# Amazon GameLift Service

**API Reference**

**API Version 2015-10-01**

# Amazon GameLift Service: API Reference

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# Table of Contents

# Welcome

Welcome to the *Amazon GameLift API Reference*. Amazon GameLift is a managed Amazon Web Services (AWS) service for developers who need a scalable, server-based solution for multiplayer games. Amazon GameLift provides setup and deployment of game servers, and handles infrastructure scaling and session management.

This reference describes the low-level service API for GameLift. You can call this API directly or use the AWS SDK for your preferred language. The AWS SDK includes a set of high-level GameLift actions multiplayer game sessions. Alternatively, you can use the AWS command-line interface (CLI) tool, which includes commands for GameLift. For administrative actions, you can also use the Amazon GameLift console.

**More Resources**

- Amazon GameLift Developer Guide: Learn more about GameLift features and how to use them
- Lumberyard and GameLift Tutorials: Get started fast with walkthroughs and sample projects
- GameDev Blog: Stay up to date with new features and techniques
- GameDev Forums: Connect with the GameDev community

**Manage Games and Players Through GameLift**

Call these actions from your game clients and/or services to create and manage multiplayer game sessions and player sessions.

- **Game sessions:**
  - CreateGameSession (p. 15)
  - DescribeGameSessions (p. 51)
  - DescribeGameSessionDetails (p. 48)
  - UpdateGameSession (p. 99)
  - SearchGameSessions (p. 82)
- **Player sessions:**
  - CreatePlayerSession (p. 19)
  - CreatePlayerSessions (p. 21)
  - DescribePlayerSessions (p. 56)
- **Other actions:**
  - GetGameSessionLogUrl (p. 64)

**Set Up and Manage Game Servers**

Use these administrative actions to configure GameLift to host your game servers. When setting up GameLift, you will need to (1) configure a build for your game and upload build files, and (2) set up one or more fleets to host game sessions. Once you've created and activated a fleet, you can assign aliases to it, scale capacity, track performance and utilization, etc.

To view changes to the API, see the GameLift Document History page.

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# Actions

The following actions are supported:

# CreateAlias

Creates an alias for a fleet. You can use an alias to anonymize your fleet by referencing an alias instead of a specific fleet when you create game sessions. Amazon GameLift supports two types of routing strategies for aliases: simple and terminal. Use a simple alias to point to an active fleet. Use a terminal alias to display a message to incoming traffic instead of routing players to an active fleet. This option is useful when a game server is no longer supported but you want to provide better messaging than a standard 404 error.

To create a fleet alias, specify an alias name, routing strategy, and optional description. If successful, a new alias record is returned, including an alias ID, which you can reference when creating a game session. To reassign the alias to another fleet ID, call UpdateAlias (p. 88).

## Request Syntax

```
{
    "Description": "string",
    "Name": "string",
    "RoutingStrategy": {
        "FleetId": "string",
        "Message": "string",
        "Type": "string"
    }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**Name (p. 5)**
Descriptive label associated with an alias. Alias names do not need to be unique.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1024.
Pattern: `.*\S.*`
Required: Yes

**RoutingStrategy (p. 5)**
Object specifying the fleet and routing type to use for the alias.
Type: RoutingStrategy (p. 128) object
Required: Yes

**Description (p. 5)**
Human-readable description of an alias.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1024.
Required: No

## Response Syntax

```
{
```

```
    "Alias": {
        "AliasId": "string",
        "CreationTime": number,
        "Description": "string",
        "LastUpdatedTime": number,
        "Name": "string",
        "RoutingStrategy": {
            "FleetId": "string",
            "Message": "string",
            "Type": "string"
        }
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Alias (p. 5)**

Object containing the newly created alias record.

Type: Alias (p. 105) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# CreateBuild

Initializes a new build record and generates information required to upload a game build to Amazon GameLift. Once the build record has been created and its status is `INITIALIZED`, you can upload your game build.

**Important**
Do not use this API action unless you are using your own Amazon Simple Storage Service (Amazon S3) client and need to manually upload your build files. Instead, to create a build, use the CLI command `upload-build`, which creates a new build record and uploads the build files in one step. (See the Amazon GameLift Developer Guide help on packaging and uploading your build.)

To create a new build, identify the operating system of the game server binaries. All game servers in a build must use the same operating system. Optionally, specify a build name and version; this metadata is stored with other properties in the build record and is displayed in the GameLift console (it is not visible to players). If successful, this action returns the newly created build record along with the Amazon S3 storage location and AWS account credentials. Use the location and credentials to upload your game build.

## Request Syntax

```
{
    "Name": "string",
    "OperatingSystem": "string",
    "StorageLocation": {
        "Bucket": "string",
        "Key": "string",
        "RoleArn": "string"
    },
    "Version": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**Name (p. 7)**

Descriptive label associated with a build. Build names do not need to be unique. A build name can be changed later using `UpdateBuild (p. 90)` .

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**OperatingSystem (p. 7)**

Operating system that the game server binaries are built to run on. This value determines the type of fleet resources that you can use for this build.

Type: String

Valid Values: `WINDOWS_2012` | `AMAZON_LINUX`

Required: No

**StorageLocation (p. 7)**

Location in Amazon Simple Storage Service (Amazon S3) where a build's files are stored. This location is assigned in response to a CreateBuild (p. 7) call, and is always in the same region as the service used to create the build. For more details see the Amazon S3 documentation.

Type: S3Location (p. 130) object

Required: No

**Version (p. 7)**

Version associated with this build. Version strings do not need to be unique to a build. A build version can be changed later using `UpdateBuild (p. 90)` .

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "Build": {
        "BuildId": "string",
        "CreationTime": number,
        "Name": "string",
        "OperatingSystem": "string",
        "SizeOnDisk": number,
        "Status": "string",
        "Version": "string"
    },
    "StorageLocation": {
        "Bucket": "string",
        "Key": "string",
        "RoleArn": "string"
    },
    "UploadCredentials": {
        "AccessKeyId": "string",
        "SecretAccessKey": "string",
        "SessionToken": "string"
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Build (p. 8)**

Set of properties for the newly created build.

Type: Build (p. 107) object

**StorageLocation (p. 8)**

Amazon S3 path and key, identifying where the game build files are stored.

Type: S3Location (p. 130) object

**UploadCredentials (p. 8)**

AWS credentials required when uploading a game build to the storage location. These credentials have a limited lifespan and are valid only for the build they were issued for. If you need to get fresh credentials, call `RequestUploadCredentials (p. 78)` .

Type: AwsCredentials (p. 106) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# CreateFleet

Creates a new fleet to run your game servers. A fleet is a set of Amazon Elastic Compute Cloud (Amazon EC2) instances, each of which can run multiple server processes to host game sessions. You configure a fleet to create instances with certain hardware specifications (see Amazon EC2 Instance Types for more information), and deploy a specified game build to each instance. A newly created fleet passes through several statuses; once it reaches the ACTIVE status, it can begin hosting game sessions.

To create a new fleet, provide a fleet name, an EC2 instance type, and a build ID of the game build to deploy. You can also configure the new fleet with the following settings: (1) a runtime configuration describing what server processes to run on each instance in the fleet (required to create fleet), (2) access permissions for inbound traffic, (3) fleet-wide game session protection, and (4) the location of default log files for GameLift to upload and store.

If the CreateFleet call is successful, Amazon GameLift performs the following tasks:

- Creates a fleet record and sets the status to NEW (followed by other statuses as the fleet is activated).
- Sets the fleet's capacity to 1 "desired", which causes GameLift to start one new EC2 instance.
- Starts launching server processes on the instance. If the fleet is configured to run multiple server processes per instance, GameLift staggers each launch by a few seconds.
- Begins writing events to the fleet event log, which can be accessed in the GameLift console.
- Sets the fleet's status to ACTIVE once one server process in the fleet is ready to host a game session.

After a fleet is created, use the following actions to change fleet properties and configuration:

- UpdateFleetAttributes (p. 92) -- Update fleet metadata, including name and description.
- UpdateFleetCapacity (p. 95) -- Increase or decrease the number of instances you want the fleet to maintain.
- UpdateFleetPortSettings (p. 97) -- Change the IP address and port ranges that allow access to incoming traffic.
- UpdateRuntimeConfiguration (p. 102) -- Change how server processes are launched in the fleet, including launch path, launch parameters, and the number of concurrent processes.

## Request Syntax

```
{
    "BuildId": "string",
    "Description": "string",
    "EC2InboundPermissions": [
        {
            "FromPort": number,
            "IpRange": "string",
            "Protocol": "string",
            "ToPort": number
        }
    ],
    "EC2InstanceType": "string",
    "LogPaths": [ "string" ],
    "Name": "string",
    "NewGameSessionProtectionPolicy": "string",
    "ResourceCreationLimitPolicy": {
        "NewGameSessionsPerCreator": number,
```

```
        "PolicyPeriodInMinutes": number
    },
    "RuntimeConfiguration": {
        "ServerProcesses": [
            {
                "ConcurrentExecutions": number,
                "LaunchPath": "string",
                "Parameters": "string"
            }
        ]
    },
    "ServerLaunchParameters": "string",
    "ServerLaunchPath": "string"
}
```

# Request Parameters

For information about the parameters that are common to all actions, see Common
Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**BuildId (p. 10)**

Unique identifier of the build to be deployed on the new fleet. The build must have been
successfully uploaded to GameLift and be in a READY status. This fleet setting cannot be changed
once the fleet is created.

Type: String

Pattern: `^build-\S+`

Required: Yes

**EC2InstanceType (p. 10)**

Name of an EC2 instance type that is supported in Amazon GameLift. A fleet instance type
determines the computing resources of each instance in the fleet, including CPU, memory,
storage, and networking capacity. GameLift supports the following EC2 instance types. See
Amazon EC2 Instance Types for detailed descriptions.

Type: String

Valid Values: `t2.micro | t2.small | t2.medium | t2.large | c3.large |
c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge |
c4.2xlarge | c4.4xlarge | c4.8xlarge | r3.large | r3.xlarge | r3.2xlarge |
r3.4xlarge | r3.8xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge |
m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge`

Required: Yes

**Name (p. 10)**

Descriptive label associated with a fleet. Fleet names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

**Description (p. 10)**

Human-readable description of a fleet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**EC2InboundPermissions (p. 10)**

Range of IP addresses and port settings that permit inbound traffic to access server processes running on the fleet. If no inbound permissions are set, including both IP address range and port range, the server processes in the fleet cannot accept connections. You can specify one or more sets of permissions for a fleet.

Type: array of IpPermission (p. 124) objects

Array Members: Maximum number of 50 items.

Required: No

**LogPaths (p. 10)**

Location of default log files. When a server process is shut down, Amazon GameLift captures and stores any log files in this location. These logs are in addition to game session logs; see more on game session logs in the Amazon GameLift Developer Guide. If no default log path for a fleet is specified, GameLift automatically uploads logs stored on each instance at `C:\game\logs` (for Windows) or `/local/game/logs` (for Linux). Use the GameLift console to access stored logs.

Type: array of Strings

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**NewGameSessionProtectionPolicy (p. 10)**

Game session protection policy to apply to all instances in this fleet. If this parameter is not set, instances in this fleet default to no protection. You can change a fleet's protection policy using UpdateFleetAttributes, but this change will only affect sessions created after the policy change. You can also set protection for individual instances using UpdateGameSession (p. 99).

- **NoProtection** – The game session can be terminated during a scale-down event.
- **FullProtection** – If the game session is in an `ACTIVE` status, it cannot be terminated during a scale-down event.

Type: String

Valid Values: `NoProtection` | `FullProtection`

Required: No

**ResourceCreationLimitPolicy (p. 10)**

Policy that limits the number of game sessions an individual player can create over a span of time for this fleet.

Type: ResourceCreationLimitPolicy (p. 127) object

Required: No

**RuntimeConfiguration (p. 10)**

Instructions for launching server processes on each instance in the fleet. The runtime configuration for a fleet has a collection of server process configurations, one for each type of server process to run on an instance. A server process configuration specifies the location of the server executable, launch parameters, and the number of concurrent processes with that configuration to maintain on each instance. A `CreateFleet` request must include a runtime configuration with at least one server process configuration; otherwise the request will fail with an invalid request exception. (This parameter replaces the parameters `ServerLaunchPath` and `ServerLaunchParameters`; requests that contain values for these parameters instead of a runtime configuration will continue to work.)

Type: RuntimeConfiguration (p. 129) object

Required: No

**ServerLaunchParameters (p. 10)**

This parameter is no longer used. Instead, specify server launch parameters in the `RuntimeConfiguration` parameter. (Requests that specify a server launch path and launch parameters instead of a runtime configuration will continue to work.)

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**ServerLaunchPath (p. 10)**

This parameter is no longer used. Instead, specify a server launch path using the `RuntimeConfiguration` parameter. (Requests that specify a server launch path and launch parameters instead of a runtime configuration will continue to work.)

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "FleetAttributes": {
        "BuildId": "string",
        "CreationTime": number,
        "Description": "string",
        "FleetId": "string",
        "LogPaths": [ "string" ],
        "Name": "string",
        "NewGameSessionProtectionPolicy": "string",
        "OperatingSystem": "string",
        "ResourceCreationLimitPolicy": {
            "NewGameSessionsPerCreator": number,
            "PolicyPeriodInMinutes": number
        },
        "ServerLaunchParameters": "string",
        "ServerLaunchPath": "string",
        "Status": "string",
        "TerminationTime": number
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetAttributes (p. 13)**

Properties for the newly created fleet.

Type: FleetAttributes (p. 112) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# CreateGameSession

Creates a multiplayer game session for players. This action creates a game session record and assigns an available server process in the specified fleet to host the game session. A fleet must be in an `ACTIVE` status before a game session can be created in it.

To create a game session, specify either fleet ID or alias ID, and indicate a maximum number of players to allow in the game session. You can also provide a name and game-specific properties for this game session. If successful, a GameSession (p. 117) object is returned containing session properties, including an IP address. By default, newly created game sessions allow new players to join. Use UpdateGameSession (p. 99) to change the game sessions player session creation policy.

When creating a game session on a fleet with a resource limit creation policy, the request should include a creator ID. If none is provided, GameLift does not evaluate the fleet's resource limit creation policy.

## Request Syntax

```
{
    "AliasId": "string",
    "CreatorId": "string",
    "FleetId": "string",
    "GameProperties": [
        {
            "Key": "string",
            "Value": "string"
        }
    ],
    "GameSessionId": "string",
    "MaximumPlayerSessionCount": number,
    "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**MaximumPlayerSessionCount (p. 15)**

Maximum number of players that can be connected simultaneously to the game session.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

**AliasId (p. 15)**

Unique identifier for a fleet alias. Each request must reference either a fleet ID or alias ID, but not both.

Type: String

Pattern: `^alias-\S+`

Required: No

**CreatorId (p. 15)**

Player ID identifying the person or entity creating the game session. This ID is used to enforce a resource protection policy (if one exists) that limits the number of concurrent active game sessions one player can have.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**FleetId (p. 15)**

Unique identifier for a fleet. Each request must reference either a fleet ID or alias ID, but not both.

Type: String

Pattern: `^fleet-\S+`

Required: No

**GameProperties (p. 15)**

Set of properties used to administer a game session. These properties are passed to the server process hosting it.

Type: array of GameProperty (p. 116) objects

Array Members: Maximum number of 16 items.

Required: No

**GameSessionId (p. 15)**

Custom string to include in the game session ID, with a maximum length of 48 characters. If this parameter is set, GameLift creates a game session ID in the following format: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<custom ID string>". For example, this full game session ID: "arn:aws:gamelift:us-west-2::gamesession/fleet-2ec2aae5-c2c7-43ca-b19d-8249fe5fddf2/my-game-session" includes the custom ID string "my-game-session". If this parameter is not set, GameLift creates a game session ID in the same format with an autogenerated ID string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 48.

Pattern: `[a-zA-Z0-9-]+`

Required: No

**Name (p. 15)**

Descriptive label associated with a game session. Session names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "GameSession": {
        "CreationTime": number,
        "CreatorId": "string",
        "CurrentPlayerSessionCount": number,
        "FleetId": "string",
        "GameProperties": [
            {
                "Key": "string",
                "Value": "string"
            }
        ],
        "GameSessionId": "string",
        "IpAddress": "string",
```

```
        "MaximumPlayerSessionCount": number,
        "Name": "string",
        "PlayerSessionCreationPolicy": "string",
        "Port": number,
        "Status": "string",
        "TerminationTime": number
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**GameSession (p. 16)**

Object containing the newly created game session record.

Type: GameSession (p. 117) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**FleetCapacityExceededException**

The specified fleet has no available instances to fulfill a `CreateGameSession` request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 400

**IdempotentParameterMismatchException**

A game session with this custom ID string already exists in this fleet. Resolve this conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**TerminalRoutingStrategyException**

The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# CreatePlayerSession

Adds a player to a game session and creates a player session record. A game session must be in an `ACTIVE` status, have a creation policy of `ALLOW_ALL`, and have an open player slot before players can be added to the session.

To create a player session, specify a game session ID and player ID. If successful, the player is added to the game session and a new PlayerSession (p. 125) object is returned.

## Request Syntax

```
{
    "GameSessionId": "string",
    "PlayerId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**GameSessionId (p. 19)**

Unique identifier for the game session to add a player to. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: Yes

**PlayerId (p. 19)**

Unique identifier for the player to be added.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

## Response Syntax

```
{
    "PlayerSession": {
        "CreationTime": number,
        "FleetId": "string",
        "GameSessionId": "string",
        "IpAddress": "string",
        "PlayerId": "string",
        "PlayerSessionId": "string",
        "Port": number,
        "Status": "string",
        "TerminationTime": number
```

```
        }
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**PlayerSession (p. 19)**

>   Object containing the newly created player session record.

>   Type: PlayerSession (p. 125) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**GameSessionFullException**

>   The game instance is currently full and cannot allow the requested player(s) to join. Clients can retry such requests immediately or after a waiting period.

>   HTTP Status Code: 400

**InternalServiceException**

>   The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

>   HTTP Status Code: 500

**InvalidGameSessionStatusException**

>   The requested operation would cause a conflict with the current state of a resource associated with the request and/or the game instance. Resolve the conflict before retrying.

>   HTTP Status Code: 400

**InvalidRequestException**

>   One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

>   HTTP Status Code: 400

**NotFoundException**

>   A service resource associated with the request could not be found. Clients should not retry such requests.

>   HTTP Status Code: 400

**TerminalRoutingStrategyException**

>   The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

>   HTTP Status Code: 400

**UnauthorizedException**

>   The client failed authentication. Clients should not retry such requests.

>   HTTP Status Code: 400

# CreatePlayerSessions

Adds a group of players to a game session. Similar to CreatePlayerSession (p. 19), this action allows you to add multiple players in a single call, which is useful for games that provide party and/ or matchmaking features. A game session must be in an `ACTIVE` status, have a creation policy of `ALLOW_ALL`, and have an open player slot before players can be added to the session.

To create player sessions, specify a game session ID and a list of player IDs. If successful, the players are added to the game session and a set of new PlayerSession (p. 125) objects is returned.

## Request Syntax

```
{
    "GameSessionId": "string",
    "PlayerIds": [ "string" ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**GameSessionId (p. 21)**

Unique identifier for the game session to add players to. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: Yes

**PlayerIds (p. 21)**

List of unique identifiers for the players to be added.

Type: array of Strings

Array Members: Minimum number of 1 item. Maximum number of 25 items.

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

## Response Syntax

```
{
    "PlayerSessions": [
        {
            "CreationTime": number,
            "FleetId": "string",
            "GameSessionId": "string",
            "IpAddress": "string",
            "PlayerId": "string",
            "PlayerSessionId": "string",
```

```
            "Port": number,
            "Status": "string",
            "TerminationTime": number
        }
    ]
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**PlayerSessions (p. 21)**

    Collection of player session objects created for the added players.

    Type: array of PlayerSession (p. 125) objects

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**GameSessionFullException**

    The game instance is currently full and cannot allow the requested player(s) to join. Clients can retry such requests immediately or after a waiting period.

    HTTP Status Code: 400

**InternalServiceException**

    The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

    HTTP Status Code: 500

**InvalidGameSessionStatusException**

    The requested operation would cause a conflict with the current state of a resource associated with the request and/or the game instance. Resolve the conflict before retrying.

    HTTP Status Code: 400

**InvalidRequestException**

    One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

    HTTP Status Code: 400

**NotFoundException**

    A service resource associated with the request could not be found. Clients should not retry such requests.

    HTTP Status Code: 400

**TerminalRoutingStrategyException**

    The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

    HTTP Status Code: 400

**UnauthorizedException**

    The client failed authentication. Clients should not retry such requests.

    HTTP Status Code: 400

# DeleteAlias

Deletes an alias. This action removes all record of the alias; game clients attempting to access a server process using the deleted alias receive an error. To delete an alias, specify the alias ID to be deleted.

## Request Syntax

```
{
    "AliasId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 23)**
Unique identifier for a fleet alias. Specify the alias you want to delete.
Type: String
Pattern: `^alias-\S+`
Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**
The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.
HTTP Status Code: 500

**InvalidRequestException**
One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.
HTTP Status Code: 400

**NotFoundException**
A service resource associated with the request could not be found. Clients should not retry such requests.
HTTP Status Code: 400

**UnauthorizedException**
The client failed authentication. Clients should not retry such requests.
HTTP Status Code: 400

# DeleteBuild

Deletes a build. This action permanently deletes the build record and any uploaded build files.

To delete a build, specify its ID. Deleting a build does not affect the status of any active fleets using the build, but you can no longer create new fleets with the deleted build.

## Request Syntax

```
{
    "BuildId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**BuildId (p. 24)**
Unique identifier for the build you want to delete.

Type: String

Pattern: `^build-\S+`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**
The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**
One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**
A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**
The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DeleteFleet

Deletes everything related to a fleet. Before deleting a fleet, you must set the fleet's desired capacity to zero. See UpdateFleetCapacity (p. 95).

This action removes the fleet's resources and the fleet record. Once a fleet is deleted, you can no longer use that fleet.

## Request Syntax

```
{
    "FleetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 25)**

Unique identifier for the fleet you want to delete.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DeleteScalingPolicy

Deletes a fleet scaling policy. This action means that the policy is no longer in force and removes all record of it. To delete a scaling policy, specify both the scaling policy name and the fleet ID it is associated with.

## Request Syntax

```
{
    "FleetId": "string",
    "Name": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 27)**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**Name (p. 27)**

Descriptive label associated with a scaling policy. Policy names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

## Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeAlias

Retrieves properties for a specified alias. To get the alias, specify an alias ID. If successful, an Alias (p. 105) object is returned.

## Request Syntax

```
{
    "AliasId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 29)**
Unique identifier for a fleet alias. Specify the alias you want to retrieve.
Type: String
Pattern: `^alias-\S+`
Required: Yes

## Response Syntax

```
{
    "Alias": {
        "AliasId": "string",
        "CreationTime": number,
        "Description": "string",
        "LastUpdatedTime": number,
        "Name": "string",
        "RoutingStrategy": {
            "FleetId": "string",
            "Message": "string",
            "Type": "string"
        }
    }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

**Alias (p. 29)**
Object containing the requested alias.
Type: Alias (p. 105) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeBuild

Retrieves properties for a build. To get a build record, specify a build ID. If successful, an object containing the build properties is returned.

## Request Syntax

```
{
    "BuildId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**BuildId (p. 31)**

Unique identifier of the build that you want to retrieve properties for.

Type: String

Pattern: ^build-\S+

Required: Yes

## Response Syntax

```
{
    "Build": {
        "BuildId": "string",
        "CreationTime": number,
        "Name": "string",
        "OperatingSystem": "string",
        "SizeOnDisk": number,
        "Status": "string",
        "Version": "string"
    }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Build (p. 31)**

Set of properties describing the requested build.

Type: Build (p. 107) object

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeEC2InstanceLimits

Retrieves the following information for the specified EC2 instance type:

- maximum number of instances allowed per AWS account (service limit)
- current usage level for the AWS account

Service limits vary depending on region. Available regions for GameLift can be found in the AWS Management Console for GameLift (see the drop-down list in the upper right corner).

## Request Syntax

```
{
    "EC2InstanceType": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**EC2InstanceType (p. 33)**

Name of an EC2 instance type that is supported in Amazon GameLift. A fleet instance type determines the computing resources of each instance in the fleet, including CPU, memory, storage, and networking capacity. GameLift supports the following EC2 instance types. See Amazon EC2 Instance Types for detailed descriptions. Leave this parameter blank to retrieve limits for all types.

Type: String

Valid Values: t2.micro | t2.small | t2.medium | t2.large | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge

Required: No

## Response Syntax

```
{
    "EC2InstanceLimits": [
        {
            "CurrentInstances": number,
            "EC2InstanceType": "string",
            "InstanceLimit": number
        }
    ]
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**EC2InstanceLimits (p. 33)**

Object containing the maximum number of instances for the specified instance type.

Type: array of EC2InstanceLimit (p. 110) objects

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeFleetAttributes

Retrieves fleet properties, including metadata, status, and configuration, for one or more fleets. You can request attributes for all fleets, or specify a list of one or more fleet IDs. When requesting multiple fleets, use the pagination parameters to retrieve results as a set of sequential pages. If successful, a FleetAttributes (p. 112) object is returned for each requested fleet ID. When specifying a list of fleet IDs, attribute objects are returned only for fleets that currently exist.

> **Note**
> Some API actions may limit the number of fleet IDs allowed in one request. If a request exceeds this limit, the request fails and the error message includes the maximum allowed.

## Request Syntax

```
{
    "FleetIds": [ "string" ],
    "Limit": number,
    "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetIds (p. 35)**

Unique identifiers for the fleet(s) that you want to retrieve attributes for. To request attributes for all fleets, leave this parameter empty.

Type: array of Strings

Array Members: Minimum number of 1 item.

Pattern: `^fleet-\S+`

Required: No

**Limit (p. 35)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages. This parameter is ignored when the request specifies one or a list of fleet IDs.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 35)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value. This parameter is ignored when the request specifies one or a list of fleet IDs.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

## Response Syntax

```
{
```

```
    "FleetAttributes": [
        {
            "BuildId": "string",
            "CreationTime": number,
            "Description": "string",
            "FleetId": "string",
            "LogPaths": [ "string" ],
            "Name": "string",
            "NewGameSessionProtectionPolicy": "string",
            "OperatingSystem": "string",
            "ResourceCreationLimitPolicy": {
                "NewGameSessionsPerCreator": number,
                "PolicyPeriodInMinutes": number
            },
            "ServerLaunchParameters": "string",
            "ServerLaunchPath": "string",
            "Status": "string",
            "TerminationTime": number
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetAttributes (p. 35)**

Collection of objects containing attribute metadata for each requested fleet ID.

Type: array of FleetAttributes (p. 112) objects

**NextToken (p. 35)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeFleetCapacity

Retrieves the current status of fleet capacity for one or more fleets. This information includes the number of instances that have been requested for the fleet and the number currently active. You can request capacity for all fleets, or specify a list of one or more fleet IDs. When requesting multiple fleets, use the pagination parameters to retrieve results as a set of sequential pages. If successful, a FleetCapacity (p. 114) object is returned for each requested fleet ID. When specifying a list of fleet IDs, attribute objects are returned only for fleets that currently exist.

**Note**
Some API actions may limit the number of fleet IDs allowed in one request. If a request exceeds this limit, the request fails and the error message includes the maximum allowed.

## Request Syntax

```
{
    "FleetIds": [ "string" ],
    "Limit": number,
    "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetIds (p. 38)**
Unique identifier for the fleet(s) you want to retrieve capacity information for. To request capacity information for all fleets, leave this parameter empty.
Type: array of Strings
Array Members: Minimum number of 1 item.
Pattern: `^fleet-\S+`
Required: No

**Limit (p. 38)**
Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages. This parameter is ignored when the request specifies one or a list of fleet IDs.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

**NextToken (p. 38)**
Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value. This parameter is ignored when the request specifies one or a list of fleet IDs.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1024.
Required: No

# Response Syntax

```
{
    "FleetCapacity": [
        {
            "FleetId": "string",
            "InstanceCounts": {
                "ACTIVE": number,
                "DESIRED": number,
                "IDLE": number,
                "MAXIMUM": number,
                "MINIMUM": number,
                "PENDING": number,
                "TERMINATING": number
            },
            "InstanceType": "string"
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetCapacity (p. 39)**

Collection of objects containing capacity information for each requested fleet ID. Leave this parameter empty to retrieve capacity information for all fleets.

Type: array of FleetCapacity (p. 114) objects

**NextToken (p. 39)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeFleetEvents

Retrieves entries from the specified fleet's event log. You can specify a time range to limit the result set. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, a collection of event log entries matching the request are returned.

## Request Syntax

```
{
    "EndTime": number,
    "FleetId": "string",
    "Limit": number,
    "NextToken": "string",
    "StartTime": number
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 41)**

Unique identifier for the fleet to get event logs for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**EndTime (p. 41)**

Most recent date to retrieve event logs for. If no end time is specified, this call returns entries from the specified start time up to the present. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Limit (p. 41)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 41)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**StartTime (p. 41)**

Earliest date to retrieve event logs for. If no start time is specified, this call returns entries starting from when the fleet was created to the specified end time. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

# Response Syntax

```
{
    "Events": [
        {
            "EventCode": "string",
            "EventId": "string",
            "EventTime": number,
            "Message": "string",
            "ResourceId": "string"
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Events (p. 42)**

Collection of objects containing event log entries for the specified fleet.

Type: array of Event (p. 111) objects

**NextToken (p. 42)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeFleetPortSettings

Retrieves the inbound connection permissions for a fleet. Connection permissions include a range of IP addresses and port settings that incoming traffic can use to access server processes in the fleet. To get a fleet's inbound connection permissions, specify a fleet ID. If successful, a collection of IpPermission (p. 124) objects is returned for the requested fleet ID. If the requested fleet has been deleted, the result set is empty.

## Request Syntax

```
{
    "FleetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 44)**

Unique identifier for the fleet you want to retrieve port settings for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

## Response Syntax

```
{
    "InboundPermissions": [
        {
            "FromPort": number,
            "IpRange": "string",
            "Protocol": "string",
            "ToPort": number
        }
    ]
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**InboundPermissions (p. 44)**

Object containing port settings for the requested fleet ID.

Type: array of IpPermission (p. 124) objects

Array Members: Maximum number of 50 items.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeFleetUtilization

Retrieves utilization statistics for one or more fleets. You can request utilization data for all fleets, or specify a list of one or more fleet IDs. When requesting multiple fleets, use the pagination parameters to retrieve results as a set of sequential pages. If successful, a FleetUtilization (p. 115) object is returned for each requested fleet ID. When specifying a list of fleet IDs, utilization objects are returned only for fleets that currently exist.

> **Note**
> Some API actions may limit the number of fleet IDs allowed in one request. If a request exceeds this limit, the request fails and the error message includes the maximum allowed.

## Request Syntax

```
{
    "FleetIds": [ "string" ],
    "Limit": number,
    "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetIds (p. 46)**

Unique identifier for the fleet(s) you want to retrieve utilization data for. To request utilization data for all fleets, leave this parameter empty.

Type: array of Strings

Array Members: Minimum number of 1 item.

Pattern: `^fleet-\S+`

Required: No

**Limit (p. 46)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages. This parameter is ignored when the request specifies one or a list of fleet IDs.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 46)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value. This parameter is ignored when the request specifies one or a list of fleet IDs.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

## Response Syntax

```
{
```

```
    "FleetUtilization": [
        {
            "ActiveGameSessionCount": number,
            "ActiveServerProcessCount": number,
            "CurrentPlayerSessionCount": number,
            "FleetId": "string",
            "MaximumPlayerSessionCount": number
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetUtilization (p. 46)**

Collection of objects containing utilization information for each requested fleet ID.

Type: array of FleetUtilization (p. 115) objects

**NextToken (p. 46)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeGameSessionDetails

Retrieves properties, including the protection policy in force, for one or more game sessions. This action can be used in several ways: (1) provide a `GameSessionId` to request details for a specific game session; (2) provide either a `FleetId` or an `AliasId` to request properties for all game sessions running on a fleet.

To get game session record(s), specify just one of the following: game session ID, fleet ID, or alias ID. You can filter this request by game session status. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, a GameSessionDetail (p. 119) object is returned for each session matching the request.

## Request Syntax

```
{
    "AliasId": "string",
    "FleetId": "string",
    "GameSessionId": "string",
    "Limit": number,
    "NextToken": "string",
    "StatusFilter": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 48)**

Unique identifier for a fleet alias. Specify an alias to retrieve information on all game sessions active on the fleet.

Type: String

Pattern: `^alias-\S+`

Required: No

**FleetId (p. 48)**

Unique identifier for a fleet. Specify a fleet to retrieve information on all game sessions active on the fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**GameSessionId (p. 48)**

Unique identifier for the game session to retrieve information on. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: No

**Limit (p. 48)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 48)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**StatusFilter (p. 48)**

Game session status to filter results on. Possible game session statuses include ACTIVE, `TERMINATED`, `ACTIVATING` and `TERMINATING` (the last two are transitory).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "GameSessionDetails": [
        {
            "GameSession": {
                "CreationTime": number,
                "CreatorId": "string",
                "CurrentPlayerSessionCount": number,
                "FleetId": "string",
                "GameProperties": [
                    {
                        "Key": "string",
                        "Value": "string"
                    }
                ],
                "GameSessionId": "string",
                "IpAddress": "string",
                "MaximumPlayerSessionCount": number,
                "Name": "string",
                "PlayerSessionCreationPolicy": "string",
                "Port": number,
                "Status": "string",
                "TerminationTime": number
            },
            "ProtectionPolicy": "string"
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**GameSessionDetails (p. 49)**

Collection of objects containing game session properties and the protection policy currently in force for each session matching the request.

Type: array of GameSessionDetail (p. 119) objects

**NextToken (p. 49)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**TerminalRoutingStrategyException**

The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeGameSessions

Retrieves a set of one or more game sessions and properties. This action can be used in several ways: (1) provide a `GameSessionId` to request properties for a specific game session; (2) provide a `FleetId` or an `AliasId` to request properties for all game sessions running on a fleet. You can also use SearchGameSessions (p. 82), which allows you to retrieve all game sessions or filter on certain criteria, but only returns game sessions with a status of ACTIVE. If you need to retrieve the protection policy for each game session, use DescribeGameSessionDetails (p. 48).

To get game session record(s), specify just one of the following: game session ID, fleet ID, or alias ID. You can filter this request by game session status. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, a GameSession (p. 117) object is returned for each session matching the request.

## Request Syntax

```
{
    "AliasId": "string",
    "FleetId": "string",
    "GameSessionId": "string",
    "Limit": number,
    "NextToken": "string",
    "StatusFilter": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 51)**
Unique identifier for a fleet alias. Specify an alias to retrieve information on all game sessions active on the fleet.
Type: String
Pattern: `^alias-\S+`
Required: No

**FleetId (p. 51)**
Unique identifier for a fleet. Specify a fleet to retrieve information on all game sessions active on the fleet.
Type: String
Pattern: `^fleet-\S+`
Required: No

**GameSessionId (p. 51)**
Unique identifier for the game session to retrieve information on. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 256.
Pattern: `[a-zA-Z0-9:/-]+`

Required: No

**Limit (p. 51)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 51)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**StatusFilter (p. 51)**

Game session status to filter results on. Possible game session statuses include `ACTIVE`, `TERMINATED`, `ACTIVATING`, and `TERMINATING` (the last two are transitory).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "GameSessions": [
        {
            "CreationTime": number,
            "CreatorId": "string",
            "CurrentPlayerSessionCount": number,
            "FleetId": "string",
            "GameProperties": [
                {
                    "Key": "string",
                    "Value": "string"
                }
            ],
            "GameSessionId": "string",
            "IpAddress": "string",
            "MaximumPlayerSessionCount": number,
            "Name": "string",
            "PlayerSessionCreationPolicy": "string",
            "Port": number,
            "Status": "string",
            "TerminationTime": number
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**GameSessions (p. 52)**

Collection of objects containing game session properties for each session matching the request.

Type: array of GameSession (p. 117) objects

**NextToken (p. 52)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**TerminalRoutingStrategyException**

The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeInstances

Retrieves information about a fleet's instances, including instance IDs. Use this action to get details on all instances in the fleet or get details on one specific instance.

To get a specific instance, specify fleet ID and instance ID. To get all instances in a fleet, specify a fleet ID only. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, an Instance (p. 120) object is returned for each result.

## Request Syntax

```
{
    "FleetId": "string",
    "InstanceId": "string",
    "Limit": number,
    "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 54)**

Unique identifier for a fleet. Specify the fleet to retrieve instance information for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**InstanceId (p. 54)**

Unique identifier for an instance. Specify an instance to retrieve information for or leave blank to get information on all instances in the fleet.

Type: String

Pattern: `[a-zA-Z0-9\.-]+`

Required: No

**Limit (p. 54)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 54)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "Instances": [
        {
            "CreationTime": number,
            "FleetId": "string",
            "InstanceId": "string",
            "IpAddress": "string",
            "OperatingSystem": "string",
            "Status": "string",
            "Type": "string"
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Instances (p. 55)**

Collection of objects containing properties for each instance returned.

Type: array of Instance (p. 120) objects

**NextToken (p. 55)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribePlayerSessions

Retrieves properties for one or more player sessions. This action can be used in several ways: (1) provide a `PlayerSessionId` parameter to request properties for a specific player session; (2) provide a `GameSessionId` parameter to request properties for all player sessions in the specified game session; (3) provide a `PlayerId` parameter to request properties for all player sessions of a specified player.

To get game session record(s), specify only one of the following: a player session ID, a game session ID, or a player ID. You can filter this request by player session status. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, a PlayerSession (p. 125) object is returned for each session matching the request.

## Request Syntax

```
{
    "GameSessionId": "string",
    "Limit": number,
    "NextToken": "string",
    "PlayerId": "string",
    "PlayerSessionId": "string",
    "PlayerSessionStatusFilter": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**GameSessionId (p. 56)**

Unique identifier for the game session to get player sessions for. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: No

**Limit (p. 56)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages. If a player session ID is specified, this parameter is ignored.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 56)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value. If a player session ID is specified, this parameter is ignored.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**PlayerId (p. 56)**

Unique identifier for a player.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**PlayerSessionId (p. 56)**

Unique identifier for a player session.

Type: String

Pattern: `^psess-\S+`

Required: No

**PlayerSessionStatusFilter (p. 56)**

Player session status to filter results on.

Possible player session statuses include the following:

- **RESERVED** – The player session request has been received, but the player has not yet connected to the server process and/or been validated.
- **ACTIVE** – The player has been validated by the server process and is currently connected.
- **COMPLETED** – The player connection has been dropped.
- **TIMEDOUT** – A player session request was received, but the player did not connect and/or was not validated within the time-out limit (60 seconds).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "NextToken": "string",
    "PlayerSessions": [
        {
            "CreationTime": number,
            "FleetId": "string",
            "GameSessionId": "string",
            "IpAddress": "string",
            "PlayerId": "string",
            "PlayerSessionId": "string",
            "Port": number,
            "Status": "string",
            "TerminationTime": number
        }
    ]
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 57)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

**PlayerSessions (p. 57)**

Collection of objects containing properties for each player session that matches the request.

Type: array of PlayerSession (p. 125) objects

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeRuntimeConfiguration

Retrieves the current runtime configuration for the specified fleet. The runtime configuration tells GameLift how to launch server processes on instances in the fleet.

## Request Syntax

```
{
    "FleetId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 59)**

Unique identifier of the fleet to get the runtime configuration for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

## Response Syntax

```
{
    "RuntimeConfiguration": {
        "ServerProcesses": [
            {
                "ConcurrentExecutions": number,
                "LaunchPath": "string",
                "Parameters": "string"
            }
        ]
    }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**RuntimeConfiguration (p. 59)**

Instructions describing how server processes should be launched and maintained on each instance in the fleet.

Type: RuntimeConfiguration (p. 129) object

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# DescribeScalingPolicies

Retrieves all scaling policies applied to a fleet.

To get a fleet's scaling policies, specify the fleet ID. You can filter this request by policy status, such as to retrieve only active scaling policies. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, set of ScalingPolicy (p. 131) objects is returned for the fleet.

## Request Syntax

```
{
    "FleetId": "string",
    "Limit": number,
    "NextToken": "string",
    "StatusFilter": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 61)**

Unique identifier for a fleet. Specify the fleet to retrieve scaling policies for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**Limit (p. 61)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 61)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**StatusFilter (p. 61)**

Scaling policy status to filter results on. A scaling policy is only in force when in an `ACTIVE` status.

- **ACTIVE** – The scaling policy is currently in force.
- **UPDATEREQUESTED** – A request to update the scaling policy has been received.
- **UPDATING** – A change is being made to the scaling policy.
- **DELETEREQUESTED** – A request to delete the scaling policy has been received.
- **DELETING** – The scaling policy is being deleted.
- **DELETED** – The scaling policy has been deleted.
- **ERROR** – An error occurred in creating the policy. It should be removed and recreated.

Type: String

Valid Values: `ACTIVE` | `UPDATE_REQUESTED` | `UPDATING` | `DELETE_REQUESTED` |
`DELETING` | `DELETED` | `ERROR`

Required: No

# Response Syntax

```
{
    "NextToken": "string",
    "ScalingPolicies": [
        {
            "ComparisonOperator": "string",
            "EvaluationPeriods": number,
            "FleetId": "string",
            "MetricName": "string",
            "Name": "string",
            "ScalingAdjustment": number,
            "ScalingAdjustmentType": "string",
            "Status": "string",
            "Threshold": number
        }
    ]
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 62)**

Token indicating where to resume retrieving results on the next call to this action. If no token is
returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

**ScalingPolicies (p. 62)**

Collection of objects containing the scaling policies matching the request.

Type: array of ScalingPolicy (p. 131) objects

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients
can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values
before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such
requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# GetGameSessionLogUrl

Retrieves the location of stored game session logs for a specified game session. When a game session is terminated, Amazon GameLift automatically stores the logs in Amazon S3. Use this URL to download the logs.

> **Note**
> See the AWS Service Limits page for maximum log file sizes. Log files that exceed this limit are not saved.

## Request Syntax

```
{
    "GameSessionId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**GameSessionId (p. 64)**

Unique identifier for the game session to get logs for. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: Yes

## Response Syntax

```
{
    "PreSignedUrl": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**PreSignedUrl (p. 64)**

Location of the requested game session logs, available for download.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# GetInstanceAccess

Requests remote access to a fleet instance. Remote access is useful for debugging, gathering benchmarking data, or watching activity in real time.

Access requires credentials that match the operating system of the instance. For a Windows instance, Amazon GameLift returns a user name and password as strings for use with a Windows Remote Desktop client. For a Linux instance, GameLift returns a user name and RSA private key, also as strings, for use with an SSH client. The private key must be saved in the proper format to a `.pem` file before using. If you're making this request using the AWS CLI, saving the secret can be handled as part of the `GetInstanceAccess` request. (See the example later in this topic). For more information on remote access, see Remotely Accessing an Instance.

To request access to a specific instance, specify the IDs of the instance and the fleet it belongs to. If successful, an InstanceAccess (p. 122) object is returned containing the instance's IP address and a set of credentials.

## Request Syntax

```
{
    "FleetId": "string",
    "InstanceId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 66)**

Unique identifier for a fleet. Specify the fleet that contain the instance you want access to. The fleet can be in any of the following statuses: ACTIVATING, ACTIVE, or ERROR. Fleets with an ERROR status can be accessed for a few hours before being deleted.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**InstanceId (p. 66)**

Unique identifier for an instance. Specify the instance you want to get access to. You can access an instance in any status.

Type: String

Pattern: `[a-zA-Z0-9\.-]+`

Required: Yes

## Response Syntax

```
{
    "InstanceAccess": {
        "Credentials": {
            "Secret": "string",
```

```
            "UserName": "string"
        },
        "FleetId": "string",
        "InstanceId": "string",
        "IpAddress": "string",
        "OperatingSystem": "string"
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**InstanceAccess (p. 66)**

Object containing connection information for a fleet instance, including IP address and access credentials.

Type: InstanceAccess (p. 122) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# Example

## Get credentials for a Linux instance

This example requests a set of credentials to remotely connect to a fleet instance running Linux.

If you're calling GetInstanceAccess programmatically, as with the JSON syntax, you need to save the returned value of Secret (an RsA private key) as a .pem file in the proper format. The returned value uses a newline (\n) to indicate a line break.

If you're calling GetInstanceAccess with the AWS CLI, you can automatically store the RSA private key as a .pem file in the proper format. See the CLI syntax example below, which saves the private key to a file called MyPrivateKey.pem. Once the private key is saved, update the file permissions with the following command:

```
$ chmod 400 MyPrivateKey.pem
```

## Sample Request

```
JSON syntax:
    {"FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
    "InstanceId": "i-01463992e435d836c"
    }

CLI syntax:
    aws gamelift get-instance-access --fleet-id "fleet-a7abc071-5537-4f0f-
b5ee-1b5c1187565f" --instance-id "i-01463992e435d836c" --query
 'InstanceAccess.Credentials.Secret' --output text > MyPrivateKey.pem
```

## Sample Response

```
{"InstanceAccess": {
    "Credentials": {
        "Secret": "-----BEGIN RSA PRIVATE KEY-----
\nEXAMPLEKEYKCAQEAy7WZhaDsrA1W3mRlQtvhwyORRX8gnxgDAfRt/gx42kWXsT4rXE/
b5CpSgie/\nvBoU7jLxx92pNHoFnByP+Dc21eyyz6CvjTmWA0JwfWiW5/
akH7iO5dSrvC7dQkW2duV5QuUdE0QW\nZ/aNxMniGQE6XAgfwlnXVBwrerrQo
+ZWQeqiUwwMkuEbLeJFLhMCvYURpUMSC1oehm449ilx9X1F
\nG50TCFeOzfl8dqqCP6GzbPaIjiU19xX/azOR9V+tpUOzEL
+wmXnZt3/nHPQ5xvD2OJH67km6SuPW\noPzev/D8V
+x4+bHthfSjR9Y7DvQFjfBVwHXigBdtZcU2/wei8D/HYwIDAQABAoIBAGZ1kaEvnrqu\n/
uler7vgIn5m7lN5LKw4hJLAIW6tUT/fzvtcHK0SkbQCQXuriHmQ2MQyJX/0kn2NfjLV/
ufGxbL1\nmb5qwMGUnEpJaZD6QSSs3kICLwWUYUiGfc0uiSbmJoap/
GTLU0W5Mfcv36PaBUNy5p53V6G7hXb2\nbahyWyJNfjLe4M86yd2YK3V2CmK
+X/BOsShnJ36+hjrXPPWmV3N9zEmCdJjA+K15DYmhm/
tJWSD9\n81oGk9TopEp7CkIfatEATyyZiVqoRq6k64iuM9JkA3OzdXzMQexXVJ1TLZVEH0E7bhlY9d8O1ozR
\noQs/FiZNAx2iijCWyv0lpjE73+kCgYEA9mZtyhkHkFDpwrSM1APaL8oNAbbjwEy7Z5Mqfql
+lIp1\nYkriL0DbLXlvRAH+yHPRit2hHOjtUNZh4Axv
+cpg09qbUI3+43eEy24B7G/Uh+GTfbjsXsOxQx/x\np9otyVwc7hsQ5TA5PZb
+mvkJ5OBEKzet9XcKwONBYELGhnEPe7cCgYEA06Vgov6YHleHui9kHuws
\nayav0elc5zkxjF9nfHFJRry21R1trw2Vdpn+9g481URrpzWVOEihvm+xTtmaZlSp//
lkq75XDwnU\nWA8gkn6O3QE3fq2yN98BURsAKdJfJ5RL1HvGQvTe10HLYYXpJnEkHv
+Unl2ajLivWUt5pbBrKbUC\ngYBjbO
+OZk0sCcpZ29sbzjYjpIddErySIyRX5gV2uNQwAjLdp9PfN295yQ+BxMBXiIycWVQiw0bH
\noMo7yykABY7Ozd5wQewBQ4AdSlWSX4nGDtsiFxWiI5sKuAAeOCbTosy1s8w8fxoJ5Tz1sdoxNeGs
\nArq6Wv/G16zQuAE9zK9vvwKBgF
+09VI/1wJBirsDGz9whVWfFPrTkJNvJZzYt69qezxlsjgFKshy\nWBhd4xHZtmCqpBPlAymEjr/
TOlbxyARmXMnIOWIAnNXMGB4KGSyl1mzSVAoQ+fqR+cJ3d0dyPl1j\njjb0Ed/
NY8frlNDxAVHE8BSkdsx2f6ELEyBKJSRr9snRAoGAMrTwYneXzvTskF/
S5Fyu0iOegLDa\nNWUH38v/nDCgEpIXD5Hn3qAEcju1IjmbwlvtW
+nY2jVhv7UGd8MjwUTNGItdb6nsYqM2asrnF3qS\nVRkAKKKYeGjkpUfVTrW0YFjXkfcrR/V
+QFL5OndHAKJXjW7a4ejJLncTzmZSpYzwApc=\n-----END RSA PRIVATE KEY-----",
        "UserName": "gl-user-remote"
    },
    "FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
    InstanceId": "i-01463992e435d836c",
    "IpAddress": "54.186.139.221",
    "OperatingSystem": "AMAZON_LINUX"
}}
```

# ListAliases

Retrieves a collection of alias records for this AWS account. You can filter the result set by alias name and/or routing strategy type. Use the pagination parameters to retrieve results in sequential pages.

**Note**
Aliases are not listed in any particular order.

## Request Syntax

```
{
    "Limit": number,
    "Name": "string",
    "NextToken": "string",
    "RoutingStrategyType": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**Limit (p. 69)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**Name (p. 69)**

Descriptive label associated with an alias. Alias names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**NextToken (p. 69)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**RoutingStrategyType (p. 69)**

Type of routing to filter results on. Use this parameter to retrieve only aliases of a certain type. To retrieve all aliases, leave this parameter empty.

Possible routing types include the following:

- **SIMPLE** – The alias resolves to one specific fleet. Use this type when routing to active fleets.

- **TERMINAL** – The alias does not resolve to a fleet but instead can be used to display a message to the user. A terminal alias throws a TerminalRoutingStrategyException with the RoutingStrategy (p. 128) message embedded.

Type: String

Valid Values: `SIMPLE` | `TERMINAL`

Required: No

# Response Syntax

```
{
    "Aliases": [
        {
            "AliasId": "string",
            "CreationTime": number,
            "Description": "string",
            "LastUpdatedTime": number,
            "Name": "string",
            "RoutingStrategy": {
                "FleetId": "string",
                "Message": "string",
                "Type": "string"
            }
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Aliases (p. 70)**

Collection of alias records that match the list request.

Type: array of Alias (p. 105) objects

**NextToken (p. 70)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# ListBuilds

Retrieves build records for all builds associated with the AWS account in use. You can limit results to builds that are in a specific status by using the `Status` parameter. Use the pagination parameters to retrieve results in a set of sequential pages.

**Note**
Build records are not listed in any particular order.

## Request Syntax

```
{
   "Limit": number,
   "NextToken": "string",
   "Status": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**Limit (p. 71)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 71)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**Status (p. 71)**

Build status to filter results by. To retrieve all builds, leave this parameter empty.

Possible build statuses include the following:

- **INITIALIZED** – A new build has been defined, but no files have been uploaded. You cannot create fleets for builds that are in this status. When a build is successfully created, the build status is set to this value.

- **READY** – The game build has been successfully uploaded. You can now create new fleets for this build.

- **FAILED** – The game build upload failed. You cannot create new fleets for this build.

Type: String

Valid Values: `INITIALIZED | READY | FAILED`

Required: No

# Response Syntax

```
{
   "Builds": [
      {
         "BuildId": "string",
         "CreationTime": number,
         "Name": "string",
         "OperatingSystem": "string",
         "SizeOnDisk": number,
         "Status": "string",
         "Version": "string"
      }
   ],
   "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Builds (p. 72)**

Collection of build records that match the request.

Type: array of Build (p. 107) objects

**NextToken (p. 72)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# ListFleets

Retrieves a collection of fleet records for this AWS account. You can filter the result set by build ID.
Use the pagination parameters to retrieve results in sequential pages.

> **Note**
> Fleet records are not listed in any particular order.

## Request Syntax

```
{
    "BuildId": "string",
    "Limit": number,
    "NextToken": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common
Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**BuildId (p. 73)**

Unique identifier of the build to return fleets for. Use this parameter to return only fleets using the
specified build. To retrieve all fleets, leave this parameter empty.

Type: String

Pattern: `^build-\S+`

Required: No

**Limit (p. 73)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set
of sequential pages.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 73)**

Token indicating the start of the next sequential page of results. Use the token that is returned with
a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

## Response Syntax

```
{
    "FleetIds": [ "string" ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetIds (p. 73)**

Set of fleet IDs matching the list request. You can retrieve additional information about all returned fleets by passing this result set to a call to DescribeFleetAttributes (p. 35), DescribeFleetCapacity (p. 38), and DescribeFleetUtilization (p. 46).

Type: array of Strings

Array Members: Minimum number of 1 item.

Pattern: `^fleet-\S+`

**NextToken (p. 73)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# PutScalingPolicy

Creates or updates a scaling policy for a fleet. An active scaling policy prompts Amazon GameLift to track a certain metric for a fleet and automatically change the fleet's capacity in specific circumstances. Each scaling policy contains one rule statement. Fleets can have multiple scaling policies in force simultaneously.

A scaling policy rule statement has the following structure:

If `[MetricName]` is `[ComparisonOperator]` `[Threshold]` for `[EvaluationPeriods]` minutes, then `[ScalingAdjustmentType]` to/by `[ScalingAdjustment]`.

For example, this policy: "If the number of idle instances exceeds 20 for more than 15 minutes, then reduce the fleet capacity by 10 instances" could be implemented as the following rule statement:

If [IdleInstances] is [GreaterThanOrEqualToThreshold] [20] for [15] minutes, then [ChangeInCapacity] by [-10].

To create or update a scaling policy, specify a unique combination of name and fleet ID, and set the rule values. All parameters for this action are required. If successful, the policy name is returned. Scaling policies cannot be suspended or made inactive. To stop enforcing a scaling policy, call DeleteScalingPolicy (p. 27).

## Request Syntax

```
{
    "ComparisonOperator": "string",
    "EvaluationPeriods": number,
    "FleetId": "string",
    "MetricName": "string",
    "Name": "string",
    "ScalingAdjustment": number,
    "ScalingAdjustmentType": "string",
    "Threshold": number
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**ComparisonOperator (p. 75)**

Comparison operator to use when measuring the metric against the threshold value.

Type: String

Valid Values: `GreaterThanOrEqualToThreshold` | `GreaterThanThreshold` | `LessThanThreshold` | `LessThanOrEqualToThreshold`

Required: Yes

**EvaluationPeriods (p. 75)**

Length of time (in minutes) the metric must be at or beyond the threshold before a scaling event is triggered.

Type: Integer

Valid Range: Minimum value of 1.

Required: Yes

**FleetId (p. 75)**

Unique identity for the fleet to scale with this policy.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**MetricName (p. 75)**

Name of the Amazon GameLift-defined metric that is used to trigger an adjustment.

- **ActivatingGameSessions** – number of game sessions in the process of being created (game session status = `ACTIVATING`).

- **ActiveGameSessions** – number of game sessions currently running (game session status = `ACTIVE`).

- **CurrentPlayerSessions** – number of active or reserved player sessions (player session status = `ACTIVE` or `RESERVED`).

- **AvailablePlayerSessions** – number of player session slots currently available in active game sessions across the fleet, calculated by subtracting a game session's current player session count from its maximum player session count. This number includes game sessions that are not currently accepting players (game session `PlayerSessionCreationPolicy` = `DENY_ALL`).

- **ActiveInstances** – number of instances currently running a game session.

- **IdleInstances** – number of instances not currently running a game session.

Type: String

Valid Values: `ActivatingGameSessions` | `ActiveGameSessions` | `ActiveInstances` | `AvailablePlayerSessions` | `CurrentPlayerSessions` | `IdleInstances`

Required: Yes

**Name (p. 75)**

Descriptive label associated with a scaling policy. Policy names do not need to be unique. A fleet can have only one scaling policy with the same name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

**ScalingAdjustment (p. 75)**

Amount of adjustment to make, based on the scaling adjustment type.

Type: Integer

Required: Yes

**ScalingAdjustmentType (p. 75)**

Type of adjustment to make to a fleet's instance count (see FleetCapacity (p. 114)):

- **ChangeInCapacity** – add (or subtract) the scaling adjustment value from the current instance count. Positive values scale up while negative values scale down.

- **ExactCapacity** – set the instance count to the scaling adjustment value.

- **PercentChangeInCapacity** – increase or reduce the current instance count by the scaling adjustment, read as a percentage. Positive values scale up while negative values scale down; for example, a value of "-10" scales the fleet down by 10%.

Type: String

Valid Values: `ChangeInCapacity` | `ExactCapacity` | `PercentChangeInCapacity`

Required: Yes

**Threshold (p. 75)**

Metric value used to trigger a scaling event.

Type: Double

Required: Yes

# Response Syntax

```
{
    "Name": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Name (p. 77)**

Descriptive label associated with a scaling policy. Policy names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# RequestUploadCredentials

Retrieves a fresh set of upload credentials and the assigned Amazon S3 storage location for a specific build. Valid credentials are required to upload your game build files to Amazon S3.

**Important**
Call this action only if you need credentials for a build created with `CreateBuild (p. 7)`. This is a rare situation; in most cases, builds are created using the CLI command `upload-build`, which creates a build record and also uploads build files.

Upload credentials are returned when you create the build, but they have a limited lifespan. You can get fresh credentials and use them to re-upload game files until the status of that build changes to `READY`. Once this happens, you must create a brand new build.

## Request Syntax

```
{
    "BuildId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**BuildId (p. 78)**
Unique identifier for the build you want to get credentials for.
Type: String
Pattern: `^build-\S+`
Required: Yes

## Response Syntax

```
{
    "StorageLocation": {
        "Bucket": "string",
        "Key": "string",
        "RoleArn": "string"
    },
    "UploadCredentials": {
        "AccessKeyId": "string",
        "SecretAccessKey": "string",
        "SessionToken": "string"
    }
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**StorageLocation (p. 78)**

Amazon S3 path and key, identifying where the game build files are stored.

Type: S3Location (p. 130) object

**UploadCredentials (p. 78)**

AWS credentials required when uploading a game build to the storage location. These credentials have a limited lifespan and are valid only for the build they were issued for.

Type: AwsCredentials (p. 106) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# ResolveAlias

Retrieves the fleet ID that a specified alias is currently pointing to.

## Request Syntax

```
{
    "AliasId": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 80)**
Unique identifier for the alias you want to resolve.
Type: String
Pattern: `^alias-\S+`
Required: Yes

## Response Syntax

```
{
    "FleetId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

**FleetId (p. 80)**
Fleet ID associated with the requested alias.
Type: String
Pattern: `^fleet-\S+`

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**
The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.
HTTP Status Code: 500

**InvalidRequestException**
One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**TerminalRoutingStrategyException**

The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# SearchGameSessions

Retrieves a set of game sessions that match a set of search criteria and sorts them in a specified order. Currently a game session search is limited to a single fleet. Search results include only game sessions that are in ACTIVE status. If you need to retrieve game sessions with a status other than active, use DescribeGameSessions (p. 51). If you need to retrieve the protection policy for each game session, use DescribeGameSessionDetails (p. 48).

You can search or sort by the following game session attributes:

- **gameSessionId** -- ID value assigned to a game session. This unique value is returned in a GameSession (p. 117) object when a new game session is created.
- **gameSessionName** -- Name assigned to a game session. This value is set when requesting a new game session with CreateGameSession (p. 15) or updating with UpdateGameSession (p. 99). Game session names do not need to be unique to a game session.
- **creationTimeMillis** -- Value indicating when a game session was created. It is expressed in Unix time as milliseconds.
- **playerSessionCount** -- Number of players currently connected to a game session. This value changes rapidly as players join the session or drop out.
- **maximumSessions** -- Maximum number of player sessions allowed for a game session. This value is set when requesting a new game session with CreateGameSession (p. 15) or updating with UpdateGameSession (p. 99).
- **hasAvailablePlayerSessions** -- Boolean value indicating whether or not a game session has reached its maximum number of players. When searching with this attribute, the search value must be `true` or `false`. It is highly recommended that all search requests include this filter attribute to optimize search performance and return only sessions that players can join.

To search or sort, specify either a fleet ID or an alias ID, and provide a search filter expression, a sort expression, or both. Use the pagination parameters to retrieve results as a set of sequential pages. If successful, a collection of GameSession (p. 117) objects matching the request is returned.

> **Note**
> Returned values for `playerSessionCount` and `hasAvailablePlayerSessions` change quickly as players join sessions and others drop out. Results should be considered a snapshot in time. Be sure to refresh search results often, and handle sessions that fill up before a player can join.

## Request Syntax

```
{
    "AliasId": "string",
    "FilterExpression": "string",
    "FleetId": "string",
    "Limit": number,
    "NextToken": "string",
    "SortExpression": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**AliasId (p. 82)**

Unique identifier for a fleet alias. Each request must reference either a fleet ID or alias ID, but not both.

Type: String

Pattern: `^alias-\S+`

Required: No

**FilterExpression (p. 82)**

String containing the search criteria for the session search. If no filter expression is included, the request returns results for all game sessions in the fleet that are in ACTIVE status.

A filter expression can contain one or multiple conditions. Each condition consists of the following:

- **Operand** -- Name of a game session attribute. Valid values are `gameSessionName`, `gameSessionId`, `creationTimeMillis`, `playerSessionCount`, `maximumSessions`, `hasAvailablePlayerSessions`.

- **Comparator** -- Valid comparators are: `=, <>, <, >, <=, >=`.

- **Value** -- Value to be searched for. Values can be numbers, boolean values (true/false) or strings. String values are case sensitive, enclosed in single quotes. Special characters must be escaped. Boolean and string values can only be used with the comparators `=` and `<>`. For example, the following filter expression searches on `gameSessionName`: `"FilterExpression": "gameSessionName = 'Matt\\'s Awesome Game 1'"`.

To chain multiple conditions in a single expression, use the logical keywords `AND`, `OR`, and `NOT` and parentheses as needed. For example: `x AND y AND NOT z`, `NOT (x OR y)`.

Session search evaluates conditions from left to right using the following precedence rules:

1. `=, <>, <, >, <=, >=`

2. Parentheses

3. NOT

4. AND

5. OR

For example, this filter expression retrieves game sessions hosting at least ten players that have an open player slot: `"maximumSessions>=10 AND hasAvailablePlayerSessions=true"`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**FleetId (p. 82)**

Unique identifier for a fleet. Each request must reference either a fleet ID or alias ID, but not both.

Type: String

Pattern: `^fleet-\S+`

Required: No

**Limit (p. 82)**

Maximum number of results to return. Use this parameter with `NextToken` to get results as a set of sequential pages. The maximum number of results returned is 20, even if this value is not set or is set higher than 20.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 82)**

Token indicating the start of the next sequential page of results. Use the token that is returned with a previous call to this action. To specify the start of the result set, do not specify a value.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**SortExpression (p. 82)**

Instructions on how to sort the search results. If no sort expression is included, the request returns results in random order. A sort expression consists of the following elements:

- **Operand** -- Name of a game session attribute. Valid values are `gameSessionName`, `gameSessionId`, `creationTimeMillis`, `playerSessionCount`, `maximumSessions`, `hasAvailablePlayerSessions`.
- **Order** -- Valid sort orders are `ASC` (ascending) and `DESC` (descending).

For example, this sort expression returns the oldest active sessions first: `"SortExpression": "creationTimeMillis ASC"`. Results with a null value for the sort operand are returned at the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Response Syntax

```
{
    "GameSessions": [
        {
            "CreationTime": number,
            "CreatorId": "string",
            "CurrentPlayerSessionCount": number,
            "FleetId": "string",
            "GameProperties": [
                {
                    "Key": "string",
                    "Value": "string"
                }
            ],
            "GameSessionId": "string",
            "IpAddress": "string",
            "MaximumPlayerSessionCount": number,
            "Name": "string",
            "PlayerSessionCreationPolicy": "string",
            "Port": number,
            "Status": "string",
            "TerminationTime": number
        }
    ],
    "NextToken": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**GameSessions (p. 84)**

Collection of objects containing game session properties for each session matching the request.

Type: array of GameSession (p. 117) objects

**NextToken (p. 84)**

Token indicating where to resume retrieving results on the next call to this action. If no token is returned, these results represent the end of the list.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

# Errors

For information about the errors that are common to all actions, see .

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**TerminalRoutingStrategyException**

The service is unable to resolve the routing for a particular alias because it has a terminal RoutingStrategy (p. 128) associated with it. The message returned in this exception is the message defined in the routing strategy itself. Such requests should only be retried if the routing strategy for the specified alias is modified.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# Examples

## Search game sessions

This example finds all game sessions with at least two players already connected. We recommend that all game session searches also filter out all active game sessions that are not accepting new players.

### Sample Request

```
JSON syntax:
    {"AliasId": "MAG-base",
    "FilterExpression": "playerSessionCount>=2 AND
 hasAvailablePlayerSessions=true",
    "Limit": 2
    }

CLI syntax:
    aws gamelift search-game-sessions --alias-id "MOG-base" --filter-
expression "playerSessionCount>=2 AND hasAvailablePlayerSessions=true" --
limit 2
```

### Sample Response

```
{"GameSessions":
```

```
[
     "GameSessionId": "gsess-653522bb-89e8-4b96-b925-725c169b1e5d",
     "IpAddress": "54.186.43.45",
     "MaximumPlayerSessionCount": 10,
     "Name": "Matt's Awesome Game",
     "Status": "ACTIVE"},
   {"CreationTime": 1469498468.057,
     "CurrentPlayerSessionCount": 5,
     "FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
     "GameProperties": [
        {"Key": "Map",
         "Value": "Snowfall"},
        {"Key": "Scheme",
         "Value": "Blue"}
     ],
     "GameSessionId": "gsess-be142e60-04d1-452a-8016-6790b796eea1",
     "IpAddress": "54.186.139.221",
     "MaximumPlayerSessionCount": 10,
     "Name": "Matt's Awesome Game",
     "Status": "ACTIVE"},
   {"CreationTime": 1469498497.792,
     "CurrentPlayerSessionCount": 3,
     "FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
     "GameProperties": [
        {"Key": "Map",
         "Value": "Dystopia"},
        {"Key": "Scheme",
         "Value": "GreenBlack"}
     ]
   ]
}
```

# Search and sort game sessions

This example finds all game sessions that allow 20 players (indicates team fighting mode) and are currently accepting new players. Results are sorted so that the newest game sessions are returned first.

## Sample Request

```
JSON:
    {"FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
     "FilterExpression": "maximumSessions=20 AND
 hasAvailablePlayerSessions=true",
     "SortExpression": "creationTimeMillis DESC"
    }

CLI syntax:
    aws gamelift search-game-sessions --fleet-id "fleet-a7abc071-5537-4f0f-
b5ee-1b5c1187565f" --filter-expression "maximumSessions=20 AND
 hasAvailablePlayerSessions=true" --sort-expression "creationTimeMillis DESC"
```

## Sample Response

```
{"GameSessions": [
    {
```

```
            "CreationTime": 1469498497.792,
            "CurrentPlayerSessionCount": 16,
            "FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1198676087565f",
            "GameProperties": [
                {    "Key": "Map",
                     "Value": "Snowfall"},
                {    "Key": "Scheme",
                     "Value": "Blue"}
            ],
            "GameSessionId": "gsess-653522bb-89e8-4b96-b925-725c169f2ee0",
            "IpAddress": "54.186.43.45",
            "MaximumPlayerSessionCount": 20,
            "Name": "Matt's Awesome Game",
            "Status": "ACTIVE"
        },
        {
            "CreationTime": 1469498468.057,
            "CurrentPlayerSessionCount": 5,
            "FleetId": "fleet-a7abc071-5537-4f0f-b5ee-1b5c1187565f",
            "GameProperties": [
                {    "Key": "Map",
                     "Value": "Dystopia"},
                {    "Key": "Scheme",
                     "Value": "GreenBlack"}
             ],
             "GameSessionId": "gsess-be142e60-04d1-452a-8016-6790b792ffa3",
             "IpAddress": "54.186.139.221",
            "MaximumPlayerSessionCount": 20,
            "Name": "Matt's Awesome Game",
            "Status": "ACTIVE"
        }
    ]
}
```

# UpdateAlias

Updates properties for an alias. To update properties, specify the alias ID to be updated and provide the information to be changed. To reassign an alias to another fleet, provide an updated routing strategy. If successful, the updated alias record is returned.

## Request Syntax

```
{
    "AliasId": "string",
    "Description": "string",
    "Name": "string",
    "RoutingStrategy": {
        "FleetId": "string",
        "Message": "string",
        "Type": "string"
    }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**AliasId (p. 88)**

Unique identifier for a fleet alias. Specify the alias you want to update.

Type: String

Pattern: `^alias-\S+`

Required: Yes

**Description (p. 88)**

Human-readable description of an alias.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**Name (p. 88)**

Descriptive label associated with an alias. Alias names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `.*\S.*`

Required: No

**RoutingStrategy (p. 88)**

Object specifying the fleet and routing type to use for the alias.

Type: RoutingStrategy (p. 128) object

Required: No

# Response Syntax

```
{
    "Alias": {
        "AliasId": "string",
        "CreationTime": number,
        "Description": "string",
        "LastUpdatedTime": number,
        "Name": "string",
        "RoutingStrategy": {
            "FleetId": "string",
            "Message": "string",
            "Type": "string"
        }
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Alias (p. 89)**

Object containing the updated alias configuration.

Type: Alias (p. 105) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateBuild

Updates metadata in a build record, including the build name and version. To update the metadata, specify the build ID to update and provide the new values. If successful, a build object containing the updated metadata is returned.

## Request Syntax

```
{
    "BuildId": "string",
    "Name": "string",
    "Version": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**BuildId (p. 90)**
Unique identifier of the build you want to update.
Type: String
Pattern: `^build-\S+`
Required: Yes

**Name (p. 90)**
Descriptive label associated with a build. Build names do not need to be unique.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1024.
Required: No

**Version (p. 90)**
Version associated with this build. Version strings do not need to be unique to a build.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 1024.
Required: No

## Response Syntax

```
{
    "Build": {
        "BuildId": "string",
        "CreationTime": number,
        "Name": "string",
        "OperatingSystem": "string",
        "SizeOnDisk": number,
        "Status": "string",
        "Version": "string"
    }
```

```
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Build (p. 90)**

Object containing the updated build record.

Type: Build (p. 107) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateFleetAttributes

Updates fleet properties, including name and description, for a fleet. To update metadata, specify the fleet ID and the property values you want to change. If successful, the fleet ID for the updated fleet is returned.

## Request Syntax

```
{
    "Description": "string",
    "FleetId": "string",
    "Name": "string",
    "NewGameSessionProtectionPolicy": "string",
    "ResourceCreationLimitPolicy": {
        "NewGameSessionsPerCreator": number,
        "PolicyPeriodInMinutes": number
    }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 92)**

Unique identifier for the fleet you want to update attribute metadata for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**Description (p. 92)**

Human-readable description of a fleet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**Name (p. 92)**

Descriptive label associated with a fleet. Fleet names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**NewGameSessionProtectionPolicy (p. 92)**

Game session protection policy to apply to all new instances created in this fleet. Instances that already exist are not affected. You can set protection for individual instances using UpdateGameSession (p. 99).

- **NoProtection** – The game session can be terminated during a scale-down event.
- **FullProtection** – If the game session is in an `ACTIVE` status, it cannot be terminated during a scale-down event.

Type: String

Valid Values: `NoProtection | FullProtection`

Required: No

**ResourceCreationLimitPolicy (p. 92)**

Policy that limits the number of game sessions an individual player can create over a span of time.

Type: ResourceCreationLimitPolicy (p. 127) object

Required: No

# Response Syntax

```
{
    "FleetId": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetId (p. 93)**

Unique identifier for the updated fleet.

Type: String

Pattern: `^fleet-\S+`

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateFleetCapacity

Updates capacity settings for a fleet. Use this action to specify the number of EC2 instances (hosts) that you want this fleet to contain. Before calling this action, you may want to call DescribeEC2InstanceLimits (p. 33) to get the maximum capacity based on the fleet's EC2 instance type.

If you're using autoscaling (see PutScalingPolicy (p. 75)), you may want to specify a minimum and/or maximum capacity. If you don't provide these, autoscaling can set capacity anywhere between zero and the service limits.

To update fleet capacity, specify the fleet ID and the number of instances you want the fleet to host. If successful, Amazon GameLift starts or terminates instances so that the fleet's active instance count matches the desired instance count. You can view a fleet's current capacity information by calling DescribeFleetCapacity (p. 38). If the desired instance count is higher than the instance type's limit, the "Limit Exceeded" exception occurs.

## Request Syntax

```
{
    "DesiredInstances": number,
    "FleetId": "string",
    "MaxSize": number,
    "MinSize": number
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**FleetId (p. 95)**
Unique identifier for the fleet you want to update capacity for.
Type: String
Pattern: `^fleet-\S+`
Required: Yes

**DesiredInstances (p. 95)**
Number of EC2 instances you want this fleet to host.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**MaxSize (p. 95)**
Maximum value allowed for the fleet's instance count. Default if not set is 1.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**MinSize (p. 95)**
Minimum value allowed for the fleet's instance count. Default if not set is 0.
Type: Integer
Valid Range: Minimum value of 0.

Required: No

## Response Syntax

```
{
    "FleetId": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetId (p. 96)**

Unique identifier for the updated fleet.

Type: String

Pattern: `^fleet-\S+`

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateFleetPortSettings

Updates port settings for a fleet. To update settings, specify the fleet ID to be updated and list the permissions you want to update. List the permissions you want to add in `InboundPermissionAuthorizations`, and permissions you want to remove in `InboundPermissionRevocations`. Permissions to be removed must match existing fleet permissions. If successful, the fleet ID for the updated fleet is returned.

## Request Syntax

```
{
    "FleetId": "string",
    "InboundPermissionAuthorizations": [
        {
            "FromPort": number,
            "IpRange": "string",
            "Protocol": "string",
            "ToPort": number
        }
    ],
    "InboundPermissionRevocations": [
        {
            "FromPort": number,
            "IpRange": "string",
            "Protocol": "string",
            "ToPort": number
        }
    ]
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 97)**
Unique identifier for the fleet you want to update port settings for.
Type: String
Pattern: `^fleet-\S+`
Required: Yes

**InboundPermissionAuthorizations (p. 97)**
Collection of port settings to be added to the fleet record.
Type: array of IpPermission (p. 124) objects
Array Members: Maximum number of 50 items.
Required: No

**InboundPermissionRevocations (p. 97)**
Collection of port settings to be removed from the fleet record.
Type: array of IpPermission (p. 124) objects
Array Members: Maximum number of 50 items.
Required: No

# Response Syntax

```
{
    "FleetId": "string"
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FleetId (p. 98)**

Unique identifier for the updated fleet.

Type: String

Pattern: `^fleet-\S+`

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**LimitExceededException**

The requested operation would cause the resource to exceed the allowed service limit. Resolve the issue before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateGameSession

Updates game session properties. This includes the session name, maximum player count, protection policy, which controls whether or not an active game session can be terminated during a scale-down event, and the player session creation policy, which controls whether or not new players can join the session. To update a game session, specify the game session ID and the values you want to change. If successful, an updated GameSession (p. 117) object is returned.

## Request Syntax

```
{
    "GameSessionId": "string",
    "MaximumPlayerSessionCount": number,
    "Name": "string",
    "PlayerSessionCreationPolicy": "string",
    "ProtectionPolicy": "string"
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

> **Note**
> In the following list, the required parameters are described first.

**GameSessionId (p. 99)**

Unique identifier for the game session to update. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9:/-]+`

Required: Yes

**MaximumPlayerSessionCount (p. 99)**

Maximum number of players that can be simultaneously connected to the game session.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**Name (p. 99)**

Descriptive label associated with a game session. Session names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**PlayerSessionCreationPolicy (p. 99)**

Policy determining whether or not the game session accepts new players.

Type: String

Valid Values: `ACCEPT_ALL | DENY_ALL`

Required: No

**ProtectionPolicy (p. 99)**

Game session protection policy to apply to this game session only.

- **NoProtection** – The game session can be terminated during a scale-down event.
- **FullProtection** – If the game session is in an `ACTIVE` status, it cannot be terminated during a scale-down event.

Type: String

Valid Values: `NoProtection | FullProtection`

Required: No

# Response Syntax

```
{
    "GameSession": {
        "CreationTime": number,
        "CreatorId": "string",
        "CurrentPlayerSessionCount": number,
        "FleetId": "string",
        "GameProperties": [
            {
                "Key": "string",
                "Value": "string"
            }
        ],
        "GameSessionId": "string",
        "IpAddress": "string",
        "MaximumPlayerSessionCount": number,
        "Name": "string",
        "PlayerSessionCreationPolicy": "string",
        "Port": number,
        "Status": "string",
        "TerminationTime": number
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**GameSession (p. 100)**

Object containing the updated game session metadata.

Type: GameSession (p. 117) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**ConflictException**

The requested operation would cause a conflict with the current state of a service resource associated with the request. Resolve the conflict before retrying this request.

HTTP Status Code: 400

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidGameSessionStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the game instance. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# UpdateRuntimeConfiguration

Updates the current runtime configuration for the specified fleet, which tells GameLift how to launch server processes on instances in the fleet. You can update a fleet's runtime configuration at any time after the fleet is created; it does not need to be in an `ACTIVE` status.

To update runtime configuration, specify the fleet ID and provide a `RuntimeConfiguration` object with the updated collection of server process configurations.

Each instance in a GameLift fleet checks regularly for an updated runtime configuration and changes how it launches server processes to comply with the latest version. Existing server processes are not affected by the update; they continue to run until they end, while GameLift simply adds new server processes to fit the current runtime configuration. As a result, the runtime configuration changes are applied gradually as existing processes shut down and new processes are launched in GameLift's normal process recycling activity.

## Request Syntax

```
{
    "FleetId": "string",
    "RuntimeConfiguration": {
        "ServerProcesses": [
            {
                "ConcurrentExecutions": number,
                "LaunchPath": "string",
                "Parameters": "string"
            }
        ]
    }
}
```

## Request Parameters

For information about the parameters that are common to all actions, see Common Parameters (p. 134).

The request accepts the following data in JSON format.

**Note**
In the following list, the required parameters are described first.

**FleetId (p. 102)**

Unique identifier of the fleet to update runtime configuration for.

Type: String

Pattern: `^fleet-\S+`

Required: Yes

**RuntimeConfiguration (p. 102)**

Instructions for launching server processes on each instance in the fleet. The runtime configuration for a fleet has a collection of server process configurations, one for each type of server process to run on an instance. A server process configuration specifies the location of the server executable, launch parameters, and the number of concurrent processes with that configuration to maintain on each instance.

Type: RuntimeConfiguration (p. 129) object

Required: Yes

# Response Syntax

```
{
    "RuntimeConfiguration": {
        "ServerProcesses": [
            {
                "ConcurrentExecutions": number,
                "LaunchPath": "string",
                "Parameters": "string"
            }
        ]
    }
}
```

# Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**RuntimeConfiguration (p. 103)**

The runtime configuration currently in force. If the update was successful, this object matches the one in the request.

Type: RuntimeConfiguration (p. 129) object

# Errors

For information about the errors that are common to all actions, see Common Errors (p. 136).

**InternalServiceException**

The service encountered an unrecoverable internal failure while processing the request. Clients can retry such requests immediately or after a waiting period.

HTTP Status Code: 500

**InvalidFleetStatusException**

The requested operation would cause a conflict with the current state of a resource associated with the request and/or the fleet. Resolve the conflict before retrying.

HTTP Status Code: 400

**InvalidRequestException**

One or more parameter values in the request are invalid. Correct the invalid parameter values before retrying.

HTTP Status Code: 400

**NotFoundException**

A service resource associated with the request could not be found. Clients should not retry such requests.

HTTP Status Code: 400

**UnauthorizedException**

The client failed authentication. Clients should not retry such requests.

HTTP Status Code: 400

# Data Types

The Amazon GameLift API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
> The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

# Alias

Properties describing a fleet alias.

## Contents

**Note**
In the following list, the required parameters are described first.

**AliasId**

Unique identifier for a fleet alias.

Type: String

Pattern: `^alias-\S+`

Required: No

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Description**

Human-readable description of an alias.

Type: String

Required: No

**LastUpdatedTime**

Time stamp indicating when this data object was last modified. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Name**

Descriptive label associated with an alias. Alias names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Pattern: `.*\S.*`

Required: No

**RoutingStrategy**

Routing configuration for a fleet alias.

Type: RoutingStrategy (p. 128) object

Required: No

# AwsCredentials

AWS access credentials required to upload game build files to Amazon GameLift. These credentials are generated with CreateBuild (p. 7), and are valid for a limited time. If they expire before you upload your game build, get a new set by calling RequestUploadCredentials (p. 78).

## Contents

**Note**
In the following list, the required parameters are described first.

**AccessKeyId**

Access key for an AWS account.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**SecretAccessKey**

Secret key for an AWS account.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**SessionToken**

Token specific to a build ID.

Type: String

Length Constraints: Minimum length of 1.

Required: No

# Build

Properties describing a game build.

## Contents

**Note**

In the following list, the required parameters are described first.

**BuildId**

Unique identifier for a build.

Type: String

Pattern: `^build-\S+`

Required: No

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Name**

Descriptive label associated with a build. Build names do not need to be unique. It can be set using or .

Type: String

Required: No

**OperatingSystem**

Operating system that the game server binaries are built to run on. This value determines the type of fleet resources that you can use for this build.

Type: String

Valid Values: `WINDOWS_2012 | AMAZON_LINUX`

Required: No

**SizeOnDisk**

File size of the uploaded game build, expressed in bytes. When the build status is `INITIALIZED`, this value is 0.

Type: Long

Valid Range: Minimum value of 1.

Required: No

**Status**

Current status of the build.

Possible build statuses include the following:

- **INITIALIZED** – A new build has been defined, but no files have been uploaded. You cannot create fleets for builds that are in this status. When a build is successfully created, the build status is set to this value.

- **READY** – The game build has been successfully uploaded. You can now create new fleets for this build.

- **FAILED** – The game build upload failed. You cannot create new fleets for this build.

Type: String

Valid Values: `INITIALIZED | READY | FAILED`

Required: No

**Version**

Version associated with this build. Version strings do not need to be unique to a build. This value can be set using or .

Type: String

Required: No

# EC2InstanceCounts

Current status of fleet capacity. The number of active instances should match or be in the process of matching the number of desired instances. Pending and terminating counts are non-zero only if fleet capacity is adjusting to an UpdateFleetCapacity (p. 95) request, or if access to resources is temporarily affected.

## Contents

**Note**
In the following list, the required parameters are described first.

**ACTIVE**
Actual number of active instances in the fleet.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**DESIRED**
Ideal number of active instances in the fleet.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**IDLE**
Number of active instances in the fleet that are not currently hosting a game session.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**MAXIMUM**
Maximum value allowed for the fleet's instance count.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**MINIMUM**
Minimum value allowed for the fleet's instance count.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**PENDING**
Number of instances in the fleet that are starting but not yet active.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

**TERMINATING**
Number of instances in the fleet that are no longer active but haven't yet been terminated.
Type: Integer
Valid Range: Minimum value of 0.
Required: No

# EC2InstanceLimit

Maximum number of instances allowed based on the Amazon Elastic Compute Cloud (Amazon EC2) instance type. Instance limits can be retrieved by calling DescribeEC2InstanceLimits (p. 33).

## Contents

**Note**

In the following list, the required parameters are described first.

**CurrentInstances**

Number of instances of the specified type that are currently in use by this AWS account.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**EC2InstanceType**

Name of an EC2 instance type that is supported in Amazon GameLift. A fleet instance type determines the computing resources of each instance in the fleet, including CPU, memory, storage, and networking capacity. GameLift supports the following EC2 instance types. See Amazon EC2 Instance Types for detailed descriptions.

Type: String

Valid Values: `t2.micro | t2.small | t2.medium | t2.large | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge`

Required: No

**InstanceLimit**

Number of instances allowed.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

# Event

Log entry describing an event involving Amazon GameLift resources (such as a fleet). In addition to tracking activity, event codes and messages can provide additional information for troubleshooting and debugging problems.

## Contents

**Note**

In the following list, the required parameters are described first.

**EventCode**

Type of event being logged.

Type: String

Valid Values: `GENERIC_EVENT | FLEET_CREATED | FLEET_DELETED | FLEET_SCALING_EVENT | FLEET_STATE_DOWNLOADING | FLEET_STATE_VALIDATING | FLEET_STATE_BUILDING | FLEET_STATE_ACTIVATING | FLEET_STATE_ACTIVE | FLEET_STATE_ERROR | FLEET_INITIALIZATION_FAILED | FLEET_BINARY_DOWNLOAD_FAILED | FLEET_VALIDATION_LAUNCH_PATH_NOT_FOUND | FLEET_VALIDATION_EXECUTABLE_RUNTIME_FAILURE | FLEET_VALIDATION_TIMED_OUT | FLEET_ACTIVATION_FAILED | FLEET_ACTIVATION_FAILED_NO_INSTANCES | FLEET_NEW_GAME_SESSION_PROTECTION_POLICY_UPDATED | SERVER_PROCESS_INVALID_PATH | SERVER_PROCESS_SDK_INITIALIZATION_TIMEOUT | SERVER_PROCESS_PROCESS_READY_TIMEOUT | SERVER_PROCESS_CRASHED | SERVER_PROCESS_TERMINATED_UNHEALTHY | SERVER_PROCESS_FORCE_TERMINATED | SERVER_PROCESS_PROCESS_EXIT_TIMEOUT`

Required: No

**EventId**

Unique identifier for a fleet event.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**EventTime**

Time stamp indicating when this event occurred. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Message**

Additional information related to the event.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**ResourceId**

Unique identifier for the resource, such as a fleet ID.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# FleetAttributes

General properties describing a fleet.

## Contents

**Note**

In the following list, the required parameters are described first.

**BuildId**

Unique identifier for a build.

Type: String

Pattern: `^build-\S+`

Required: No

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**Description**

Human-readable description of the fleet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**FleetId**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**LogPaths**

Location of default log files. When a server process is shut down, Amazon GameLift captures and stores any log files in this location. These logs are in addition to game session logs; see more on game session logs in the Amazon GameLift Developer Guide. If no default log path for a fleet is specified, GameLift will automatically upload logs that are stored on each instance at `C:\game \logs` (for Windows) or `/local/game/logs` (for Linux). Use the GameLift console to access stored logs.

Type: array of Strings

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**Name**

Descriptive label associated with a fleet. Fleet names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**NewGameSessionProtectionPolicy**

Type of game session protection to set for all new instances started in the fleet.

- **NoProtection** – The game session can be terminated during a scale-down event.
- **FullProtection** – If the game session is in an `ACTIVE` status, it cannot be terminated during a scale-down event.

Type: String

Valid Values: `NoProtection | FullProtection`

Required: No

**OperatingSystem**

Operating system of the fleet's computing resources. A fleet's operating system depends on the OS specified for the build that is deployed on this fleet.

Type: String

Valid Values: `WINDOWS_2012 | AMAZON_LINUX`

Required: No

**ResourceCreationLimitPolicy**

Fleet policy to limit the number of game sessions an individual player can create over a span of time.

Type: ResourceCreationLimitPolicy (p. 127) object

Required: No

**ServerLaunchParameters**

Game server launch parameters specified for fleets created prior to 2016-08-04 (or AWS SDK v. 0.12.16). Server launch parameters for fleets created after this date are specified in the fleet's `RuntimeConfiguration (p. 129)` .

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**ServerLaunchPath**

Path to a game server executable in the fleet's build, specified for fleets created prior to 2016-08-04 (or AWS SDK v. 0.12.16). Server launch paths for fleets created after this date are specified in the fleet's `RuntimeConfiguration (p. 129)` .

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**Status**

Current status of the fleet.

Possible fleet statuses include the following:

- **NEW** – A new fleet has been defined and desired instances is set to 1.
- **DOWNLOADING/VALIDATING/BUILDING/ACTIVATING** – GameLift is setting up the new fleet, creating new instances with the game build and starting server processes.
- **ACTIVE** – Hosts can now accept game sessions.
- **ERROR** – An error occurred when downloading, validating, building, or activating the fleet.
- **DELETING** – Hosts are responding to a delete fleet request.
- **TERMINATED** – The fleet no longer exists.

Type: String

Valid Values: `NEW | DOWNLOADING | VALIDATING | BUILDING | ACTIVATING | ACTIVE | DELETING | ERROR | TERMINATED`

Required: No

**TerminationTime**

Time stamp indicating when this data object was terminated. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

# FleetCapacity

Information about the fleet's capacity. Fleet capacity is measured in EC2 instances. By default, new fleets have a capacity of one instance, but can be updated as needed. The maximum number of instances for a fleet is determined by the fleet's instance type.

## Contents

**Note**

In the following list, the required parameters are described first.

**FleetId**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**InstanceCounts**

Current status of fleet capacity.

Type: EC2InstanceCounts (p. 109) object

Required: No

**InstanceType**

Name of an EC2 instance type that is supported in Amazon GameLift. A fleet instance type determines the computing resources of each instance in the fleet, including CPU, memory, storage, and networking capacity. GameLift supports the following EC2 instance types. See Amazon EC2 Instance Types for detailed descriptions.

Type: String

Valid Values: `t2.micro` | `t2.small` | `t2.medium` | `t2.large` | `c3.large` | `c3.xlarge` | `c3.2xlarge` | `c3.4xlarge` | `c3.8xlarge` | `c4.large` | `c4.xlarge` | `c4.2xlarge` | `c4.4xlarge` | `c4.8xlarge` | `r3.large` | `r3.xlarge` | `r3.2xlarge` | `r3.4xlarge` | `r3.8xlarge` | `m3.medium` | `m3.large` | `m3.xlarge` | `m3.2xlarge` | `m4.large` | `m4.xlarge` | `m4.2xlarge` | `m4.4xlarge` | `m4.10xlarge`

Required: No

# FleetUtilization

Current status of fleet utilization, including the number of game and player sessions being hosted.

## Contents

**Note**
In the following list, the required parameters are described first.

**ActiveGameSessionCount**
Number of active game sessions currently being hosted on all instances in the fleet.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**ActiveServerProcessCount**
Number of server processes in an `ACTIVE` status currently running across all instances in the fleet

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**CurrentPlayerSessionCount**
Number of active player sessions currently being hosted on all instances in the fleet.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**FleetId**
Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**MaximumPlayerSessionCount**
Maximum players allowed across all game sessions currently being hosted on all instances in the fleet.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

# GameProperty

Set of key-value pairs containing information a server process requires to set up a game session. This object allows you to pass in any set of data needed for your game. For more information, see the Amazon GameLift Developer Guide.

## Contents

**Note**
In the following list, the required parameters are described first.

**Key**
TBD

Type: String

Length Constraints: Maximum length of 32.

Required: Yes

**Value**
TBD

Type: String

Length Constraints: Maximum length of 96.

Required: Yes

# GameSession

Properties describing a game session.

## Contents

**Note**

In the following list, the required parameters are described first.

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**CreatorId**

Player ID of the person or entity that created the game session. This ID is used to enforce a resource protection policy (if one exists) that limits the number of concurrent active game sessions for a single player.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**CurrentPlayerSessionCount**

Number of players currently in the game session.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**FleetId**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**GameProperties**

Set of custom properties for the game session.

Type: array of GameProperty (p. 116) objects

Array Members: Maximum number of 16 items.

Required: No

**GameSessionId**

Unique identifier for a game session. Game session ID format is as follows: "arn:aws:gamelift:<region>::gamesession/fleet-<fleet ID>/<ID string>". The value of <ID string> is either a custom ID string (if one was specified when the game session was created) an autogenerated string.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**IpAddress**

IP address of the game session. To connect to a GameLift server process, an app needs both the IP address and port number.

Type: String

Required: No

**MaximumPlayerSessionCount**

Maximum number of players allowed in the game session.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**Name**

Descriptive label associated with a game session. Session names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**PlayerSessionCreationPolicy**

Indicates whether or not the game session is accepting new players.

Type: String

Valid Values: `ACCEPT_ALL` | `DENY_ALL`

Required: No

**Port**

Port number for the game session. To connect to a GameLift server process, an app needs both the IP address and port number.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60000.

Required: No

**Status**

Current status of the game session. A game session must be in an `ACTIVE` status to have player sessions.

Type: String

Valid Values: `ACTIVE` | `ACTIVATING` | `TERMINATED` | `TERMINATING` | `ERROR`

Required: No

**TerminationTime**

Time stamp indicating when this data object was terminated. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

# GameSessionDetail

A game session's properties and the protection policy currently in force.

## Contents

**Note**

In the following list, the required parameters are described first.

**GameSession**

Properties describing a game session.

Type: GameSession (p. 117) object

Required: No

**ProtectionPolicy**

Current status of protection for the game session.

- **NoProtection** – The game session can be terminated during a scale-down event.
- **FullProtection** – If the game session is in an ACTIVE status, it cannot be terminated during a scale-down event.

Type: String

Valid Values: NoProtection | FullProtection

Required: No

# Instance

Properties that describe an instance of a virtual computing resource that hosts one or more game servers. A fleet contains zero or more instances.

## Contents

**Note**

In the following list, the required parameters are described first.

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**FleetId**

Unique identifier for the fleet that the instance belongs to.

Type: String

Pattern: `^fleet-\S+`

Required: No

**InstanceId**

Unique identifier for the instance.

Type: String

Pattern: `[a-zA-Z0-9\.-]+`

Required: No

**IpAddress**

IP address assigned to the instance.

Type: String

Required: No

**OperatingSystem**

Operating system that is running on this instance.

Type: String

Valid Values: `WINDOWS_2012 | AMAZON_LINUX`

Required: No

**Status**

Current status of the instance. Possible statuses include the following:

- **PENDING** – The instance is in the process of being created and launching server processes as defined in the fleet's runtime configuration.
- **ACTIVE** – The instance has been successfully created and at least one server process has successfully launched and reported back to GameLift that it is ready to host a game session. The instance is now considered ready to host game sessions.
- **TERMINATING** – The instance is in the process of shutting down. This may happen to reduce capacity during a scaling down event or to recycle resources in the event of a problem.

Type: String

Valid Values: `PENDING | ACTIVE | TERMINATING`

Required: No

**Type**

EC2 instance type that defines the computing resources of this instance.

Type: String

Valid Values: `t2.micro | t2.small | t2.medium | t2.large | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge |`

```
c4.2xlarge | c4.4xlarge | c4.8xlarge | r3.large | r3.xlarge | r3.2xlarge |
r3.4xlarge | r3.8xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge |
m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge
```
Required: No

# InstanceAccess

Information required to remotely connect to a fleet instance. Access is requested by calling
.

## Contents

**Note**
In the following list, the required parameters are described first.

**Credentials**
Credentials required to access the instance.

Type: InstanceCredentials (p. 123) object

Required: No

**FleetId**
Unique identifier for the fleet containing the instance being accessed.

Type: String

Pattern: `^fleet-\S+`

Required: No

**InstanceId**
Unique identifier for the instance being accessed.

Type: String

Pattern: `[a-zA-Z0-9\.-]+`

Required: No

**IpAddress**
IP address assigned to the instance.

Type: String

Required: No

**OperatingSystem**
Operating system that is running on the instance.

Type: String

Valid Values: `WINDOWS_2012 | AMAZON_LINUX`

Required: No

# InstanceCredentials

Set of credentials required to remotely access a fleet instance. Access credentials are requested by calling GetInstanceAccess (p. 66) and returned in an InstanceAccess (p. 122) object.

## Contents

**Note**
In the following list, the required parameters are described first.

**Secret**

Secret string. For Windows instances, the secret is a password for use with Windows Remote Desktop. For Linux instances, it is a private key (which must be saved as a `.pem` file) for use with SSH.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**UserName**

User login string.

Type: String

Length Constraints: Minimum length of 1.

Required: No

# IpPermission

A range of IP addresses and port settings that allow inbound traffic to connect to server processes on GameLift. Each game session hosted on a fleet is assigned a unique combination of IP address and port number, which must fall into the fleet's allowed ranges. This combination is included in the GameSession (p. 117) object.

## Contents

**Note**

In the following list, the required parameters are described first.

**FromPort**

Starting value for a range of allowed port numbers.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60000.

Required: Yes

**IpRange**

Range of allowed IP addresses. This value must be expressed in CIDR notation. Example: `"000.000.000.000/[subnet mask]"` or optionally the shortened version `"0.0.0.0/[subnet mask]"`.

Type: String

Pattern: `[^\s]+`

Required: Yes

**Protocol**

Network communication protocol used by the fleet.

Type: String

Valid Values: `TCP | UDP`

Required: Yes

**ToPort**

Ending value for a range of allowed port numbers. Port numbers are end-inclusive. This value must be higher than `FromPort`.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60000.

Required: Yes

# PlayerSession

Properties describing a player session.

## Contents

**Note**

In the following list, the required parameters are described first.

**CreationTime**

Time stamp indicating when this data object was created. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

**FleetId**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**GameSessionId**

Unique identifier for the game session that the player session is connected to.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**IpAddress**

Game session IP address. All player sessions reference the game session location.

Type: String

Required: No

**PlayerId**

Unique identifier for a player.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**PlayerSessionId**

Unique identifier for a player session.

Type: String

Pattern: `^psess-\S+`

Required: No

**Port**

Port number for the game session. To connect to a GameLift server process, an app needs both the IP address and port number.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 60000.

Required: No

**Status**

Current status of the player session.

Possible player session statuses include the following:

- **RESERVED** – The player session request has been received, but the player has not yet connected to the server process and/or been validated.
- **ACTIVE** – The player has been validated by the server process and is currently connected.

- **COMPLETED** – The player connection has been dropped.
- **TIMEDOUT** – A player session request was received, but the player did not connect and/or was not validated within the time-out limit (60 seconds).

Type: String

Valid Values: `RESERVED | ACTIVE | COMPLETED | TIMEDOUT`

Required: No

**TerminationTime**

Time stamp indicating when this data object was terminated. Format is a number expressed in Unix time as milliseconds (ex: "1469498468.057").

Type: Timestamp

Required: No

# ResourceCreationLimitPolicy

Policy that limits the number of game sessions a player can create on the same fleet. This optional policy gives game owners control over how players can consume available game server resources. A resource creation policy makes the following statement: "An individual player can create a maximum number of new game sessions within a specified time period".

The policy is evaluated when a player tries to create a new game session. For example, with a policy of 10 new game sessions and a time period of 60 minutes, on receiving a `CreateGameSession` request, GameLift checks that the player (identified by `CreatorId`) has created fewer than 10 game sessions in the past 60 minutes.

## Contents

**Note**
In the following list, the required parameters are described first.

**NewGameSessionsPerCreator**
Maximum number of game sessions that an individual can create during the policy period.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

**PolicyPeriodInMinutes**
Time span used in evaluating the resource creation limit policy.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

# RoutingStrategy

Routing configuration for a fleet alias.

## Contents

**Note**

In the following list, the required parameters are described first.

**FleetId**

Unique identifier for a fleet.

Type: String

Pattern: `^fleet-\S+`

Required: No

**Message**

Message text to be used with a terminal routing strategy.

Type: String

Required: No

**Type**

Type of routing strategy.

Possible routing types include the following:

- **SIMPLE** – The alias resolves to one specific fleet. Use this type when routing to active fleets.
- **TERMINAL** – The alias does not resolve to a fleet but instead can be used to display a message to the user. A terminal alias throws a TerminalRoutingStrategyException with the RoutingStrategy (p. 128) message embedded.

Type: String

Valid Values: `SIMPLE | TERMINAL`

Required: No

# RuntimeConfiguration

Collection of server process configurations that describe what processes should be run on each instance in a fleet. An instance can launch and maintain multiple server processes based on the runtime configuration; it regularly checks for an updated runtime configuration and starts new server processes to match the latest version.

The key purpose of a runtime configuration with multiple server process configurations is to be able to run more than one kind of game server in a single fleet. You can include configurations for more than one server executable in order to run two or more different programs to run on the same instance. This option might be useful, for example, to run more than one version of your game server on the same fleet. Another option is to specify configurations for the same server executable but with different launch parameters.

A GameLift instance is limited to 50 processes running simultaneously. To calculate the total number of processes specified in a runtime configuration, add the values of the `ConcurrentExecutions` parameter for each <span>ServerProcess (p. 133)</span> object in the runtime configuration.

## Contents

**Note**

In the following list, the required parameters are described first.

**ServerProcesses**

Collection of server process configurations describing what server processes to run on each instance in a fleet

Type: array of ServerProcess (p. 133) objects

Array Members: Minimum number of 1 item. Maximum number of 50 items.

Required: No

# S3Location

Location in Amazon Simple Storage Service (Amazon S3) where a build's files are stored. This location is assigned in response to a CreateBuild (p. 7) call, and is always in the same region as the service used to create the build. For more details see the Amazon S3 documentation.

## Contents

**Note**

In the following list, the required parameters are described first.

**Bucket**

Amazon S3 bucket identifier.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**Key**

Amazon S3 bucket key.

Type: String

Length Constraints: Minimum length of 1.

Required: No

**RoleArn**

Amazon resource number for the cross-account access role that allows GameLift access to the S3 bucket.

Type: String

Length Constraints: Minimum length of 1.

Required: No

# ScalingPolicy

Rule that controls how a fleet is scaled. Scaling policies are uniquely identified by the combination of name and fleet ID.

## Contents

**Note**

In the following list, the required parameters are described first.

**ComparisonOperator**

Comparison operator to use when measuring a metric against the threshold value.

Type: String

Valid Values: `GreaterThanOrEqualToThreshold` | `GreaterThanThreshold` | `LessThanThreshold` | `LessThanOrEqualToThreshold`

Required: No

**EvaluationPeriods**

Length of time (in minutes) the metric must be at or beyond the threshold before a scaling event is triggered.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**FleetId**

Unique identity for the fleet associated with this scaling policy.

Type: String

Pattern: `^fleet-\S+`

Required: No

**MetricName**

Name of the GameLift-defined metric that is used to trigger an adjustment.

- **ActivatingGameSessions** – number of game sessions in the process of being created (game session status = `ACTIVATING`).
- **ActiveGameSessions** – number of game sessions currently running (game session status = `ACTIVE`).
- **CurrentPlayerSessions** – number of active or reserved player sessions (player session status = `ACTIVE` or `RESERVED`).
- **AvailablePlayerSessions** – number of player session slots currently available in active game sessions across the fleet, calculated by subtracting a game session's current player session count from its maximum player session count. This number does include game sessions that are not currently accepting players (game session `PlayerSessionCreationPolicy` = `DENY_ALL`).
- **ActiveInstances** – number of instances currently running a game session.
- **IdleInstances** – number of instances not currently running a game session.

Type: String

Valid Values: `ActivatingGameSessions` | `ActiveGameSessions` | `ActiveInstances` | `AvailablePlayerSessions` | `CurrentPlayerSessions` | `IdleInstances`

Required: No

**Name**

Descriptive label associated with a scaling policy. Policy names do not need to be unique.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

**ScalingAdjustment**

Amount of adjustment to make, based on the scaling adjustment type.

Type: Integer

Required: No

**ScalingAdjustmentType**

Type of adjustment to make to a fleet's instance count (see FleetCapacity (p. 114)):

- **ChangeInCapacity** – add (or subtract) the scaling adjustment value from the current instance count. Positive values scale up while negative values scale down.
- **ExactCapacity** – set the instance count to the scaling adjustment value.
- **PercentChangeInCapacity** – increase or reduce the current instance count by the scaling adjustment, read as a percentage. Positive values scale up while negative values scale down.

Type: String

Valid Values: `ChangeInCapacity | ExactCapacity | PercentChangeInCapacity`

Required: No

**Status**

Current status of the scaling policy. The scaling policy is only in force when in an `ACTIVE` status.

- **ACTIVE** – The scaling policy is currently in force.
- **UPDATE_REQUESTED** – A request to update the scaling policy has been received.
- **UPDATING** – A change is being made to the scaling policy.
- **DELETE_REQUESTED** – A request to delete the scaling policy has been received.
- **DELETING** – The scaling policy is being deleted.
- **DELETED** – The scaling policy has been deleted.
- **ERROR** – An error occurred in creating the policy. It should be removed and recreated.

Type: String

Valid Values: `ACTIVE | UPDATE_REQUESTED | UPDATING | DELETE_REQUESTED | DELETING | DELETED | ERROR`

Required: No

**Threshold**

Metric value used to trigger a scaling event.

Type: Double

Required: No

# ServerProcess

A set of instructions for launching server processes on each instance in a fleet. Each instruction set identifies the location of the server executable, optional launch parameters, and the number of server processes with this configuration to maintain concurrently on the instance. Server process configurations make up a fleet's RuntimeConfiguration (p. 129) .

## Contents

**Note**

In the following list, the required parameters are described first.

**ConcurrentExecutions**

Number of server processes using this configuration to run concurrently on an instance.

Type: Integer

Valid Range: Minimum value of 1.

Required: Yes

**LaunchPath**

Location of the server executable in a game build. All game builds are installed on instances at the root : for Windows instances `C:\game`, and for Linux instances `/local/game`. A Windows game build with an executable file located at `MyGame\latest\server.exe` must have a launch path of `"C:\game\MyGame\latest\server.exe"`. A Linux game build with an executable file located at `MyGame/latest/server.exe` must have a launch path of `"/local/game/MyGame/latest/server.exe"`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: Yes

**Parameters**

Optional list of parameters to pass to the server executable on launch.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

# Common Parameters

The following table lists the parameters that all actions use for signing Signature Version 4 requests. Any action-specific parameters are listed in the topic for that action. To view sample requests, see Examples of Signed Signature Version 4 Requests or Signature Version 4 Test Suite in the *Amazon Web Services General Reference*.

**Action**
> The action to be performed.
>
> Type: string
>
> Required: Yes

**Version**
> The API version that the request is written for, expressed in the format YYYY-MM-DD.
>
> Type: string
>
> Required: Yes

**X-Amz-Algorithm**
> The hash algorithm that you used to create the request signature.
>
> Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.
>
> Type: string
>
> Valid Values: `AWS4-HMAC-SHA256`
>
> Required: Conditional

**X-Amz-Credential**
> The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.
>
> For more information, see Task 2: Create a String to Sign for Signature Version 4 in the *Amazon Web Services General Reference*.
>
> Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.
>
> Type: string

Required: Conditional

**X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Handling Dates in Signature Version 4 in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

**X-Amz-Security-Token**

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to Using Temporary Security Credentials to Access AWS in *Using Temporary Security Credentials*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string

Required: Conditional

**X-Amz-Signature**

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

**X-Amz-SignedHeaders**

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Task 1: Create a Canonical Request For Signature Version 4 in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

# Common Errors

This section lists the common errors that all actions return. Any action-specific errors are listed in the topic for the action.

**IncompleteSignature**
>The request signature does not conform to AWS standards.

>HTTP Status Code: 400

**InternalFailure**
>The request processing has failed because of an unknown error, exception or failure.

>HTTP Status Code: 500

**InvalidAction**
>The action or operation requested is invalid. Verify that the action is typed correctly.

>HTTP Status Code: 400

**InvalidClientTokenId**
>The X.509 certificate or AWS access key ID provided does not exist in our records.

>HTTP Status Code: 403

**InvalidParameterCombination**
>Parameters that must not be used together were used together.

>HTTP Status Code: 400

**InvalidParameterValue**
>An invalid or out-of-range value was supplied for the input parameter.

>HTTP Status Code: 400

**InvalidQueryParameter**
>The AWS query string is malformed or does not adhere to AWS standards.

>HTTP Status Code: 400

**MalformedQueryString**
>The query string contains a syntax error.

>HTTP Status Code: 404

**MissingAction**
>The request is missing an action or a required parameter.

>HTTP Status Code: 400

**MissingAuthenticationToken**

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

**MissingParameter**

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

**OptInRequired**

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

**RequestExpired**

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

**ServiceUnavailable**

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

**Throttling**

The request was denied due to request throttling.

HTTP Status Code: 400

**ValidationError**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400