

## Project Goal

To create a chat service that provides a seamless communication experience for users, with real-time messaging, high-quality voice chat, and powerful server management tools. The service should be secure, scalable, and accessible to users on multiple platforms. Our goal is to create a chat service that offers a fun and engaging community space for users to connect, share, and collaborate with others.

## Chat Server Administration API

### Specifications

The goal of these specifications is to define the behaviour and functionality of a viewset, which is responsible for retrieving a list of servers based on various query parameters. By following these specifications, the resulting viewset should be able to retrieve and return a list of servers that meet the specified criteria, and raise appropriate errors if any parameters are invalid or if the user is not authenticated. The resulting list of servers should also be properly serialised using the `ServerSerializer`, with the context including the 'number of members' field if requested. Overall, the goal is to create a functional and reliable viewset that provides a useful and customizable way for users to retrieve a list of servers in the system.

Summary of the specifications for the `ServerListViewSet`:

- ☐ The `ServerListViewSet` viewset is responsible for retrieving a list of servers.
- ☐ The viewset supports the following query parameters: `qty` (int), `category` (str), `by_user` (bool), `with_num_members` (bool), `all_channels` (bool), `by_serverid` (int).
- ☐ If the `'by_user'` parameter is true, and the user is not authenticated, an `AuthenticationFailed` error should be raised.
- ☐ If the `'category'` parameter is specified, the queryset should be filtered to only include servers with the specified category.
- ☐ If the `'by_user'` parameter is true, the queryset should be filtered to only include servers where the current user is a member.
- ☐ If the `'qty'` parameter is specified, the queryset should be limited to the specified number of servers.
- ☐ If the `'with_num_members'` parameter is true, the number of members in each server should be annotated in the queryset.
- ☐ If the `'all_channels'` parameter is true, and a `'server_id'` parameter is specified, the queryset should be filtered to only include channels from the specified server.
- ☐ If the `'by_serverid'` parameter is specified, the queryset should be filtered to only include the server with the specified id.
- ☐ If the `'by_serverid'` parameter is specified, and the specified id is invalid or does not exist, a `ValidationError` should be raised.
- ☐ The resulting list of servers should be serialised using the `ServerSerializer`, with the context including the `'num_members'` field if `'with_num_members'` is true.
- ☐ The serialised list of servers should be returned as the response.