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Android Framework With Java

Download Manager in Android

In android development, a download manager is a crucial component that facilitates the downloading of files or data in a background service. It helps manage and organize downloads, ensuring that they complete even if the app is not running. Here's a detailed overview of how it works and how to use it :

Key Features of Download Manager

Background Downloads: Downloads continue even if the app is closed or the device is rebooted.Manages multiple downloads concurrently.

Network and Connectivity Management: It handles retries on network failures. Supports downloading over Wi-Fi only, or over cellular networks based on user preferences.

Notification and Progress: It provides notifications to inform users about download progress.Shows progress bars and completion status.

Storage and File Management: It saves files to a designated location on the device, typically in the Downloads directory. It also allows for easy access to downloaded files via the system's file management tools.

Download Resumption: It supports resuming downloads if they are interrupted due to network issues or other reasons.

Security: It handles security concerns, such as downloading files over HTTPS and managing permissions for file access.

Downloading Files in Android

Downloading files in android development is a common task, and it typically involves working with network operations and file management.
To download files, we need to request the necessary permissions. Starting from Android 6.0 (API level 27 or 29), we need to request permissions at runtime.

```
@Override
protected void onDestroy() {
    super.onDestroy();
    unregisterReceiver(onDownloadComplete);
}

private void download() {  1 usage
    String url = "https://thumbs.dreamstime.com/z/illustration-lord-ganesha-ganesh-cha
    String filename = "lord_ganesha_image.jpg";

    // Define the destination file in the app's external files directory
    File file = new File(getExternalFilesDir(Environment.DIRECTORY_PICTURES), filename

    // Create a DownloadManager.Request
    DownloadManager.Request request = new DownloadManager.Request(Uri.parse(url))
            .setNotificationVisibility(DownloadManager.Request.VISIBILITY_VISIBLE_NOTI
            .setDestinationUri(Uri.fromFile(file))
            .setTitle("Downloading Image")
            .setDescription("Downloading Lord Ganesha Image...")
            .setRequiresCharging(false)
            .setAllowedOverMetered(true)
            .setAllowedOverRoaming(true);
```

Customizing Download Manager

Customizing a download manager in android development involves creating a system that efficiently handles file downloads according to our app's specific needs. The default download manager provided by android is quite robust, but we need more control or features, we might consider building your own.

Android provides built-in download manager classes like scheduling downloads, progress tracking, notifications which simplifies downloading files in the background.

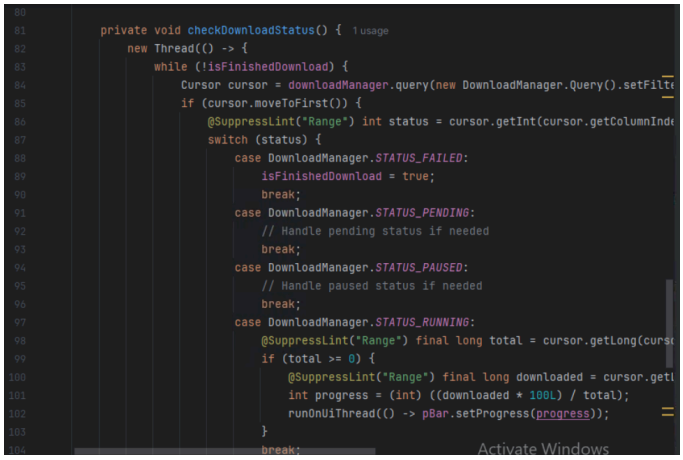
Specifying a Download Location in Android

When developing an android application, specifying a download location that involves handling file storage and permissions in a way that ensures a smooth user experience and adheres to Android's storage policies.

Canceling and Removing Downloads in Android

In android development, the Download Manager is a system service that handles long-running HTTP downloads. It provides a straightforward way to handle large file downloads and manage their progress, completion, and failure.

The Download Manager provides a robust and efficient way to handle file downloads in android. By querying the download manager, we can retrieve and handle information about your downloads, and using a broadcast receiver, we can listen for download completion and status updates and this helps in managing and monitoring the progress of downloads in our app.



Shared Instance in Android

The shared instance in android has the ability to share service instances between spaces and allows apps in different spaces to share databases, messaging queues, and other services.