

User Authentication and Authorization Module Outline

1. Authentication

1. Registration

- User input validation
- Email verification
- Password policies

2. Login

- Username/password authentication
- Multi-factor authentication (optional)

3. Session Management

- Token/session generation
- Session timeout and renewal

4. Password Recovery

- Forgot password workflow
- Password reset token/email

5. Logout

2. Authorization

1. User Roles

- Role creation and management
- Role assignment to users

2. Permissions

- Permission definitions
- Mapping permissions to roles

3. Access Control

- Route/endpoint protection
- Resource-level restrictions

3. Security Features

- Input validation and sanitization
- Password encryption and storage
- Account lockout on failed attempts
- Audit logging of authentication events

4. Administration

- User account management
- Role and permission audits
- Activity monitoring

