/y/z PURPUR_PILLAR
 x/y/z QUARTZ_PILLAR x/y/z SPRUCE_LOG x/y/z SPRUCE_WOOD x/y/z STRIPPED_ACACIA_LOG
 x/y/z STRIPPED_ACACIA_WOOD x/y/z STRIPPED_BIRCH_LOG x/y/z STRIPPED_BIRCH_WOOD
 x/y/z STRIPPED_CRIMSON_HYPHAE x/y/z STRIPPED_CRIMSON_STEM x/y/z STRIPPED_DARK_OAK
 x/y/z STRIPPED_DARK_OAK_WOOD x/y/z STRIPPED_JUNGLE_LOG x/y/z STRIPPED_JUNGLE_WOOD
 x/y/z STRIPPED_MANGROVE_LOG x/y/z STRIPPED_MANGROVE_WOOD x/y/z STRIPPED_OAK_LOG
 x/y/z STRIPPED_OAK_WOOD x/y/z STRIPPED_SPRUCE_LOG x/y/z STRIPPED_SPRUCE_WOOD
 x/y/z STRIPPED_WARPED_HYPHAE x/y/z STRIPPED_WARPED_STEM x/y/z VER-
 DANT_FROGLIGHT x/y/z WARPED_HYPHAE x/y/z WARPED_STEM x/y/z

A.1.5 Berries

Indicates whether the block has berries.

Defaults to false.

CAVE_VINES true/false CAVE_VINES_PLANT true/false

A.1.6 Bites

Represents the amount of bites which have been taken from this slice of cake.

Defaults to 0.

CAKE 0-6

A.1.7 Candles

Represents the number of candles which are present.

Defaults to 1.

BLACK_CANDLE 1-4 BLUE_CANDLE 1-4 BROWN_CANDLE 1-4 CANDLE 1-4 CYAN_CANDLE
1-4 GRAY_CANDLE 1-4 GREEN_CANDLE 1-4 LIGHT_BLUE_CANDLE 1-4 LIGHT_GRAY_CANDLE
1-4 LIME_CANDLE 1-4 MAGENTA_CANDLE 1-4 ORANGE_CANDLE 1-4 PINK_CANDLE
1-4 PURPLE_CANDLE 1-4 RED_CANDLE 1-4 WHITE_CANDLE 1-4 YELLOW_CANDLE
1-4

A.1.8 Charges

Represents the amount of times the anchor may still be used.

Defaults to 0.

RESPAWN_ANCHOR 0-4

A.1.9 Conditional

Denotes whether this command block is conditional or not.

Defaults to false.

CHAIN_COMMAND_BLOCK true/false COMMAND_BLOCK true/false REPEATING_COMMAND_BLOCK
true/false

A.1.10 Delay

Propagation delay of a repeater.

Defaults to 1.

REPEATER 1-4

A.1.11 Down

Set which faces of the block textures are displayed on.

Except for BROWN_MUSHROOM_BLOCK, MUSHROOM_STEM and RED_MUSHROOM_BLOCK (which defaults to true), it defaults to false.

CHORUS_PLANT true/false GLOW_LICHEN true/false SCULK_VEIN true/false BROWN_MUSHROOM true/false MUSHROOM_STEM true/false RED_MUSHROOM_BLOCK true/false

A.1.12 North, South, East and West

east=false (ACACIA_FENCE)east = false (BIRCH_FENCE)east = false (BLACK_STAINED_GLASS_PANE)east = false (BLUE_STAINED_GLASS_PANE)east = false (BROWN_STAINED_GLASS_PANE)east = false (CHORUS_PLANT)east = false (CRIMSON_FENCE)east = false (CYAN_STAINED_GLASS_PANE)east = false (DARK_OAK_FENCE)east = false (FIRE)east = false (GLASS_PANE)east = false (GLOW_LICHEN)east = false (GRAY_STAINED_GLASS_PANE)east = false (GREEN_STAINED_GLASS_PANE)east = false (IRON_BARS)east = false (JUNGLE_FENCE)east = false (LIGHT_BLUE_STAINED_GLASS_PANE)east = false (LIGHT_GRAY_STAINED_GLASS_PANE)east = false (LIME_STAINED_GLASS_PANE)east = false (MAGENTA_STAINED_GLASS_PANE)east = false (MANGROVE_FENCE)east = false (NETHER_BRICK_FENCE)east = false (OAK_FENCE)east = false (ORANGE_STAINED_GLASS_PANE)east = false (PINK_STAINED_GLASS_PANE)east = false (PURPLE_STAINED_GLASS_PANE)east = false (RED_STAINED_GLASS_PANE)east = false (SCULK_VEIN)east = false (SPRUCE_FENCE)east = false (TRIPWIRE)east = false (VINE)east = false (WARPED_FENCE)east = false (WHITE_STAINED_GLASS_PANE)east = none (ANDESITE_WALL)east = none (BLACKSTONE_WALL)east = none (BRICK_WALL)east = none (COBBLED_DEEPSLATE_WALL)east = none (COBBLESTONE_WALL)east = none (DEEPSLATE_BRICK_WALL)east = none (DEEPSLATE_TILE_WALL)east = none (DIORITE_WALL)east = none (ENDSTONE_BRICK_WALL)east = none (GRANITE_WALL)east = none (MOSSY_COBBLESTONE_WALL)east = none (MOSSYSTONE_BRICK_WALL)east = none (MUD_BRICK_WALL)east = none (NETHER_BRICK_WALL)east = none (POLISHED_BLACKSTONE_BRICK_WALL)east = none (POLISHED_BLACKSTONE_WALL)east = none (POLISHED_DEEPSLATE_WALL)east = none (PRISMARINE_WALL)east = none (REDSTONE_WALL)east = none (RED_NETHER_BRICK_WALL)east = none (RED_SANDSTONE_WALL)east = none (SANDSTONE_WALL)east = none (STONE_BRICK_WALL)east = true (BROWN_MUSHROOM_BLOCK)east = true (MUSHROOM_STEM)east = true (RED_MUSHROOM_BLOCK)

eggs=1 (TURTLE_EGG)extended = false(PISTON)extended = false(STICKY_PISTON)eye =
false(END_PORTAL_FRAME)face = wall(ACACIA_BUTTON)face = wall(BIRCH_BUTTON)face =
wall(CRIMSON_BUTTON)face = wall(DARK_OAK_BUTTON)face = wall(GRINDSTONE)face =
wall(JUNGLE_BUTTON)face = wall(LEVER)face = wall(MANGROVE_BUTTON)face =
wall(OAK_BUTTON)face = wall(POLISHED_BLACKSTONE_BUTTON)face = wall(SPRUCE_BUTTO
wall(STONE_BUTTON)face = wall(WARPED_BUTTON)facing = down(HOPPER)facing =
north(ACACIA_BUTTON)facing = north(ACACIA_DOOR)facing = north(ACACIA_FENCE_GATE)facing =
north(ACACIA_STAIRS)facing = north(ACACIA_TRAPDOOR)facing = north(ACACIA_WALL_SIGN)facing =
north(ANDESITE_STAIRS)facing = north(ANVIL)facing = north(ATTACHED_MELON_STEM)facing =
north(ATTACHED_PUMPKIN_STEM)facing = north(BARREL)facing = north(BEEHIVE)facing =
north(BEE_NEST)facing = north(BELL)facing = north(BIG_DRIPLEAF)facing =
north(BIG_DRIPLEAF_STEM)facing = north(BIRCH_BUTTON)facing = north(BIRCH_DOOR)facing =
north(BIRCH_FENCE_GATE)facing = north(BIRCH_STAIRS)facing = north(BIRCH_TRAPDOOR)facing =
north(BIRCH_WALL_SIGN)facing = north(BLACKSTONE_STAIRS)facing = north(BLACK_BED)facing =
north(BLACK_GLAZED_TERRACOTTA)facing = north(BLACK_WALL_BANNER)facing =
north(BLAST_FURNACE)facing = north(BLUE_BED)facing = north(BLUE_GLAZED_TERRACOTTA)facing =
north(BLUE_WALL_BANNER)facing = north(BRAIN_CORAL_WALL_FAN)facing = north(BRICK_STAIRS)facing =
north(BROWN_BED)facing = north(BROWN_GLAZED_TERRACOTTA)facing = north(BROWN_WALL_BANNER)facing =
north(BUBBLE_CORAL_WALL_FAN)facing = north(CAMPFIRE)facing = north(CARVED_PUMPKIN_STEM)facing =
north(CHAIN_COMMAND_BLOCK)facing = north(CHEST)facing = north(CHIPPED_ANVIL)facing =
north(COBBLED_DEEPSLATE_STAIRS)facing = north(COBBLESTONE_STAIRS)facing =
north(COCOA)facing = north(COMMAND_BLOCK)facing = north(COMPARATOR)facing =
north(CREEPER_WALL_HEAD)facing = north(CRIMSON_BUTTON)facing = north(CRIMSON_DOOR)facing =
north(CRIMSON_FENCE_GATE)facing = north(CRIMSON_STAIRS)facing = north(CRIMSON_TRAPDOOR)facing =
north(CRIMSON_WALL_SIGN)facing = north(CUT_COPPER_STAIRS)facing = north(CYAN_BED)facing =
north(CYAN_GLAZED_TERRACOTTA)facing = north(CYAN_WALL_BANNER)facing =
north(DAMAGED_ANVIL)facing = north(DARK_OAK_BUTTON)facing = north(DARK_OAK_DOOR)facing =
north(DARK_OAK_FENCE_GATE)facing = north(DARK_OAK_STAIRS)facing = north(DARK_OAK_TRAPDOOR)facing =
north(DARK_OAK_WALL_SIGN)facing = north(DARK_PRISMARINE_STAIRS)facing =
north(DEAD_BRAIN_CORAL_WALL_FAN)facing = north(DEAD_BUBBLE_CORAL_WALL_FAN)facing =
north(DEAD_FIRE_CORAL_WALL_FAN)facing = north(DEAD_HORN_CORAL_WALL_FAN)facing =

$north(DEAD_TUBE_CORAL_WALL_FAN) facing = north(DEEPSLATE_BRICK_STAIRS) facing =$
 $north(DEEPSLATE_TILE_STAIRS) facing = north(DIORITE_STAIRS) facing = north(DISPENSER) facing =$
 $north(DRAGON_WALL_HEAD) facing = north(DROPPER) facing = north(ENDER_CHEST) facing =$
 $north(END_PORTAL_FRAME) facing = north(END_STONE_BRICK_STAIRS) facing =$
 $north(EXPOSED_CUT_COPPER_STAIRS) facing = north(FIRE_CORAL_WALL_FAN) facing =$
 $north(FURNACE) facing = north(GRANITE_STAIRS) facing = north(GRAY_BED) facing =$
 $north(GRAY_GLAZED_TERRACOTTA) facing = north(GRAY_WALL_BANNER) facing =$
 $north(GREEN_BED) facing = north(GREEN_GLAZED_TERRACOTTA) facing = north(GREEN_WALL_BANNER) facing =$
 $north(GRINDSTONE) facing = north(HORN_CORAL_WALL_FAN) facing = north(IRON_DOOR) facing =$
 $north(IRON_TRAPDOOR) facing = north(JACK_O_LANTERN) facing = north(JUNGLE_BUTTON) facing =$
 $north(JUNGLE_DOOR) facing = north(JUNGLE_FENCE_GATE) facing = north(JUNGLE_STAIRS) facing =$
 $north(JUNGLE_TRAPDOOR) facing = north(JUNGLE_WALL_SIGN) facing = north(LADDER) facing =$
 $north(LECTERN) facing = north(LEVER) facing = north(LIGHT_BLUE_BED) facing =$
 $north(LIGHT_BLUE_GLAZED_TERRACOTTA) facing = north(LIGHT_BLUE_WALL_BANNER) facing =$
 $north(LIGHT_GRAY_BED) facing = north(LIGHT_GRAY_GLAZED_TERRACOTTA) facing =$
 $north(LIGHT_GRAY_WALL_BANNER) facing = north(LIME_BED) facing = north(LIME_GLAZED_TERRACOTTA) facing =$
 $north(LIME_WALL_BANNER) facing = north(LOOM) facing = north(MAGENTA_BED) facing =$
 $north(MAGENTA_GLAZED_TERRACOTTA) facing = north(MAGENTA_WALL_BANNER) facing =$
 $north(MANGROVE_BUTTON) facing = north(MANGROVE_DOOR) facing = north(MANGROVE_FENCE_GATE) facing =$
 $north(MANGROVE_STAIRS) facing = north(MANGROVE_TRAPDOOR) facing = north(MANGROVE_WALL_SIGN) facing =$
 $north(MOSSY_COBBLESTONE_STAIRS) facing = north(MOSSY_STONE_BRICK_STAIRS) facing =$
 $north(MOVING_PISTON) facing = north(MUD_BRICK_STAIRS) facing = north(NETHER_BRICK_STAIRS) facing =$
 $north(OAK_BUTTON) facing = north(OAK_DOOR) facing = north(OAK_FENCE_GATE) facing =$
 $north(OAK_STAIRS) facing = north(OAK_TRAPDOOR) facing = north(OAK_WALL_SIGN) facing =$
 $north(ORANGE_BED) facing = north(ORANGE_GLAZED_TERRACOTTA) facing =$
 $north(ORANGE_WALL_BANNER) facing = north(OXIDIZED_CUT_COPPER_STAIRS) facing =$
 $north(PINK_BED) facing = north(PINK_GLAZED_TERRACOTTA) facing = north(PINK_WALL_BANNER) facing =$
 $north(PISTON) facing = north(PISTON_HEAD) facing = north(PLAYER_WALL_HEAD) facing =$
 $north(POLISHED_ANDESITE_STAIRS) facing = north(POLISHED_BLACKSTONE_BRICK_STAIRS) facing =$
 $north(POLISHED_BLACKSTONE_BUTTON) facing = north(POLISHED_BLACKSTONE_STAIRS) facing =$
 $north(POLISHED_DEEPSLATE_STAIRS) facing = north(POLISHED_DIORITE_STAIRS) facing =$

$north(POLISHED_G RANITE_S TAIRS) facing = north(PRISMARINE_B RICK_S TAIRS) facing =$
 $north(PRISMARINE_S TAIRS) facing = north(PURPLE_B ED) facing = north(PURPLE_G LAZED_T ERRACOTTA) facing =$
 $north(PURPLE_W ALL_B ANNER) facing = north(PURPUR_S TAIRS) facing = north(QUARTZ_S TAIRS) facing =$
 $north(REDSTONE_W ALL_T ORCH) facing = north(RED_B ED) facing = north(RED_G LAZED_T ERRACOTTA) facing =$
 $north(RED_N ETHER_B RICK_S TAIRS) facing = north(RED_S ANDSTONE_S TAIRS) facing =$
 $north(RED_W ALL_B ANNER) facing = north(REPEATER) facing = north(REPEATING_C OMMAND_BLOCK) facing =$
 $north(SANDSTONE_S TAIRS) facing = north(SKELETON_W ALL_S KULL) facing =$
 $north(SMALL_D RIPLEAF) facing = north(SMOKER) facing = north(SMOOTH_Q UARTZ_S TAIRS) facing =$
 $north(SMOOTH_R ED_S ANDSTONE_S TAIRS) facing = north(SMOOTH_S ANDSTONE_S TAIRS) facing =$
 $north(SOUL_C AMPFIRE) facing = north(SOUL_W ALL_T ORCH) facing = north(SPRUCE_B UTTON) facing =$
 $north(SPRUCE_D OOR) facing = north(SPRUCE_F ENCE_G ATE) facing = north(SPRUCE_S TAIRS) facing =$
 $north(SPRUCE_T RAPDOOR) facing = north(SPRUCE_W ALL_S IGN) facing = north(STICKY_P ISTON) facing =$
 $north(STONECUTTER) facing = north(STONE_B RICK_S TAIRS) facing = north(STONE_B UTTON) facing =$
 $north(STONE_S TAIRS) facing = north(TRAPPED_C HEST) facing = north(TRIPWIRE_H OOK) facing =$
 $north(TUBE_C ORAL_W ALL_F AN) facing = north(W ALL_T ORCH) facing = north(WARPED_B UTTON) facing =$
 $north(WARPED_D OOR) facing = north(WARPED_F ENCE_G ATE) facing = north(WARPED_S TAIRS) facing =$
 $north(WARPED_T RAPDOOR) facing = north(WARPED_W ALL_S IGN) facing = north(WAXED_C UT_C OPPER_S TAIRS) facing =$
 $north(WAXED_E XPOSED_C UT_C OPPER_S TAIRS) facing = north(WAXED_O XIDIZED_C UT_C OPPER_S TAIRS) facing =$
 $north(WAXED_W EATHERED_C UT_C OPPER_S TAIRS) facing = north(WEATHERED_C UT_C OPPER_S TAIRS) facing =$
 $north(WHITE_B ED) facing = north(WHITE_G LAZED_T ERRACOTTA) facing = north(WHITE_W ALL_B ANNER) facing =$
 $north(WITHER_S KELETON_W ALL_S KULL) facing = north(YELLOW_B ED) facing =$
 $north(YELLOW_G LAZED_T ERRACOTTA) facing = north(YELLOW_W ALL_B ANNER) facing =$
 $north(ZOMBIE_W ALL_H EAD) facing = south(OBSERVER) facing = up(AMETHYST_C LUSTER) facing =$
 $up(BLACK_S HULKER_B OX) facing = up(BLUE_S HULKER_B OX) facing = up(BROWN_S HULKER_B OX) facing =$
 $up(CYAN_S HULKER_B OX) facing = up(END_R OD) facing = up(GRAY_S HULKER_B OX) facing =$
 $up(GREEN_S HULKER_B OX) facing = up(LARGE_A METHYST_B UD) facing = up(LIGHTNING_R OD) facing =$
 $up(LIGHT_B LUE_S HULKER_B OX) facing = up(LIGHT_G RAY_S HULKER_B OX) facing =$
 $up(LIME_S HULKER_B OX) facing = up(MAGENTA_S HULKER_B OX) facing = up(MEDIUM_A METHYST_B UD) facing =$
 $up(ORANGE_S HULKER_B OX) facing = up(PINK_S HULKER_B OX) facing = up(PURPLE_S HULKER_B OX) facing =$
 $up(RED_S HULKER_B OX) facing = up(SHULKER_B OX) facing = up(SMALL_A METHYST_B UD) facing =$
 $up(WHITE_S HULKER_B OX) facing = up(YELLOW_S HULKER_B OX) half = bottom(ACACIA_S TAIRS) facing =$

$bottom(ACACIA_T RAPDOOR)half = bottom(ANDESITE_S TAIRS)half = bottom(BIRCH_S TAIRS)half$
 $bottom(BIRCH_T RAPDOOR)half = bottom(BLACKSTONE_S TAIRS)half = bottom(BRICK_S TAIRS)half$
 $bottom(COBBLED_D EEP SLATE_S TAIRS)half = bottom(COBBLESTONE_S TAIRS)half =$
 $bottom(CRIMSON_S TAIRS)half = bottom(CRIMSON_T RAPDOOR)half = bottom(CUT_C OPPE R_S TAIRS)half$
 $bottom(DARK_O AK_S TAIRS)half = bottom(DARK_O AK_T RAPDOOR)half = bottom(DARK_P RISMARINE_S TAIRS)half$
 $bottom(DEEPSLATE_B RICK_S TAIRS)half = bottom(DEEPSLATE_T ILE_S TAIRS)half =$
 $bottom(DIORITE_S TAIRS)half = bottom(END_S TONE_B RICK_S TAIRS)half = bottom(EXPOSED_C UT_C OPPE R_S TAIRS)half$
 $bottom(GRANITE_S TAIRS)half = bottom(IRON_T RAPDOOR)half = bottom(JUNGLE_S TAIRS)half =$
 $bottom(JUNGLE_T RAPDOOR)half = bottom(MANGROVE_S TAIRS)half = bottom(MANGROVE_T RAPDOOR)half$
 $bottom(MOSSY_C OBBLESTONE_S TAIRS)half = bottom(MOSSY_S TONE_B RICK_S TAIRS)half =$
 $bottom(MUD_B RICK_S TAIRS)half = bottom(NETHER_B RICK_S TAIRS)half = bottom(OAK_S TAIRS)half$
 $bottom(OAK_T RAPDOOR)half = bottom(OXIDIZED_C UT_C OPPE R_S TAIRS)half =$
 $bottom(POLISHED_A NDESITE_S TAIRS)half = bottom(POLISHED_B LACKSTONE_B RICK_S TAIRS)half$
 $bottom(POLISHED_B LACKSTONE_S TAIRS)half = bottom(POLISHED_D EEP SLATE_S TAIRS)half =$
 $bottom(POLISHED_D IORITE_S TAIRS)half = bottom(POLISHED_G RANITE_S TAIRS)half =$
 $bottom(PRISMARINE_B RICK_S TAIRS)half = bottom(PRISMARINE_S TAIRS)half =$
 $bottom(PURPUR_S TAIRS)half = bottom(QUARTZ_S TAIRS)half = bottom(RED_N ETHER_B RICK_S TAIRS)half$
 $bottom(RED_S ANDSTONE_S TAIRS)half = bottom(SANDSTONE_S TAIRS)half = bottom(SMOOTH_Q UARTZ_S TAIRS)half$
 $bottom(SMOOTH_R ED_S ANDSTONE_S TAIRS)half = bottom(SMOOTH_S ANDSTONE_S TAIRS)half =$
 $bottom(SPRUCE_S TAIRS)half = bottom(SPRUCE_T RAPDOOR)half = bottom(STONE_B RICK_S TAIRS)half$
 $bottom(STONE_S TAIRS)half = bottom(WARPED_S TAIRS)half = bottom(WARPED_T RAPDOOR)half$
 $bottom(WAXED_C UT_C OPPE R_S TAIRS)half = bottom(WAXED_E XPOSED_C UT_C OPPE R_S TAIRS)half$
 $bottom(WAXED_O XIDIZED_C UT_C OPPE R_S TAIRS)half = bottom(WAXED_W EATHERED_C UT_C OPPE R_S TAIRS)half$
 $bottom(WEATHERED_C UT_C OPPE R_S TAIRS)half = lower(ACACIA_D OOR)half =$
 $lower(BIRCH_D OOR)half = lower(CRIMSON_D OOR)half = lower(DARK_O AK_D OOR)half =$
 $lower(IRON_D OOR)half = lower(JUNGLE_D OOR)half = lower(LARGE_F ERN)half =$
 $lower(LILAC)half = lower(MANGROVE_D OOR)half = lower(OAK_D OOR)half =$
 $lower(PEONY)half = lower(ROSE_B USH)half = lower(SMALL_D RIPLEAF)half =$
 $lower(SPRUCE_D OOR)half = lower(SUNFLOWER)half = lower(TALL_G RASS)half =$
 $lower(TALL_S EAGRASS)half = lower(WARPED_D OOR)hanging = false(LANTERN)hanging =$
 $false(MANGROVE_P ROPAGULE)hanging = false(SOUL_L ANTERN)has_book = false(LECTERN)has_book$

$0(TURTLE_{EGG})hinge = left(ACACIA_{DOOR})hinge = left(BIRCH_{DOOR})hinge =$
 $left(CRIMSON_{DOOR})hinge = left(DARK_{OAK}_{DOOR})hinge = left(IRON_{DOOR})hinge =$
 $left(JUNGLE_{DOOR})hinge = left(MANGROVE_{DOOR})hinge = left(OAK_{DOOR})hinge =$
 $left(STRUCE_{DOOR})hinge = left(WARPED_{DOOR})honeylevel = 0(BEEHIVE)honeylevel =$
 $0(BEE_{NEST})inwall = false(ACACIA_{FENCE_{GATE}})inwall = false(BIRCH_{FENCE_{GATE}})inwall =$
 $false(CRIMSON_{FENCE_{GATE}})inwall = false(DARK_{OAK}_{FENCE_{GATE}})inwall =$
 $false(JUNGLE_{FENCE_{GATE}})inwall = false(MANGROVE_{FENCE_{GATE}})inwall =$
 $false(OAK_{FENCE_{GATE}})inwall = false(STRUCE_{FENCE_{GATE}})inwall = false(WARPED_{FENCE_{GATE}})inwall =$
 $false(DAYLIGHT_{DETECTOR})layers = 1(SNOW)leaves = none(BAMBOO)level =$
 $0(COMPOSTER)level = 0(LAVA)level = 0(WATER)level = 1(POWDER_{SNOW}_{CAULDRON})level =$
 $1(WATER_{CAULDRON})lit = false(BLACK_{CANDLE})lit = false(BLACK_{CANDLE}_{CAKE})lit =$
 $false(BLAST_{FURNACE})lit = false(BLUE_{CANDLE})lit = false(BLUE_{CANDLE}_{CAKE})lit =$
 $false(BROWN_{CANDLE})lit = false(BROWN_{CANDLE}_{CAKE})lit = false(CANDLE)lit =$
 $false(CANDLE_{CAKE})lit = false(CYAN_{CANDLE})lit = false(CYAN_{CANDLE}_{CAKE})lit =$
 $false(DEEPSLATE_{REDSTONE_{ORE}})lit = false(FURNACE)lit = false(GRAY_{CANDLE})lit =$
 $false(GRAY_{CANDLE}_{CAKE})lit = false(GREEN_{CANDLE})lit = false(GREEN_{CANDLE}_{CAKE})lit =$
 $false(LIGHT_{BLUE_{CANDLE}})lit = false(LIGHT_{BLUE_{CANDLE}_{CAKE}})lit = false(LIGHT_{GRAY_{CANDLE}})lit =$
 $false(LIGHT_{GRAY_{CANDLE}_{CAKE}})lit = false(LIME_{CANDLE})lit = false(LIME_{CANDLE}_{CAKE})lit =$
 $false(MAGENTA_{CANDLE})lit = false(MAGENTA_{CANDLE}_{CAKE})lit = false(ORANGE_{CANDLE})lit =$
 $false(ORANGE_{CANDLE}_{CAKE})lit = false(PINK_{CANDLE})lit = false(PINK_{CANDLE}_{CAKE})lit =$
 $false(PURPLE_{CANDLE})lit = false(PURPLE_{CANDLE}_{CAKE})lit = false(REDSTONE_{LAMP})lit =$
 $false(REDSTONE_{ORE})lit = false(RED_{CANDLE})lit = false(RED_{CANDLE}_{CAKE})lit =$
 $false(SMOKER)lit = false(WHITE_{CANDLE})lit = false(WHITE_{CANDLE}_{CAKE})lit =$
 $false(YELLOW_{CANDLE})lit = false(YELLOW_{CANDLE}_{CAKE})lit = true(CAMPFIRE)lit =$
 $true(REDSTONE_{TORCH})lit = true(REDSTONE_{WALL_{TORCH}})lit = true(SOUL_{CAMPFIRE})locked =$
 $false(REPEATER)mode = compare(COMPARATOR)mode = load(STRUCTURE_{BLOCK})moisture =$
 $0(FARMLAND)note = 0(NOTE_{BLOCK})open = false(ACACIA_{DOOR})open = false(ACACIA_{FENCE_{GATE}})open =$
 $false(ACACIA_{TRAPDOOR})open = false(BARREL)open = false(BIRCH_{DOOR})open =$
 $false(BIRCH_{FENCE_{GATE}})open = false(BIRCH_{TRAPDOOR})open = false(CRIMSON_{DOOR})open =$
 $false(CRIMSON_{FENCE_{GATE}})open = false(CRIMSON_{TRAPDOOR})open = false(DARK_{OAK}_{DOOR})open =$
 $false(DARK_{OAK}_{FENCE_{GATE}})open = false(DARK_{OAK}_{TRAPDOOR})open = false(IRON_{DOOR})open =$

$false(IRON_T RAPDOOR)open = false(JUNGLE_D OOR)open = false(JUNGLE_FENCE_GATE)open =$
 $false(JUNGLE_T RAPDOOR)open = false(MANGROVE_D OOR)open = false(MANGROVE_FENCE_GATE)open =$
 $false(MANGROVE_T RAPDOOR)open = false(OAK_D OOR)open = false(OAK_FENCE_GATE)open =$
 $false(OAK_T RAPDOOR)open = false(SPRUCE_D OOR)open = false(SPRUCE_FENCE_GATE)open =$
 $false(SPRUCE_T RAPDOOR)open = false(WARPED_D OOR)open = false(WARPED_FENCE_GATE)open =$
 $false(WARPED_T RAPDOOR)orientation = north_{up}(JIGSAW)part = foot(BLACK_BED)part =$
 $foot(BLUE_BED)part = foot(BROWN_BED)part = foot(CYAN_BED)part = foot(GRAY_BED)part =$
 $foot(GREEN_BED)part = foot(LIGHT_BLUE_BED)part = foot(LIGHT_GRAY_BED)part =$
 $foot(LIME_BED)part = foot(MAGENTA_BED)part = foot(ORANGE_BED)part =$
 $foot(PINK_BED)part = foot(PURPLE_BED)part = foot(RED_BED)part = foot(WHITE_BED)part =$
 $foot(YELLOW_BED)pickles = 1(SEA_PICKLE)powered = false(ACACIA_BUTTON)powered =$
 $false(ACACIA_D OOR)powered = false(ACACIA_FENCE_GATE)powered = false(ACACIA_PRESSURE_Plate)powered =$
 $false(ACACIA_T RAPDOOR)powered = false(ACTIVATOR_RAIL)powered = false(BELL)powered =$
 $false(BIRCH_BUTTON)powered = false(BIRCH_D OOR)powered = false(BIRCH_FENCE_GATE)powered =$
 $false(BIRCH_PRESSURE_Plate)powered = false(BIRCH_T RAPDOOR)powered =$
 $false(COMPARATOR)powered = false(CRIMSON_BUTTON)powered = false(CRIMSON_D OOR)powered =$
 $false(CRIMSON_FENCE_GATE)powered = false(CRIMSON_PRESSURE_Plate)powered =$
 $false(CRIMSON_T RAPDOOR)powered = false(DARK_OAK_BUTTON)powered = false(DARK_OAK_D OOR)powered =$
 $false(DARK_OAK_FENCE_GATE)powered = false(DARK_OAK_PRESSURE_Plate)powered =$
 $false(DARK_OAK_T RAPDOOR)powered = false(DETECTOR_RAIL)powered = false(IRON_D OOR)powered =$
 $false(IRON_T RAPDOOR)powered = false(JUNGLE_BUTTON)powered = false(JUNGLE_D OOR)powered =$
 $false(JUNGLE_FENCE_GATE)powered = false(JUNGLE_PRESSURE_Plate)powered =$
 $false(JUNGLE_T RAPDOOR)powered = false(LECTERN)powered = false(LEVER)powered =$
 $false(LIGHTNING_ROD)powered = false(MANGROVE_BUTTON)powered = false(MANGROVE_D OOR)powered =$
 $false(MANGROVE_FENCE_GATE)powered = false(MANGROVE_PRESSURE_Plate)powered =$
 $false(MANGROVE_T RAPDOOR)powered = false(NOTE_BLOCK)powered = false(OAK_BUTTON)powered =$
 $false(OAK_D OOR)powered = false(OAK_FENCE_GATE)powered = false(OAK_PRESSURE_Plate)powered =$
 $false(OAK_T RAPDOOR)powered = false(OBSERVER)powered = false(POLISHED_BLACKSTONE_BUTTON)powered =$
 $false(POLISHED_BLACKSTONE_PRESSURE_Plate)powered = false(POWERED_RAIL)powered =$
 $false(REPEATER)powered = false(SPRUCE_BUTTON)powered = false(SPRUCE_D OOR)powered =$
 $false(SPRUCE_FENCE_GATE)powered = false(SPRUCE_PRESSURE_Plate)powered =$

false(SPRUCE_TRAPDOOR)*powered* = *false*(STONE_BUTTON)*powered* = *false*(STONE_PRESSURE)
false(TRIPWIRE)*powered* = *false*(TRIPWIRE_HOOK)*powered* = *false*(WARPED_BUTTON)*powered* =
false(WARPED_DOOR)*powered* = *false*(WARPED_FENCE_GATE)*powered* = *false*(WARPED_PRESSURE)
false(WARPED_TRAPDOOR)*rotation* = 0(ACACIA_SIGN)*rotation* = 0(BIRCH_SIGN)*rotation* =
0(BLACK_BANNER)*rotation* = 0(BLUE_BANNER)*rotation* = 0(BROWN_BANNER)*rotation* =
0(CREEPER_HHEAD)*rotation* = 0(CRIMSON_SIGN)*rotation* = 0(CYAN_BANNER)*rotation* =
0(DARK_OAK_SIGN)*rotation* = 0(DRAGON_HHEAD)*rotation* = 0(GRAY_BANNER)*rotation* =
0(GREEN_BANNER)*rotation* = 0(JUNGLE_SIGN)*rotation* = 0(LIGHT_BLUE_BANNER)*rotation* =
0(LIGHT_GRAY_BANNER)*rotation* = 0(LIME_BANNER)*rotation* = 0(MAGENTA_BANNER)*rotation* =
0(MANGROVE_SIGN)*rotation* = 0(OAK_SIGN)*rotation* = 0(ORANGE_BANNER)*rotation* =
0(PINK_BANNER)*rotation* = 0(PLAYER_HHEAD)*rotation* = 0(PURPLE_BANNER)*rotation* =
0(RED_BANNER)*rotation* = 0(SKELETON_SKULL)*rotation* = 0(SPRUCE_SIGN)*rotation* =
0(WARPED_SIGN)*rotation* = 0(WHITE_BANNER)*rotation* = 0(WITHER_SKELETON_SKULL)*rotation* =
0(YELLOW_BANNER)*rotation* = 0(ZOMBIE_HHEAD)*sculk_sensor_phase* = *inactive*(SCULK_SSENSOR)*shape* =
north_south(ACTIVATOR_RAIL)*shape* = *north_south*(DETECTOR_RAIL)*shape* = *north_south*(POWERED)
north_south(RAIL)*shape* = *straight*(ACACIA_STAIRS)*shape* = *straight*(ANDESITE_STAIRS)*shape* =
straight(BIRCH_STAIRS)*shape* = *straight*(BLACKSTONE_STAIRS)*shape* = *straight*(BRICK_STAIRS)
straight(COBBLED_DEEPSLATE_STAIRS)*shape* = *straight*(COBBLESTONE_STAIRS)*shape* =
straight(CRIMSON_STAIRS)*shape* = *straight*(CUT_COPPER_STAIRS)*shape* = *straight*(DARK_OAK_STAIRS)
straight(DARK_PRISMARINE_STAIRS)*shape* = *straight*(DEEPSLATE_BRICK_STAIRS)*shape* =
straight(DEEPSLATE_TILE_STAIRS)*shape* = *straight*(DIORITE_STAIRS)*shape* =
straight(END_SSTONE_BRICK_STAIRS)*shape* = *straight*(EXPOSED_CUT_COPPER_STAIRS)*shape* =
straight(GRANITE_STAIRS)*shape* = *straight*(JUNGLE_STAIRS)*shape* = *straight*(MANGROVE_STAIRS)
straight(MOSSY_COBBLESTONE_STAIRS)*shape* = *straight*(MOSSY_SSTONE_BRICK_STAIRS)*shape* =
straight(MUD_BRICK_STAIRS)*shape* = *straight*(NETHER_BRICK_STAIRS)*shape* =
straight(OAK_STAIRS)*shape* = *straight*(OXIDIZED_CUT_COPPER_STAIRS)*shape* =
straight(POLISHED_ANDESITE_STAIRS)*shape* = *straight*(POLISHED_BLACKSTONE_BRICK_STAIRS)
straight(POLISHED_BLACKSTONE_STAIRS)*shape* = *straight*(POLISHED_DEEPSLATE_STAIRS)*shape* =
straight(POLISHED_DIORITE_STAIRS)*shape* = *straight*(POLISHED_GRANITE_STAIRS)*shape* =
straight(PRISMARINE_BRICK_STAIRS)*shape* = *straight*(PRISMARINE_STAIRS)*shape* =
straight(PURPUR_STAIRS)*shape* = *straight*(QUARTZ_STAIRS)*shape* = *straight*(RED_NETHER_BRICK_STAIRS)

straight(RED_SANDSTONE_STAIRS)*shape* = *straight*(SANDSTONE_STAIRS)*shape* =
straight(SMOOTH_QUARTZ_STAIRS)*shape* = *straight*(SMOOTH_RED_SANDSTONE_STAIRS)*shape* =
straight(SMOOTH_SANDSTONE_STAIRS)*shape* = *straight*(SPRUCE_STAIRS)*shape* =
straight(STONE_BRICK_STAIRS)*shape* = *straight*(STONE_STAIRS)*shape* = *straight*(WARPED_STAIRS)*shape* =
straight(WAXED_CUT_COPPER_STAIRS)*shape* = *straight*(WAXED_EXPOSED_CUT_COPPER_STAIRS)*shape* =
straight(WAXED_OXIDIZED_CUT_COPPER_STAIRS)*shape* = *straight*(WAXED_WEATHERED_CUT_COPPER_STAIRS)*shape* =
straight(WEATHERED_CUT_COPPER_STAIRS)*signal_{fire}* = *false*(CAMPFIRE)*signal_{fire}* =
false(SOUL_CCAMPFIRE)*snowy* = *false*(GRASS_BLOCK)*snowy* = *false*(MYCELIUM)*snowy* =
false(PODZOL)*thickness* = *tip*(POINTED_DRIPSTONE)*type* = *bottom*(ACACIA_SLAB)*type* =
bottom(ANDESITE_SLAB)*type* = *bottom*(BIRCH_SLAB)*type* = *bottom*(BLACKSTONE_SLAB)*type* =
bottom(BRICK_SLAB)*type* = *bottom*(COBBLED_DEEPSLATE_SLAB)*type* = *bottom*(COBBLESTONE_SLAB)*type* =
bottom(CRIMSON_SLAB)*type* = *bottom*(CUT_COPPER_SLAB)*type* = *bottom*(CUT_RED_SANDSTONE_SLAB)*type* =
bottom(CUT_SANDSTONE_SLAB)*type* = *bottom*(DARK_OAK_SLAB)*type* = *bottom*(DARK_PPRISMARINE_SLAB)*type* =
bottom(DEEPSLATE_BRICK_SLAB)*type* = *bottom*(DEEPSLATE_TILE_SLAB)*type* =
bottom(DIORITE_SLAB)*type* = *bottom*(END_SSTONE_BRICK_SLAB)*type* = *bottom*(EXPOSED_CUT_COPPER_SLAB)*type* =
bottom(GRANITE_SLAB)*type* = *bottom*(JUNGLE_SLAB)*type* = *bottom*(MANGROVE_SLAB)*type* =
bottom(MOSSY_COBBLESTONE_SLAB)*type* = *bottom*(MOSSY_SSTONE_BRICK_SLAB)*type* =
bottom(MUD_BRICK_SLAB)*type* = *bottom*(NETHER_BRICK_SLAB)*type* = *bottom*(OAK_SLAB)*type* =
bottom(OXIDIZED_CUT_COPPER_SLAB)*type* = *bottom*(PETRIFIED_OAK_SLAB)*type* =
bottom(POLISHED_AANDESITE_SLAB)*type* = *bottom*(POLISHED_BLACKSTONE_BRICK_SLAB)*type* =
bottom(POLISHED_BLACKSTONE_SLAB)*type* = *bottom*(POLISHED_DEEPSLATE_SLAB)*type* =
bottom(POLISHED_DIORITE_SLAB)*type* = *bottom*(POLISHED_GGRANITE_SLAB)*type* =
bottom(PRISMARINE_BRICK_SLAB)*type* = *bottom*(PRISMARINE_SLAB)*type* = *bottom*(PURPUR_SLAB)*type* =
bottom(QUARTZ_SLAB)*type* = *bottom*(RED_NETHER_BRICK_SLAB)*type* = *bottom*(RED_SANDSTONE_SLAB)*type* =
bottom(SANDSTONE_SLAB)*type* = *bottom*(SMOOTH_QUARTZ_SLAB)*type* = *bottom*(SMOOTH_RED_SANDSTONE_SLAB)*type* =
bottom(SMOOTH_SANDSTONE_SLAB)*type* = *bottom*(SMOOTH_SSTONE_SLAB)*type* =
bottom(SPRUCE_SLAB)*type* = *bottom*(STONE_BRICK_SLAB)*type* = *bottom*(STONE_SLAB)*type* =
bottom(WARPED_SLAB)*type* = *bottom*(WAXED_CUT_COPPER_SLAB)*type* = *bottom*(WAXED_EXPOSED_CUT_COPPER_SLAB)*type* =
bottom(WAXED_OXIDIZED_CUT_COPPER_SLAB)*type* = *bottom*(WAXED_WEATHERED_CUT_COPPER_SLAB)*type* =
bottom(WEATHERED_CUT_COPPER_SLAB)*type* = *normal*(MOVING_PISTON)*type* =
normal(PISTON_HEAD)*type* = *single*(CHEST)*type* = *single*(TRAPPED_CHEST)*up* =

false(CHORUS_PLANT)up = false(FIRE)up = false(GLOW_LICHEN)up = false(SCULK_VEIN)up =
false(VINE)up = true(ANDESITE_WALL)up = true(BLACKSTONE_WALL)up =
true(BRICK_WALL)up = true(BROWN_MUSHROOM_BLOCK)up = true(COBBLED_DEEPSLATE_WALL)up =
true(COBBLESTONE_WALL)up = true(DEEPSLATE_BRICK_WALL)up = true(DEEPSLATE_TILE_WALL)up =
true(DIORITE_WALL)up = true(ENDSTONE_BRICK_WALL)up = true(GRANITE_WALL)up =
true(MOSSY_COBBLESTONE_WALL)up = true(MOSSY_STONE_BRICK_WALL)up =
true(MUD_BRICK_WALL)up = true(MUSHROOM_STEM)up = true(NETHER_BRICK_WALL)up =
true(POLISHED_BLACKSTONE_BRICK_WALL)up = true(POLISHED_BLACKSTONE_WALL)up =
true(POLISHED_DEEPSLATE_WALL)up = true(PRISMARINE_WALL)up = true(RED_MUSHROOM_BLOCK)up =
true(RED_NETHER_BRICK_WALL)up = true(RED_SANDSTONE_WALL)up = true(SANDSTONE_WALL)up =
true(STONE_BRICK_WALL)vertical_direction = up(POINTED_DRIPSTONE)waterlogged =
false(ACACIA_FENCE)

A.1.13 Waterlogged

waterlogged=false (ACACIA_LEAVES)waterlogged = false(ACACIA_SIGN)waterlogged =
false(ACACIA_SLAB)waterlogged = false(ACACIA_STAIRS)waterlogged = false(ACACIA_TRAPDOOR)waterlogged =
false(ACACIA_WALL_SIGN)waterlogged = false(ACTIVATOR_RAIL)waterlogged =
false(AMETHYST_CLUSTER)waterlogged = false(ANDESITE_SLAB)waterlogged =
false(ANDESITE_STAIRS)waterlogged = false(ANDESITE_WALL)waterlogged = false(AZALEA_LEAVES)waterlogged =
false(BIG_DRIPLEAF)waterlogged = false(BIG_DRIPLEAF_STEM)waterlogged = false(BIRCH_FENCE)waterlogged =
false(BIRCH_LEAVES)waterlogged = false(BIRCH_SIGN)waterlogged = false(BIRCH_SLAB)waterlogged =
false(BIRCH_STAIRS)waterlogged = false(BIRCH_TRAPDOOR)waterlogged = false(BIRCH_WALL_SIGN)waterlogged =
false(BLACKSTONE_SLAB)waterlogged = false(BLACKSTONE_STAIRS)waterlogged =
false(BLACKSTONE_WALL)waterlogged = false(BLACK_CANDLE)waterlogged =
false(BLACK_STAINED_GLASS_PANE)waterlogged = false(BLUE_CANDLE)waterlogged =
false(BLUE_STAINED_GLASS_PANE)waterlogged = false(BRICK_SLAB)waterlogged =
false(BRICK_STAIRS)waterlogged = false(BRICK_WALL)waterlogged = false(BROWN_CANDLE)waterlogged =
false(BROWN_STAINED_GLASS_PANE)waterlogged = false(CAMPFIRE)waterlogged =
false(CANDLE)waterlogged = false(CHAIN)waterlogged = false(CHEST)waterlogged =
false(COBBLED_DEEPSLATE_SLAB)waterlogged = false(COBBLED_DEEPSLATE_STAIRS)waterlogged =
false(COBBLED_DEEPSLATE_WALL)waterlogged = false(COBBLESTONE_SLAB)waterlogged =

false(COBBLESTONE_STAIRS)waterlogged = false(COBBLESTONE_WALL)waterlogged =
false(CRIMSON_FENCE)waterlogged = false(CRIMSON_SIGN)waterlogged = false(CRIMSON_SLAB)
false(CRIMSON_STAIRS)waterlogged = false(CRIMSON_TRAPDOOR)waterlogged =
false(CRIMSON_WALL_SIGN)waterlogged = false(CUT_COPPER_SLAB)waterlogged =
false(CUT_COPPER_STAIRS)waterlogged = false(CUT_RED_SANDSTONE_SLAB)waterlogged =
false(CUT_SANDSTONE_SLAB)waterlogged = false(CYAN_CANDLE)waterlogged =
false(CYAN_STAINED_GLASS_PANE)waterlogged = false(DARK_OAK_FENCE)waterlogged =
false(DARK_OAK_LEAVES)waterlogged = false(DARK_OAK_SIGN)waterlogged = false(DARK_OAK_SLAB)
false(DARK_OAK_STAIRS)waterlogged = false(DARK_OAK_TRAPDOOR)waterlogged =
false(DARK_OAK_WALL_SIGN)waterlogged = false(DARK_PRISMARINE_SLAB)waterlogged =
false(DARK_PRISMARINE_STAIRS)waterlogged = false(DEEPSLATE_BRICK_SLAB)waterlogged =
false(DEEPSLATE_BRICK_STAIRS)waterlogged = false(DEEPSLATE_BRICK_WALL)waterlogged =
false(DEEPSLATE_TILE_SLAB)waterlogged = false(DEEPSLATE_TILE_STAIRS)waterlogged =
false(DEEPSLATE_TILE_WALL)waterlogged = false(DETECTOR_RAIL)waterlogged =
false(DIORITE_SLAB)waterlogged = false(DIORITE_STAIRS)waterlogged = false(DIORITE_WALL)waterlogged =
false(ENDER_CHEST)waterlogged = false(END_STONE_BRICK_SLAB)waterlogged =
false(END_STONE_BRICK_STAIRS)waterlogged = false(END_STONE_BRICK_WALL)waterlogged =
false(EXPOSED_CUT_COPPER_SLAB)waterlogged = false(EXPOSED_CUT_COPPER_STAIRS)waterlogged =
false(FLOWERING_AZALEA_LEAVES)waterlogged = false(GLASS_PANE)waterlogged =
false(GLOW_LICHEN)waterlogged = false(GRANITE_SLAB)waterlogged = false(GRANITE_STAIRS)
false(GRANITE_WALL)waterlogged = false(GRAY_CANDLE)waterlogged = false(GRAY_STAINED_GLAB)
false(GREEN_CANDLE)waterlogged = false(GREEN_STAINED_GLASS_PANE)waterlogged =
false(HANGING_RROOTS)waterlogged = false(IRON_BARS)waterlogged = false(IRON_TRAPDOOR)waterlogged =
false(JUNGLE_FENCE)waterlogged = false(JUNGLE_LEAVES)waterlogged = false(JUNGLE_SIGN)waterlogged =
false(JUNGLE_SLAB)waterlogged = false(JUNGLE_STAIRS)waterlogged = false(JUNGLE_TRAPDOOR)waterlogged =
false(JUNGLE_WALL_SIGN)waterlogged = false(LADDER)waterlogged = false(LANTERN)waterlogged =
false(LARGE_AMETHYST_BUD)waterlogged = false(LIGHTNING_ROD)waterlogged =
false(LIGHT_BLU_CANDLE)waterlogged = false(LIGHT_BLU_STAINED_GLASS_PANE)waterlogged =
false(LIGHT_GRAY_CANDLE)waterlogged = false(LIGHT_GRAY_STAINED_GLASS_PANE)waterlogged =
false(LIME_CANDLE)waterlogged = false(LIME_STAINED_GLASS_PANE)waterlogged =
false(MAGENTA_CANDLE)waterlogged = false(MAGENTA_STAINED_GLASS_PANE)waterlogged =

false(MANGROVE_{FENCE})waterlogged = *false*(MANGROVE_{LEAVES})waterlogged =
false(MANGROVE_{PROPAGULE})waterlogged = *false*(MANGROVE_{ROOTS})waterlogged =
false(MANGROVE_{SIGN})waterlogged = *false*(MANGROVE_{SLAB})waterlogged = *false*(MANGROVE_{STAIRS})waterlogged =
false(MANGROVE_{TRAPDOOR})waterlogged = *false*(MANGROVE_{WALLSIGN})waterlogged =
false(MEDIUM_{AMETHYSTBUD})waterlogged = *false*(MOSSY_{CORBLESTONESLAB})waterlogged =
false(MOSSY_{CORBLESTONESTAIRS})waterlogged = *false*(MOSSY_{CORBLESTONEWALL})waterlogged =
false(MOSSY_{STONEBRICKSLAB})waterlogged = *false*(MOSSY_{STONEBRICKSTAIRS})waterlogged =
false(MOSSY_{STONEBRICKWALL})waterlogged = *false*(MUD_{BRICKSLAB})waterlogged =
false(MUD_{BRICKSTAIRS})waterlogged = *false*(MUD_{BRICKWALL})waterlogged =
false(NETHER_{BRICKFENCE})waterlogged = *false*(NETHER_{BRICKSLAB})waterlogged =
false(NETHER_{BRICKSTAIRS})waterlogged = *false*(NETHER_{BRICKWALL})waterlogged =
false(OAK_{FENCE})waterlogged = *false*(OAK_{LEAVES})waterlogged = *false*(OAK_{SIGN})waterlogged =
false(OAK_{SLAB})waterlogged = *false*(OAK_{STAIRS})waterlogged = *false*(OAK_{TRAPDOOR})waterlogged =
false(OAK_{WALLSIGN})waterlogged = *false*(ORANGE_{CANDLE})waterlogged = *false*(ORANGE_{STAIRS})waterlogged =
false(OXIDIZED_{CUTCOPPERSLAB})waterlogged = *false*(OXIDIZED_{CUTCOPPERSTAIRS})waterlogged =
false(PETRIFIED_{OAKSLAB})waterlogged = *false*(PINK_{CANDLE})waterlogged =
false(PINK_{STAINEDGLASSPANE})waterlogged = *false*(POINTED_{DRIPOSTONE})waterlogged =
false(POLISHED_{ANDESITESLAB})waterlogged = *false*(POLISHED_{ANDESITESAIRS})waterlogged =
false(POLISHED_{BLACKSTONEBRICKSLAB})waterlogged = *false*(POLISHED_{BLACKSTONEBRICKSTAIRS})waterlogged =
false(POLISHED_{BLACKSTONEBRICKWALL})waterlogged = *false*(POLISHED_{BLACKSTONESLAB})waterlogged =
false(POLISHED_{BLACKSTONESTAIRS})waterlogged = *false*(POLISHED_{BLACKSTONEWALL})waterlogged =
false(POLISHED_{DEEPSLATESLAB})waterlogged = *false*(POLISHED_{DEEPSLATESAIRS})waterlogged =
false(POLISHED_{DEEPSLATEWALL})waterlogged = *false*(POLISHED_{DIORITESLAB})waterlogged =
false(POLISHED_{DIORITESAIRS})waterlogged = *false*(POLISHED_{GRANITESLAB})waterlogged =
false(POLISHED_{GRANITESAIRS})waterlogged = *false*(POWERED_{RAIL})waterlogged =
false(PRISMARINE_{BRICKSLAB})waterlogged = *false*(PRISMARINE_{BRICKSTAIRS})waterlogged =
false(PRISMARINE_{SLAB})waterlogged = *false*(PRISMARINE_{STAIRS})waterlogged =
false(PRISMARINE_{WALL})waterlogged = *false*(PURPLE_{CANDLE})waterlogged =
false(PURPLE_{STAINEDGLASSPANE})waterlogged = *false*(PURPUR_{SLAB})waterlogged =
false(PURPUR_{STAIRS})waterlogged = *false*(QUARTZ_{SLAB})waterlogged = *false*(QUARTZ_{STAIRS})waterlogged =
false(RAIL)waterlogged = *false*(RED_{CANDLE})waterlogged = *false*(RED_{NETHERBRICKSLAB})waterlogged =

false(RED_NETHER_BRICK_STAIRS)waterlogged = *false*(RED_NETHER_BRICK_WALL)waterlogged =
false(RED_SANDSTONE_SLAB)waterlogged = *false*(RED_SANDSTONE_STAIRS)waterlogged =
false(RED_SANDSTONE_WALL)waterlogged = *false*(RED_STAINED_GLASS_PANE)waterlogged =
false(SANDSTONE_SLAB)waterlogged = *false*(SANDSTONE_STAIRS)waterlogged =
false(SANDSTONE_WALL)waterlogged = *false*(SCAFFOLDING)waterlogged = *false*(SCULK_SENSO
false(SCULK_SHRIEKER)waterlogged = *false*(SCULK_VEIN)waterlogged = *false*(SMALL_AMETHY
false(SMALL_DRIPLEAF)waterlogged = *false*(SMOOTH_QUARTZ_SLAB)waterlogged =
false(SMOOTH_QUARTZ_STAIRS)waterlogged = *false*(SMOOTH_RED_SANDSTONE_SLAB)waterlogged =
false(SMOOTH_RED_SANDSTONE_STAIRS)waterlogged = *false*(SMOOTH_SANDSTONE_SLAB)waterlogged =
false(SMOOTH_SANDSTONE_STAIRS)waterlogged = *false*(SMOOTH_STONE_SLAB)waterlogged =
false(SOUL_CAMPFIRE)waterlogged = *false*(SOUL_LANTERN)waterlogged = *false*(SPRUCE_FENC
false(SPRUCE_LEAVES)waterlogged = *false*(SPRUCE_SIGN)waterlogged = *false*(SPRUCE_SLAB)waterlogged =
false(SPRUCE_STAIRS)waterlogged = *false*(SPRUCE_TRAPDOOR)waterlogged =
false(SPRUCE_WALL_SIGN)waterlogged = *false*(STONE_BRICK_SLAB)waterlogged =
false(STONE_BRICK_STAIRS)waterlogged = *false*(STONE_BRICK_WALL)waterlogged =
false(STONE_SLAB)waterlogged = *false*(STONE_STAIRS)waterlogged = *false*(TRAPPED_CHEST)waterlogged =
false(WARPED_FENCE)waterlogged = *false*(WARPED_SIGN)waterlogged = *false*(WARPED_SLAB)waterlogged =
false(WARPED_STAIRS)waterlogged = *false*(WARPED_TRAPDOOR)waterlogged =
false(WARPED_WALL_SIGN)waterlogged = *false*(WAXED_CUT_COPPER_SLAB)waterlogged =
false(WAXED_CUT_COPPER_STAIRS)waterlogged = *false*(WAXED_EXPOSED_CUT_COPPER_SLAB)waterlogged =
false(WAXED_EXPOSED_CUT_COPPER_STAIRS)waterlogged = *false*(WAXED_OXIDIZED_CUT_COPPER_SLAB)waterlogged =
false(WAXED_OXIDIZED_CUT_COPPER_STAIRS)waterlogged = *false*(WAXED_WEATHERED_CUT_COPPER_SLAB)waterlogged =
false(WAXED_WEATHERED_CUT_COPPER_STAIRS)waterlogged = *false*(WEATHERED_CUT_COPPER_SLAB)waterlogged =
false(WEATHERED_CUT_COPPER_STAIRS)waterlogged = *false*(WHITE_CANDLE)waterlogged =
false(WHITE_STAINED_GLASS_PANE)waterlogged = *false*(YELLOW_CANDLE)waterlogged =
false(YELLOW_STAINED_GLASS_PANE)

waterlogged=true (BRAIN_CORAL)waterlogged = *true*(BRAIN_CORAL_FAN)waterlogged =
true(BRAIN_CORAL_WALL_FAN)waterlogged = *true*(BUBBLE_CORAL)waterlogged =
true(BUBBLE_CORAL_FAN)waterlogged = *true*(BUBBLE_CORAL_WALL_FAN)waterlogged =
true(CONDUIT)waterlogged = *true*(DEAD_BRAIN_CORAL)waterlogged = *true*(DEAD_BRAIN_CORAL_FAN)waterlogged =
true(DEAD_BRAIN_CORAL_WALL_FAN)waterlogged = *true*(DEAD_BUBBLE_CORAL)waterlogged =

$true(DEAD_{BUBBLE_C}ORAL_{FAN})waterlogged = true(DEAD_{BUBBLE_C}ORAL_{WALL_{FAN}})waterlogged =$
 $true(DEAD_{FIRE_C}ORAL)waterlogged = true(DEAD_{FIRE_C}ORAL_{FAN})waterlogged =$
 $true(DEAD_{FIRE_C}ORAL_{WALL_{FAN}})waterlogged = true(DEAD_{HORN_C}ORAL)waterlogged =$
 $true(DEAD_{HORN_C}ORAL_{FAN})waterlogged = true(DEAD_{HORN_C}ORAL_{WALL_{FAN}})waterlogged =$
 $true(DEAD_{TUBE_C}ORAL)waterlogged = true(DEAD_{TUBE_C}ORAL_{FAN})waterlogged =$
 $true(DEAD_{TUBE_C}ORAL_{WALL_{FAN}})waterlogged = true(FIRE_CORAL)waterlogged =$
 $true(FIRE_CORAL_{FAN})waterlogged = true(FIRE_CORAL_{WALL_{FAN}})waterlogged =$
 $true(HORN_CORAL)waterlogged = true(HORN_CORAL_{FAN})waterlogged = true(HORN_CORAL_{WALL_{FAN}})waterlogged =$
 $true(SEA_{PICKLE})waterlogged = true(TUBE_CORAL)waterlogged = true(TUBE_CORAL_{FAN})waterlogged =$
 $true(TUBE_CORAL_{WALL_{FAN}})$

A.2 Material modifiers concatenation

... (how to join modifiers)

References

Papermc. (n.d.). Retrieved from <https://papermc.io/>

Spigot. (n.d.). Retrieved from <https://www.spigotmc.org/>

Spigot - enum material. (n.d.). Retrieved 2022-08-04, from <https://hub.spigotmc.org/javadocs/bukkit/org/bukkit/Material.html>

Spigot - interface blockdata. (n.d.). Retrieved 2022-08-04, from <https://hub.spigotmc.org/javadocs/bukkit/org/bukkit/block/data/BlockData.html>

Worldguard. (n.d.). Retrieved from <https://dev.bukkit.org/projects/worldguard>

World - minecraft wiki. (n.d.). Retrieved from <https://minecraft.fandom.com/wiki/World>