

# Network Protocol

Each command below includes two representations:

- **User Input:** What the user types (no concealed parameters)
- **Server Receives:** Full network message with concealed parameters:

```
|ObjectId,GameSessionId,UsernameId,MessageId|
```

## 0.1 CREATEGAME

This command creates a new game session with the given name.

**User Input:**

```
CREATEGAME{REQUEST}[S:GameSessionName]
```

**Server Receives:**

```
CREATEGAME{REQUEST}[S:GameSessionName] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-001|
```

## 0.2 JOINGAME

This command joins the specified existing game session.

**User Input:**

```
JOINGAME{REQUEST}[S:GameSessionName]
```

**Server Receives:**

```
JOINGAME{REQUEST}[S:GameSessionName] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-002|
```

## 0.3 CREATEGO – Platform

Creates a platform object with defined position and size in the game world.

**User Input:**

```
CREATEGO{REQUEST}[S:Platform, S:Floor, D:100.0, D:300.0, D:800.0, D:20.0, S:GameSessionId  
]
```

**Server Receives:**

```
CREATEGO{REQUEST}[S:Platform, S:Floor, D:100.0, D:300.0, D:800.0, D:20.0, S:GameSessionId  
] |S:Floor,S:64c6afbd-e581-4b72-99b4-4192e3f1e1ee,S:UsernameId,S:uuid-100|
```

## 0.4 CREATEGO – Box

Creates a box object with position, size and mass.

**User Input:**

```
CREATEGO{REQUEST}[S:Box, S:Box1, F:300.0, F:100.0, F:30.0, F:30.0, F:100, S:GameSessionId  
]
```

**Server Receives:**

```
CREATEGO{REQUEST}[S:Box, S:Box1, F:300.0, F:100.0, F:30.0, F:30.0, F:100, S:GameSessionId  
] |S:Box1,S:83d890c2-b894-465f-8f25-522ad2bfa0e9,S:UsernameId,S:uuid-101|
```

## 0.5 CREATEGO – Door

Creates a door object at a specific location.

**User Input:**

```
CREATEGO{REQUEST}[S:Door, S:Door1, F:800.0, F:100.0, F:50.0, F:120.0, S:GameSessionId]
```

**Server Receives:**

```
CREATEGO{REQUEST}[S:Door, S:Door1, F:800.0, F:100.0, F:50.0, F:120.0, S:GameSessionId] |S  
:Door1,S:2a4af5f6-afe9-44df-bfaf-826c235c9bb1,S:UsernameId,S:uuid-102|
```

## 0.6 CREATEGO – Key

Creates a key object used for unlocking doors or other objects.

**User Input:**

```
CREATEGO{REQUEST}[S:Key, S:Key1, F:150.0, F:100.0, F:30.0, F:30.0, F:100.0, S:  
GameSessionId]
```

**Server Receives:**

```
CREATEGO{REQUEST}[S:Key, S:Key1, F:150.0, F:100.0, F:30.0, F:30.0, F:100.0, S:  
GameSessionId] |S:Key1,S:f31da970-0abf-4ef2-b4cd-62c6c120e066,S:UsernameId,S:uuid  
-103|
```

## 0.7 CREATEGO – MovingPlatform

Creates a moving platform with movement distance, speed and delay.

**User Input:**

```
CREATEGO{REQUEST}[S:MovingPlatform, S:Platform1, F:200.0, F:300.0, F:200.0, F:50.0, F  
:300.0, F:10.0, F:10.0, F:5.0, S:GameSessionId]
```

**Server Receives:**

```
CREATEGO{REQUEST}[S:MovingPlatform, S:Platform1, F:200.0, F:300.0, F:200.0, F:50.0, F  
:300.0, F:10.0, F:10.0, F:5.0, S:GameSessionId] |S:Platform1,S:49420932-1c0d-46c6-9  
d46-06d37f1b0efe,S:UsernameId,S:uuid-104|
```

## 0.8 SELECTGO

Selects a game object by name within a game session.

**User Input:**

```
SELECTGO{REQUEST}[S:GameSessionId, S:Player1]
```

**Server Receives:**

```
SELECTGO{REQUEST}[S:GameSessionId, S:Player1] |S:Player1,S:GameSessionId,S:Player1,S:uuid-004|
```

## 0.9 CHANGENAME

Changes the display name of an existing game object.

**User Input:**

```
CHANGENAME{REQUEST}[S: GameSessionId, S:GameObjectName, S:NewHero]
```

**Server Receives:**

```
CHANGENAME{REQUEST}[S:GameSession123, S:Object42, S:NewHero] |S:NewHero,S:GameSessionId,S:Player1,S:uuid-005|
```

## 0.10 DELETEGO

Deletes a specified game object from the game session.

**User Input:**

```
DELETEGO{REQUEST}[S:GameSessionId, S:Object42]
```

**Server Receives:**

```
DELETEGO{REQUEST}[S:GameSession123, S:Object42] |S:Object42,S:GameSession123,S:Player1,S:uuid-006|
```

## 0.11 PING

Sends a ping request to check the connection.

**User Input:**

```
PING{REQUEST}[]
```

**Server Receives:**

```
PING{REQUEST}[] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-007|
```

## 0.12 USERJOINED

Checks whether a username is already taken and suggests a new one if needed.

**User Input:**

```
USERJOINED{REQUEST}[S:MegaPlayer]
```

**Server Receives:**

```
USERJOINED{REQUEST}[S:MegaPlayer] |S:MegaPlayer,S:GameSessionId,S:UsernameId,S:uuid-008|
```

### 0.13 LOGIN

Connects a client and assigns them to a game object by name.

**User Input:**

```
LOGIN{REQUEST}[S:NinjaGuy]
```

**Server Receives:**

```
LOGIN{REQUEST}[S:NinjaGuy] |S:NinjaGuy,S:GameSession123,S:UsernameId,S:uuid-009|
```

### 0.14 LOGOUT

Logs the client out and disconnects them from the game session.

**User Input:**

```
LOGOUT{REQUEST}[S:Player1]
```

**Server Receives:**

```
LOGOUT{REQUEST}[S:Player1] |S:Player1,S:GameSession123,S:UsernameId,S:uuid-010|
```

### 0.15 EXIT

Terminates the client's session and shuts down their connection.

**User Input:**

```
EXIT{REQUEST}[]
```

**Server Receives:**

```
EXIT{REQUEST}[] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-011|
```

### 0.16 WHISPER

Sends a private message to a specified user.

**User Input:**

```
WHISPER{REQUEST}[S:TargetUser, S:Hello privately!]
```

**Server Receives:**

```
WHISPER{REQUEST}[S:TargetUser, S:Hello privately!] |S:Player1,S:GameSessionId,S:Player1,S:uuid-013|
```

### 0.17 GETOBJECTID

Requests the object ID associated with a given username.

**User Input:**

```
GETOBJECTID{REQUEST}[S:Username]
```

**Server Receives:**

```
GETOBJECTID{REQUEST}[S:Username] |S:Username,S:GameSessionId,S:UsernameId,S:uuid-014|
```

## 0.18 GETUSERS

Requests a list of all users in the current game session.

**User Input:**

```
GETUSERS{REQUEST}[]
```

**Server Receives:**

```
GETUSERS{REQUEST}[] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-015|
```

## 0.19 REGISTER

Registers a new client username

**User Input:**

```
REGISTER{REQUEST}[S:DesiredUsername]
```

**Server Receives:**

```
REGISTER{REQUEST}[S:DesiredUsername] |S:DesiredUsername,S:GameSessionId,S:DesiredUsername,S:uuid-000|
```

## 0.20 WIN

Server notifies the Client that the current player has completed the level.

**Server sends:**

```
WIN{RESPONSE}[S:You won the Game!, F:elapsed time ]  
|S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-011|
```

**Client receives**

```
WIN{RESPONSE}[S:You won the Game!, F:elapsed time ]  
|S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-011|
```

## 0.21 SYNCGP

Synchronizes the full game state (e.g. positions, names, flags) for a session.

**User Input:**

```
SYNCGP{REQUEST}[S:GameSessionId]
```

**Server Receives:**

```
SYNCGP{REQUEST}[S:GameSessionId] |S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-016|
```

## 0.22 SNAPSHOT

Requests an immediate “snapshot” of all game objects and properties.

**User Input:**

```
SNAPSHOT{REQUEST}[F:posX,F:posY,F:velX,F:velY,F:accX,F:accY]
```

**Server Receives:**

```
SNAPSHOT{REQUEST}[F:posX,F:posY,F:velX,F:velY,F:accX,F:accY]  
|S:ObjectId,S:GameSessionId,S:UsernameId,S:uuid-016|
```