

Below is a consolidated REST-interface summary for all three controllers. For each operation it shows the HTTP method, path, expected request body (if any), required headers, response body, and status code.

| Controller | Operation | HTTP Method | Path | Request Body DTO | |
|-----------------|--------------------------|-------------|---------------------------|------------------|---|
| GroupController | List all groups | GET | /groups | – | |
| | Get a single group | GET | /groups/{gid} | – | |
| | Create a new group | POST | /groups | GroupPostDT0 | |
| | Update an existing group | PUT | /groups/{gid} | GroupPutDT0 | |
| | Delete a group | DELETE | /groups/{gid} | – | |
| | Remove user from group | DELETE | /groups/{gid}/users/{uid} | – | |
| UserController | List all users | GET | /users | – | |
| | Register a new user | POST | /users/register | UserPostDT0 | – |
| | Get a single user | GET | /users/{id} | – | |
| | List groups for a user | GET | /users/{id}/groups | – | |

| Controller | Operation | HTTP Method | Path | Request Body DTO | |
|----------------------|-----------------------------|-------------|---------------------------|-------------------|---|
| | | | | | |
| | Login | POST | /users/login | UserPostDT0 | |
| | Update user profile | PUT | /users/{id} | UserPutDT0 | |
| | Update user timer/status | PUT | /users/{id}/timer | UserTimerPutDT0 | - |
| | Logout | POST | /users/{id}/logout | - | |
| InvitationController | Send group invitation | POST | /groups/{gid}/invitations | InvitationPostDT0 | |
| | List invitations in a group | GET | /groups/{gid}/invitations | - | |
| | List invitations for a user | GET | /users/{uid}/invitations | - | |
| | Accept an invitation | PUT | /invitations/{iid}/accept | - | |
| | Reject an invitation | PUT | /invitations/{iid}/reject | - | |

| Controller | Operation | HTTP Method | Path | Request Body DTO | |
|------------|-----------|-------------|------|------------------|--|
| | | | | | |

Notes on headers and DTOs

- All secured endpoints require an `Authorization` header with a Bearer token.
- DTO abbreviations:
 - **GetDTO** = data returned to client
 - **PostDTO** = payload for creation
 - **PutDTO** = payload for updates

This table should allow frontend and API-documentation tools to generate a clear specification of your REST interface.