



HttpClient

```
try
{
    var lcaolSelectTeam = await this.ToGetSelectTeam();
    if (lcaolSelectTeam.Code != 20000)
    {
        throw new Exception(lcaolSelectTeam.Message);
    }
    var localToken = await this.ToGetUserToken();
    if (localToken.Code != 20000)
    {
        throw new Exception(localToken.Message);
    }
    var taskworkFloderBody = await this.ToGetTaskworkProxyFloder();
    if (taskworkFloderBody.Code != 20000)
    {
        throw new Exception(taskworkFloderBody.Message);
    }
    var rootTaskworkFloder = taskworkFloderBody.Data.PathCombine(teamTaskwrokId.ToString());
    HttpClientHandler handler = new HttpClientHandler();
    ProgressMessageHandler progressMessageHandler = new ProgressMessageHandler(handler);
    progressMessageHandler.HttpSendProgress += (sender, e) =>
    {
        action.Invoke(e.ProgressPercentage);
    };
    using (HttpClient httpClient = new HttpClient(progressMessageHandler))
    {
        httpClient.BaseAddress = new Uri("https://lycg.lingyanspace.com/");
        httpClient.DefaultRequestHeaders.Add("Authorization", localToken.Data);
        using (var multipartFormData = new MultipartFormDataContent())
        {
            var bom = rootTaskworkFloder.PathCombine("bom").FileCombine("default.json");
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        if (File.Exists(bom) && needUploadCloudModel.BOM)
        {
            AddFile(multipartFormData, "bom", bom);
        }
        var blfc = rootTaskworkFloder.PathCombine("blfc").FileCombine("default.ifc");
        if (File.Exists(blfc) && needUploadCloudModel.BIFC)
        {
            AddFile(multipartFormData, "blfc", blfc);
        }
        var nc1Files = Directory.GetFiles(rootTaskworkFloder.PathCombine("nc1"), "*.nc1",
SearchOption.TopDirectoryOnly).ToList();
        if (nc1Files != null && nc1Files.Count > 0 && needUploadCloudModel.NC1)
        {
            nc1Files.ForEach(f =>
            {
                AddFile(multipartFormData, "nc1Files", f);
            });
        }
        var dxfFiles = Directory.GetFiles(rootTaskworkFloder.PathCombine("dxf"), "*.dxf",
SearchOption.TopDirectoryOnly).ToList();
        if (dxfFiles != null && dxfFiles.Count > 0 && needUploadCloudModel.DXF)
        {
            dxfFiles.ForEach(f =>
            {
                AddFile(multipartFormData, "dxfFiles", f);
            });
        }
        var aifcFiles = Directory.GetFiles(rootTaskworkFloder.PathCombine("aifc"), "*.ifc",
SearchOption.TopDirectoryOnly).ToList();
        if (aifcFiles != null && aifcFiles.Count > 0 && needUploadCloudModel.AIFC)
        {
            aifcFiles.ForEach(f =>
            {
                AddFile(multipartFormData, "aifcFiles", f);
            });
        }
        var pifcFiles = Directory.GetFiles(rootTaskworkFloder.PathCombine("pifc"), "*.ifc",
SearchOption.TopDirectoryOnly).ToList();
        if (pifcFiles != null && pifcFiles.Count > 0 && needUploadCloudModel.PIFC)
        {

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        pifcFiles.ForEach(f =>
        {
            AddFile(multipartFormData, "pifcFiles", f);
        });
    }

    var drawingFiles = Directory.GetFiles(rootTaskworkFloder.PathCombine("drawing"), "*.pdf",
SearchOption.TopDirectoryOnly).
Concat(Directory.GetFiles(rootTaskworkFloder.PathCombine("drawing"), "*.dwg",
SearchOption.TopDirectoryOnly)).ToList();

    if (drawingFiles != null && drawingFiles.Count > 0 && needUploadCloudModel.Drawing)
    {
        drawingFiles.ForEach(f =>
        {
            AddFile(multipartFormData, "drawingFiles", f);
        });
    }

    var response = await
httpClient.PutAsync($" /api/Team/UploadTeamTaskworkBatchData?teamId={lcaolSelectTeam.Data.Id}&teamTas
kwrokId={teamTaskwrokId}", multipartFormData);

    if (response.IsSuccessStatusCode)
    {
        var data = await response.Content.ReadAsStringAsync();
        var jsonBody = JsonConvert.DeserializeObject<ResponseBody<string>>(data);
        return jsonBody;
    }
    else
    {
        throw new Exception(await response.Content.ReadAsStringAsync());
    }
}

}

}

catch (Exception ex)
{
    return new ResponseBody<string>(40000, ex.Message, null);
}

```



```

public class StringSortComparer : IComparer<string>
{
    public bool MatchCase { get; }
    public StringSortComparer(bool matchCase)
    {
        MatchCase = matchCase;
    }
    private int CharCompare(char a, char b, bool matchCase)
    {
        char _a = char.MinValue, _b = char.MinValue;
        if (matchCase) { _a = a; _b = b; }
        else { _a = char.ToUpper(a); _b = char.ToUpper(b); }
        if (_a > _b) return 1;
        if (_a < _b) return -1;
        return 0;
    }
    public int Compare(string x, string y)
    {
        // [] y [][] [] y [][] []
        if (string.IsNullOrEmpty(y)) return -1;
        // [] x [][] [] y [][] [] x [][] y []
        if (string.IsNullOrEmpty(x)) return 1;
        int len;
        if (x.Length > y.Length) len = x.Length;
        else len = y.Length;
        string numericx = "";
        string numericy = "";
        for (int i = 0; i < len; i++)
        {
            char cx = char.MinValue;
            char cy = char.MinValue;
            if (i < x.Length) cx = x[i];
            if (i < y.Length) cy = y[i];
            if (cx >= 48 && cx <= 57) numericx += cx;
            if (cy >= 48 && cy <= 57) numericy += cy;
            if (i == len - 1)
            {
                if (numericx.Length > 0 && numericy.Length > 0)

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    {
        if (decimal.Parse(numericx) < decimal.Parse(mericy)) return -1;
        if (decimal.Parse(numericx) > decimal.Parse(mericy)) return 1;
    }
    return CharCompare(cy, cy, MatchCase);
}
if ((cx >= 48 && cx <= 57) && (cy >= 48 && cy <= 57)) continue;
if (numericx.Length > 0 && mericy.Length > 0)
{
    if (decimal.Parse(numericx) < decimal.Parse(mericy)) return -1;
    if (decimal.Parse(numericx) > decimal.Parse(mericy)) return 1;
}
if (CharCompare(cx, cy, MatchCase) == 0) continue;
return CharCompare(cx, cy, MatchCase);
}
return 0;
}
}

```



```

public class HttpHelper
{
    /// <summary>
    /// 
    /// </summary>
    /// <param name="action"></param>
    /// <param name="netWrokUrl"></param>
    /// <param name="localUrl"></param>
    /// <returns></returns>
    /// <exception cref="Exception"></exception>
    public static async Task<long> DownloadSingleFile(Action<double> action, string netWrokUrl, string
localUrl)
    {
        long totalBytesReceived = 0;
        var progress = new Progress<HttpDownloadProgress>(p =>
        {
            if (p.TotalBytesToReceive.HasValue)

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    {
        totalBytesReceived = (long)p.BytesReceived;
        double percent = (double)p.BytesReceived / p.TotalBytesToReceive.Value * 100.0;
        action.Invoke(percent);
    }
    else
    {
        LoggerHelper.DefaultLogger($"[INFO] {netWrokUrl} TotalBytesToReceive{totalBytesReceived} ");
    }
});
var fileBytes = await new HttpClient().GetByteArrayAsync(new Uri(netWrokUrl), progress,
CancellationToken.None);
if (File.Exists(localUrl))
{
    File.Delete(localUrl);
}
await localUrl.SaveLocalFileAsync(new MemoryStream(fileBytes));
return totalBytesReceived;
}

private static async Task<long> DownloadSingleFile(Action<long, long> progressAction, string networkUrl,
string localUrl, long totalBytes)
{
    long bytesReceived = 0;
    var progress = new Progress<HttpDownloadProgress>(p =>
    {
        bytesReceived = (long)p.BytesReceived;
        progressAction(bytesReceived, totalBytes);
    });
    using (var httpClient = new HttpClient())
    {
        var fileBytes = await httpClient.GetByteArrayAsync(new Uri(networkUrl), progress,
CancellationToken.None);
        if (File.Exists(localUrl))
        {
            File.Delete(localUrl);
        }
        using (var fileStream = new FileStream(localUrl, FileMode.CreateNew))
        {
            await fileStream.WriteAsync(fileBytes, 0, fileBytes.Length);
        }
    }
}

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        return bytesReceived;
    }
}
/// <summary>
/// 
/// </summary>
/// <param name="overallProgressAction"></param>
/// <param name="files"></param>
/// <returns></returns>
public static async Task DownloadMultipleFiles(Action<double> overallProgressAction, Dictionary<string,
string> files)
{
    var downloadTasks = new List<Task<long>>();
    long totalFileSize = 0;
    Dictionary<string, long> fileSizes = new Dictionary<string, long>();
    // 
    HEAD
    using (var httpClient = new HttpClient())
    {
        foreach (var file in files)
        {
            var response = await httpClient.SendAsync(new HttpRequestMessage(HttpMethod.Head, file.Key));
            long contentLength = response.Content.Headers.ContentLength ?? 0;
            fileSizes[file.Key] = contentLength;
            totalFileSize += contentLength;
        }
    }
    // 
    Dictionary<string, long> receivedBytes = new Dictionary<string, long>();
    foreach (var file in files)
    {
        string networkUrl = file.Key;
        string localUrl = file.Value;
        Task<long> downloadTask = DownloadSingleFile(
            (bytesReceived, totalBytes) =>
            {
                receivedBytes[networkUrl] = bytesReceived;
                // 
                long totalReceived = 0;
                foreach (var received in receivedBytes.Values)
                {

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        totalReceived += received;
    }
    double overallProgress = (double)totalReceived / totalFileSize * 100.0;
    overallProgressAction(overallProgress);
},
networkUrl,
localUrl,
fileSizes[networkUrl]
);
downloadTasks.Add(downloadTask);
}
// ██████████
long[] results = await Task.WhenAll(downloadTasks);
}
}

```

byte

```

public static class HttpClientExtension
{
    private const int BufferSize = 262144;

    public static async Task<byte[]> GetByteArrayAsync(this HttpClient client, Uri requestUri,
IProgress<HttpDownloadProgress> progress, CancellationToken cancellationToken)
    {
        if (client == null)
        {
            throw new ArgumentNullException(nameof(client));
        }

        using (var responseMessage = await client.GetAsync(requestUri,
HttpCompletionOption.ResponseHeadersRead, cancellationToken).ConfigureAwait(false))
        {
            responseMessage.EnsureSuccessStatusCode();

            var content = responseMessage.Content;
            if (content == null)
            {

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        return Array.Empty<byte>();
    }

    var headers = content.Headers;
    var contentLength = headers.ContentLength;
    using (var responseStream = await content.ReadAsStreamAsync().ConfigureAwait(false))
    {
        var buffer = new byte[BufferSize];
        int bytesRead;
        var bytes = new List<byte>();

        var downloadProgress = new HttpDownloadProgress();
        if (contentLength.HasValue)
        {
            downloadProgress.TotalBytesToReceive = (ulong)contentLength.Value;
        }
        progress?.Report(downloadProgress);

        while ((bytesRead = await responseStream.ReadAsync(buffer, 0, BufferSize,
cancellationToken).ConfigureAwait(false)) > 0)
        {
            bytes.AddRange(buffer.Take(bytesRead));

            downloadProgress.BytesReceived += (ulong)bytesRead;
            progress?.Report(downloadProgress);
        }

        return bytes.ToArray();
    }
}

public struct HttpDownloadProgress
{
    public ulong BytesReceived { get; set; }

    public ulong? TotalBytesToReceive { get; set; }
}

```

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