半小时速成丐版超垃圾 Minecraft: Java Edition 服务器

2024 年 3 月 3 日

参考资料

▶ `https://wiki.vg/`

▶ `https://minecraft.wiki/`

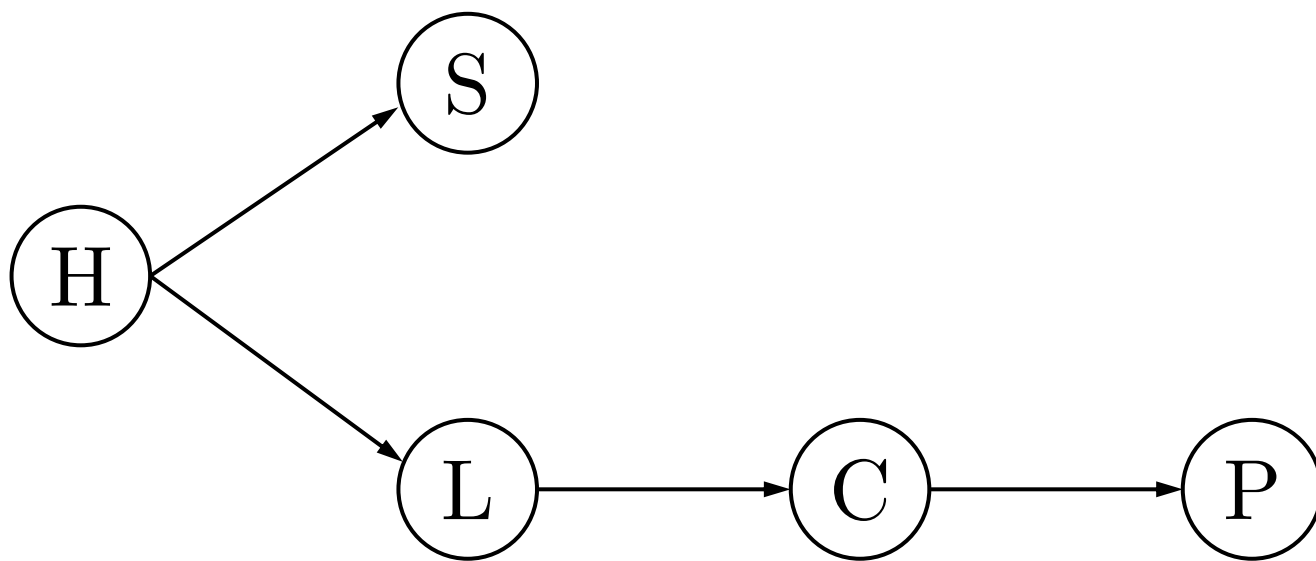# Minecraft: Java Edition 历史

▶ Minecraft Modern 1.7+

▶ Minecraft Modern 1.6-

▶ Minecraft Classic

Minecraft Modern 协议基础

▶ TCP, 默认端口 25565

▶ C/S 架构

▶ 状态机

▶ 数据包格式

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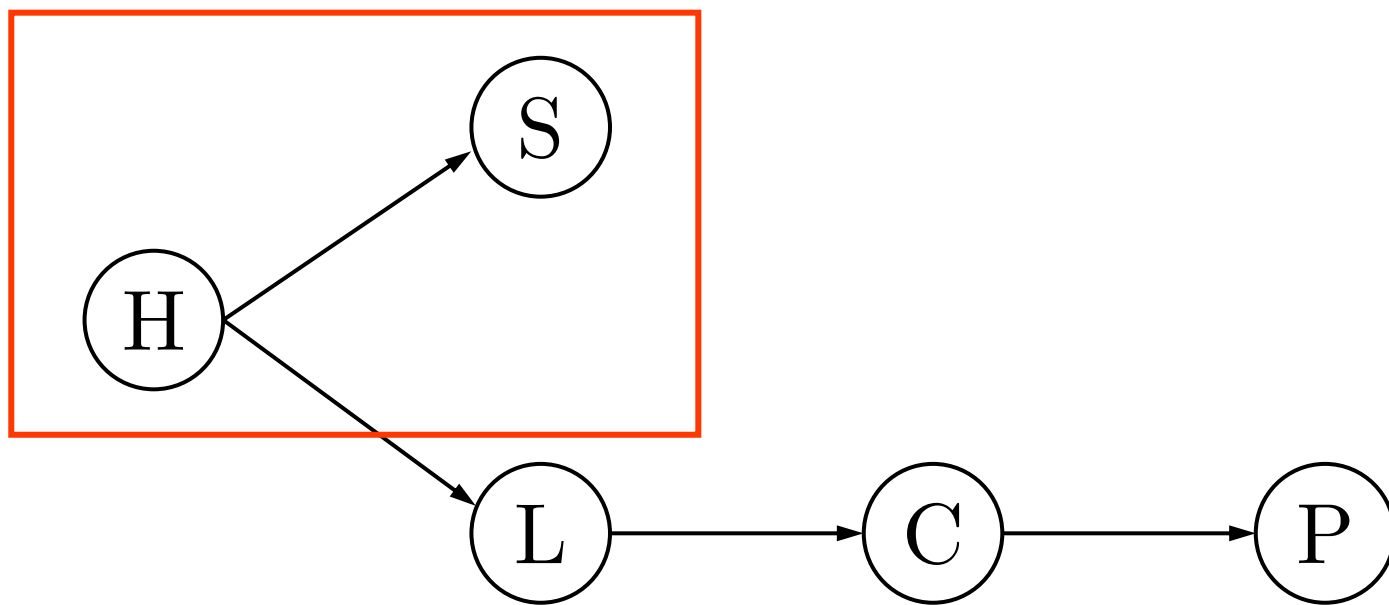
状态机

H: Handshake

S: Status

L: Login

C: Configuration

P: Play

丐版超垃圾服务器要实现的功能

▶ 运行

▶ 监听 TCP 端口 25565

▶ 对客户端的握手进行响应

▶ 对客户端在服务器列表里的 Ping 进行响应

状态机

H: Handshake

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数据包格式基础

▶ 网络端序 (大端序)

▶ i32 的序列化表示 (VarInt)

▶ 前缀帧数据长度

▶ String 的序列化表示

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0xdd	0xc7	0x01
1101 1101	1100 0111	0000 0001
0x5d<<14	0x47<<7	0x01<<0
25565		

数据包格式

▶ 帧数据长度 (VarInt)

▶ 数据包 ID (VarInt)

▶ 数据

String

0x03 0000 0011	0xe8 11101000	0x9b 10011011	0xa4 10100100
3 (VarInt)	蛤 (UTF-8)		

Protocol Version	`VarInt`
Server Address	`String`
Server Port	`u16`
Next State	`VarInt`

Status :: Status Request (C2S, 0x00)

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JSON Response	String

Status :: Status Response (S2C, 0x00)

```json
{
  "version": {
    "name": "1.20.4",
    "protocol": 765
  }
}
```

{"version":{"name":"1.20.4","protocol":765},"players":{"max":-2147483648,"online":-1,"sample":[{"name":"jeb_","id":"853c80ef-3c37-49fd-aa49-938b674adae6"}]},"description":{"text":"","color":"yellow","extra":[{"text":"aaa ","obfuscated":true},{"translate":"disconnect.loginFailedInfo.userBanned","color":"red","bold":true},{"text":" aaa","obfuscated":true}]}}

Payload	u64

Payload	u64