# YouTube

## 1. User Registration and Login

- **Positive Test Cases:**
  - Register a new user with a valid email and password.
  - Log in using correct email and password.
  - Sign in using Google account integration.
  - Enable two-factor authentication for secure login.
  - Reset password via email.
  - Use "Remember me" option to stay logged in across sessions.
- **Negative Test Cases:**
  - Attempt to register with an invalid email format.
  - Register with an email that's already linked to another account.
  - Fail login with incorrect email/password.
  - Invalid Google authentication token.
  - Fail to reset password due to expired or invalid link.
  - Two-factor authentication code fails to deliver or is invalid.

## 2. Video Search and Discovery

- **Positive Test Cases:**
  - Search for videos using keywords, titles, or channel names.
  - Filter search results by upload date, view count, relevance, and duration.
  - Discover trending videos on the homepage.
  - Play a video directly from search results.
  - Find a playlist from search results.
  - Search for live streams.
- **Negative Test Cases:**
  - Search returning irrelevant or zero results for valid queries.
  - Search filters (upload date, view count) not working correctly.
  - Incorrect or broken video links in search results.
  - Slow loading or failed video search due to server issues.
  - Video thumbnails not displaying for search results.
  - Search results showing inappropriate or restricted content (incorrect filtering).

## 3. Video Playback

- **Positive Test Cases:**
    - Play a video with proper buffering and minimal loading time.
    - Change video quality (1080p, 720p, 480p, etc.).
    - Enable/disable subtitles or closed captions.
    - Adjust playback speed (0.25x, 0.5x, 1.5x, 2x).
    - Watch videos in fullscreen, mini-player, and theater modes.
    - Use "Play next" or "Add to queue" functionality.
    - Access video descriptions and comments while video is playing.
- **Negative Test Cases:**
    - Video fails to load or buffer due to server or network issues.
    - Incorrect video quality selected (e.g., selecting 1080p but getting 480p).
    - Subtitles not synced with video content.
    - Playback speed control not functioning properly.
    - Fullscreen mode not working on specific browsers/devices.
    - Video stops or crashes unexpectedly during playback.
    - Comments or description not loading while video is playing.
    - Video autoplay not working after the current video finishes.

## 4. Video Upload and Processing

- **Positive Test Cases:**
    - Successfully upload a video file from local storage.
    - Select a custom thumbnail for the video.
    - Add a video title, description, and tags.
    - Set video visibility (public, unlisted, private).
    - Set video category (Education, Entertainment, etc.).
    - Upload a video of various formats (MP4, MOV, AVI).
    - Set video age restrictions and audience (children-friendly or not).
- **Negative Test Cases:**
    - Fail to upload a video due to size or format restrictions.
    - Video metadata (title, tags) not saved during upload.
    - Thumbnail upload fails or image exceeds size limits.
    - Video upload stuck in processing stage.
    - Incorrect video format rejection (e.g., supported format detected as unsupported).
    - Upload fails midway due to network issues.
    - Incorrect or failed application of age restrictions or audience settings.

## 5. Subscriptions and Notifications

- **Positive Test Cases:**
    - Subscribe to a channel.
    - Receive notifications for new videos from subscribed channels.
    - Manage notification preferences (All, Personalized, None).
    - Access list of subscribed channels on the homepage.
    - Unsubscribe from a channel.
    - View and organize channel subscriptions.
- **Negative Test Cases:**
    - Fail to subscribe to a channel due to server issues.
    - Delayed or no notifications for newly uploaded videos.

- o   Notification preferences not saving.
- o   Subscribed channel not appearing in the list.
- o   Incorrect subscription count displayed.
- o   Unable to unsubscribe from a channel.
- o   Channels incorrectly marked as subscribed/unsubscribed.

## 6. Likes, Comments, and Sharing

- **Positive Test Cases:**
  - o   Like or dislike a video.
  - o   Add a comment to a video.
  - o   Reply to or like a comment.
  - o   Share video via social media (Facebook, Twitter) or direct link.
  - o   Report a comment or video for inappropriate content.
  - o   Pin comments on your own video.
- **Negative Test Cases:**
  - o   Failure to like/dislike a video due to network or server issues.
  - o   Comments not loading or displaying.
  - o   Unable to reply to or like a comment.
  - o   Shared video link not working or leading to the wrong video.
  - o   Reporting a comment or video not working.
  - o   Comment posted but not visible.
  - o   Inability to pin comments or pinning the wrong comment.

## 7. Playlists and Watch Later

- **Positive Test Cases:**
  - o   Create a playlist and add videos to it.
  - o   Mark a video for "Watch Later".
  - o   Share playlists with others via link or social media.
  - o   Set playlist privacy (public, unlisted, private).
  - o   Play all videos in a playlist continuously.
  - o   Reorder videos in a playlist.
  - o   Access and edit "Watch Later" list.
- **Negative Test Cases:**
  - o   Fail to create a playlist due to validation errors.
  - o   Playlist videos not playing in sequence.
  - o   Playlist not saving after editing.
  - o   Incorrect video count in the playlist.
  - o   Watch Later videos not appearing in the list.
  - o   Fail to remove videos from Watch Later.
  - o   Playlist privacy settings not applying properly.

## 8. Video Recommendations

- **Positive Test Cases:**
  - o   Display recommended videos based on watch history and preferences.
  - o   Refresh recommended videos when user interactions change.
  - o   Suggested videos appear after video ends.
  - o   Personalize recommendations for new users.
- **Negative Test Cases:**

- Recommendations not updating based on recent history.
- Irrelevant or inappropriate videos appearing in recommendations.
- Duplicate videos in recommended list.
- Recommendation engine failing due to network or data errors.
- Recommendations not displaying for a new user.

## 9. Channel Management

- **Positive Test Cases:**
    - Create a YouTube channel.
    - Customize the channel page with profile picture and banner.
    - Add channel description and links (social media, websites).
    - Upload multiple videos to a channel.
    - Manage channel playlists and videos.
    - Monitor channel analytics (views, watch time, subscribers).
- **Negative Test Cases:**
    - Fail to create a channel due to server or validation issues.
    - Channel customization changes not saving.
    - Incorrect channel analytics displayed.
    - Fail to upload videos to the channel due to permission issues.
    - Playlist and video management features not working.
    - Incorrect subscriber count or analytics updates.

## 10. Monetization and Ads

- **Positive Test Cases:**
    - Enable monetization for eligible videos.
    - View ads before, during, or after videos.
    - Access ad performance data in the YouTube Studio.
    - Set up channel membership and Super Chat for live streams.
    - Ad revenue reflecting in account balance correctly.
    - Use YouTube Premium to remove ads and enable background play.
- **Negative Test Cases:**
    - Monetization eligibility error for a video.
    - Ads not playing during monetized videos.
    - Incorrect ad revenue or analytics data.
    - Membership or Super Chat options not working during live streams.
    - Ads playing for premium users.
    - Premium features (background play, ad-free) not working.

## 11. YouTube Studio (Analytics and Management)

- **Positive Test Cases:**
    - Access detailed video analytics (views, demographics, watch time).
    - Edit video titles, tags, and descriptions.
    - View comments and moderate (approve/delete/report).
    - Monitor channel performance using YouTube Studio dashboard.
    - Enable/disable monetization for individual videos.
- **Negative Test Cases:**
    - Analytics data not updating in real-time.
    - Failure to edit video details (title, description, tags).

- o Comments moderation panel not loading.
- o Incorrect channel performance metrics displayed.
- o Monetization settings failing to save.

## 12. Live Streaming

- **Positive Test Cases:**
  - o Start a live stream from desktop or mobile.
  - o Enable live chat during the stream.
  - o Monetize live streams using ads and Super Chat.
  - o Monitor live stream analytics (view count, live chat engagement).
  - o Save the live stream as a video for future views.
- **Negative Test Cases:**
  - o Fail to initiate a live stream due to bandwidth issues.
  - o Live chat not appearing during the stream.
  - o Delays in live stream analytics updates.
  - o Fail to monetize a live stream.
  - o Live stream disconnects due to server or network problems.
  - o Inability to save the live stream as a recorded video.

## 13. Account Management

- **Positive Test Cases:**
  - o Update account information (name, profile picture, linked accounts).
  - o Change password and enable two-factor authentication.
  - o Manage subscriptions, notifications, and privacy settings.
  - o Switch between multiple YouTube accounts.
- **Negative Test Cases:**
  - o Fail to update account details.
  - o Two-factor authentication code delivery fails.
  - o Incorrect or outdated subscription/notification settings.
  - o Switch account feature not working properly.