Google earth enterprise Portable Globe and Server

Overview Installation Creating a portable globe Portable server Connecting to a portable globe Usage of the Apache (glc) Module Command line reference

Overview

The Google Earth Enterprise Portable Server solution enables organizations to access portions of their custom globes in the field when no network access may be available or possible. Using a web interface, end-users may select an area of interest to download from a Google Earth Enterprise Server for offline us on their Mac or Windows laptop with the Portable Server application.

All data available within a specified area of interest is downloaded and stored in a portable globe, includir all high-resolution imagery, terrain, vector data, KML files, and searchable Point of Interest (POI) locations. Outside of the specified area of interest, only low resolution imagery and terrain will be stored in portable globe. These levels of resolution can be specified when the globe is cut.

Portable globes may be specified, generated, and downloaded in as quickly as a few minutes -- dependir on the area of coverage -- to support rapid preparation for first responders, or larger globes may be built i advanced preparation for responders to have ready "on the shelf."



The Portable Server solution is made up of two applications:

- The <u>globe cutter</u> tool, which is installed on a production Google Earth Enterprise Server system hos a 3D database. This tool allows end-users and administrators to select, package, and download a portion of the 3D Earth as a portable globe file.
- The <u>portable server</u> is installed on Windows or Mac OS X machines in the field. It can operate in a single-user mode for complete offline usage by one user, or can broadcast a portable globe so that multiple Portable Server users, and/or mobile users with compatible Android-based smart phones, c view the same globe.

Note: The Portable Server solution can also create portable globes from a 2D map source. This document uses the term *portable globe* only, but instructions apply to both globes and maps.

This section describes installation of the two applications that make up the Portable Server solution:

Globe cutter installation

Portable globe server installation

Globe cutter installation

The portable globe cutter tool is installed with Google Earth Enterprise Server 4.2 (and later). Globe cuttir is disabled by default; to enable it you must set the --enable_cutter flag for geserveradmin from t command line:

```
# geserveradmin --enable cutter
```

By default, the cut globes will be stored in the /opt/google/gehttpd/htdocs/cutter/globes directory. The cut globes can be large, and many servers do not have sufficient storage allocated in this directory for multiple globes. If this is the case for your server, please contact tech support or visit the Ear Enterprise user forum for instructions on designating a different directory as the storage area for the cut globes.

Portable globe server installation

The portable server is supported on:

- Windows XP and 7
- Windows 2008 Server
- Mac OS X 10.4 and up.

Windows

To download the portable server installer, please contact Google Enterprise Support. Once you've obtained the installer:

- 1. Copy the installer to the Windows machine(s) on which you'd like to install the portable server.
- Double-click the executable file, and follow the prompts to install. Once installed, a shortcut labele Google Earth Portable will be present on your desktop. Double-click that shortcut to launch the server.

The program files are installed into:

C:\Program Files\Google\Google Earth Portable Server\Portable\

The data files are installed into:

C:\Program Files\Google\Google Earth Portable Server\Portable\Data\

The default path may vary between Windows versions; different paths for the program and data can b specified at the time of installation.

For Windows 7, user can choose Per-User or Per-Machine Installations by selecting "Anyone who use this computer (all users)" or "Only for me (username)" button. Per-machine installation requires admin rights. Only Per-machine installation is available for Windows XP

Mac OS X

To download the portable server installer, please contact Google Enterprise Support. Once you've

obtained the installer:

- 1. Copy the Google_Earth_Portable.dmg file to the OS X machine(s) on which you'd like to ins the portable server.
- 2. Mount the disk image by double-clicking the .dmg file, then open the image in Finder by double-clicking the mounted drive on your desktop.
- 3. Drag the **Google Earth Portable** folder into your **Applications** folder.
- 4. To launch the server, select the Google Earth Portable shortcut inside that folder.

Creating a portable globe

Cutting a globe is accomplished with a simple web interface. You'll use your mouse, or import KML, to define a polygon, which defines your 'area of interest.' This polygon not only defines the area that will display high-resolution imagery, but is also used by Fusion to create a localized search database.

Before you begin

The cutter interface

Globe name

Drawing the polygon

Globe resolution

Building the globe

Note: The globe cutting processes are CPU and disk intensive, as they are retrieving all data within the specified polygon from the Earth Enterprise Server. This can affect the overall performance of the Server, including slowing end-user access.

To mitigate performance impact to end users, you may consider:

- Limiting the number of users with access to globe cutting.
- Creating pre-cut portable globes to host as downloadable files for portable users.
- Operating a separate GEE Server specifically to support on-demand globe cutting needs.

Please contact the Google Earth Enterprise Support team for further information or questions about these procedures.

Before you begin

Enable the cutter

Before cutting a globe, you must enable the cutter from the command line:

```
# geserveradmin --enable_cutter
```

For more information about geserveradmin, please refer to the Command Line Reference chapte the Reference Guide.

Note about authentication and SSL: Cutting is not currently supported on globes that require enduser authentication e.g. LDAP. One workaround is to allow unauthenticated access from localhost o your Earth Enterprise Server. (Contact Google Enterprise Support if you need sample Apache directives to enable such a configuration.) Cutting of a globe over HTTPS is supported; however the

Install the Google Earth Plugin

The Google Earth Plugin is used to display the globe from which maps are cut. To install the plugin, vi **http://developers.google.com/apis/earth** and follow the prompts inside the Google Earth Plugin frar If you require installers for offline installation, contact Google Enterprise Support.

The globe cutter interface

To create a portable globe, point your browser to http://yourserver/cutter, where yourserv is the server on which Earth Enterprise Server is running. The **Globe Creator** page appears.



Select the globe you'd like to cut your portable version from in the drop-down menu.

Note: An alternate cutter UI is available at

http://yourserver/cutter/globe_cutter_advanced.html. This interface offers addition globe-cutting options, namely *Polygon Resolution*. This setting is useful when cutting with large polygons; e.g. use 12 for a country-sized polygon and 18 for a city-sized polygon. Additional advanc settings may be offered in future versions. Use caution when changing them as they may dramatica increase build times and globe sizes.

Globe name

The globe name defines the filename of this globe; it will be created as a .glb file, which is a single-f format for sharing Google Earth Enterprise globes. Spaces, slashes, and double dots (..) will be converted to underscores in the saved globe name.

We recommend using a descriptive name for each globe, so that others will know what geographic are or what mission, the globe was created for.

Note: Building a globe will overwrite any existing globes with the same name. If multiple users are cutting globes, we recommend assigning unique prefixes to each user for their globe names to ensu that files are not accidentally overwritten.

Drawing the polygon

Once the globe name has been specified, you can define the geographic region to be cut, by drawing polygon on the globe. There are two ways to draw the polygon.

Hand drawing the polygon

First, using the navigation controls in the plugin, zoom in to the region of interest. To use your mouse define the polygon, click the polygon icon in the globe window:



Then, click on the globe to define each point. You can use the navigation controls on the right to move the globe or change zoom levels while drawing.

Double-click the final point to complete the polygon selection, at which point the polygon should chang from blue to purple.

You can view the KML of the shape you've drawn by selecting the Enter polygon as KML checkbox.

Defining the polygon with KML

You can also use KML to define the polygon(s). The KML should be complete, and may contain single multiple elements. To insert your KML:

- 1. Select the Enter polygon as KML checkbox.
- 2. Paste your KML into the text field.
- 3. Click outside of the text field. Your polygon appears on the map.

Globe resolution

The polygon you specify in the previous step defines your 'area of interest.' This area will contain high resolution imagery and data, and search tabs will be created for information that lies within this zone. maximum and minimum resolutions are specified as integers between 1 and 24. These correspond to zoom levels that are used in the Fusion server.

Minimum resolution

The zoom level for the polygon area is specified in the Maximum resolution to extract field.

A minimum zoom level of 5-7 will present a decent-looking world to the user and will most likely includ vector layers such as international boundaries and state boundaries and main cities without affecting t size of the .glb file very much. For example:

- A cut globe with minimum and maximum resolution values set to 5 is 10MB.
- A cut globe with minimum and maximum resolution values set to 6 is 41MB.
- A cut globe with minimum and maximum resolution values set to 7 is 120MB.

These numbers are small in comparison to the overall size of your globe when a suitable maximum resolution has been selected. For example, a globe that contains all of the city of Atlanta, GA, USA in foot resolution requires approximately 5GB of storage. Even level 7 imagery, at 120MB, is a small percentage of the overall globe size.

Maximum resolution

The area outside of the defined polygon will be included in the globe at a lower resolution, which is defined within the **Minimum resolution to extract** field. Areas near the polygon may be included at a higher resolution.

The maximum resolution of the cut globe will be no higher than the maximum resolution of the source globe. For example, if the maximum resolution in the cutter is specified at 24, but the source imagery 18 (approximately 1-meter resolution), the cut globe will contain level 18 imagery. You can leave this 1 blank to use the highest available imagery.

You may enter a lower number to reduce the size of your globe, by not including the highest resolution imagery.

Building the globe

Click **Build** to start the build process. Depending on the size of your polygon, this can take from a few minutes to a few hours; likewise, file size will vary widely depending on the area selected and the desi resolution.

When the build is finished, a .glb file is created and a download link appears to the file's location on Earth Server. Save the file into the <code>Portable\Data</code> directory with the other .glb files. Alternately, t globe file can be copied onto portable media like a DVD, thumb drive, or external hard drive to be delivered to users.

The .glb file contains all that you need to share your portable globe - imagery, terrain, and vector assets, plus the search database. For this reason, it's important to retain control of your globe if it contains sensitive or proprietary information.

Search tabs

When a globe is cut, the search tabs associated with the globe are also bundled with the globe. Howe because search plugins in Google Earth Enterprise run within the Tomcat / Apache instance on the East server, most search tabs will not work in a portable globe.

The Portable Server uses its own search framework that allows Python code stored on the portable machine to execute in place of the GEE plugin.

For more information, please refer to Using Search Tabs with the Portable Server.

KML files

When a portable globe is cut from a source containing KML links in the Layer panel:

- KML files that are stored locally on the primary Earth Server will be bundled into the portable glob. Only the main KML file will be copied, not any links or files that are embedded as links in the mair KML file. The default copy is not recursive.
- KML links that refer to servers other than the primary Earth Server are not copied. The layer will t visible in the client, but clicking the link will not cause any data to be displayed. If access to exterr servers is needed, a small KML file should be stored locally on the primary Earth Server. This KN file should contain a link to the intended external server.

These behaviors can be modified if the globe is built from the command line rather than from the GUI described in the <u>Command line reference</u> section of this document.

Historic Imagery

Historic Imagery is not supported in the portable globe as of Fusion 4.2. It is being investigated as a possible feature.

There are, however, two situations in which historic imagery will be displayed:

- When the computer running the portable globe has a connection to the Earth server from which tl globe was cut. In this case, historic imagery can be streamed from the Earth server. Once in the field, however, and disconnected from the Earth server, no historic imagery will be displayed.
- If historic imagery has been cached on the portable globe machine.

If the portable globe's computer has a connection to the original Earth server from which the globe wa cut,

Otherwise, the following error message will appear:

Google Earth can't contact the imagery server to download new images.

You'll be able to see areas that you've been to recently, but new image areas may appear blurry.

Portable server

The portable server is a lightweight web server that runs on OS X or Windows computers. The web

server starts within seconds and begins serving one of the globes that has been saved to the Data directory. Once the globe is served, a web browser is automatically launched.

Serving a globe

Broadcasting a globe

Changing the globe being served

Serving a globe

Copy the globe to be served into the Data subdirectory (or whichever directory is specified as the globes_directory in portable.cfg).

1. Windows: Double-click the Google Earth Portable desktop shortcut created during installation.

Mac OS X: From the Applications folder, open the Google Earth Portable folder and double-cli Google Earth Portable.

All of the globes present in the globe directory are listed and available for serving.

2. Click start serving next to the globe you wish to serve.

To stop serving a globe, return to the administration page at http://localhost:9335. The currer served globe is listed in the first section; click **stop serving** to stop serving that globe.

Broadcasting a globe

To share a globe with others on your network:

- 1. If you're not already serving a globe, double-click the globe file, or select the globe to serve from the Portable Server interface.
- 2. In the Currently serving section of the Portable Server interface, click broadcast.
- 3. Enter a Key value and click Set Key. This key is simply an access key; it is not an encryption key
- 4. In the **Remote servers** section, click add.
- 5. The **Currently serving** section now shows that you are **Broadcasting**. Click **glr** to create a connection file for this globe.



6. A share.glr file is created and saved to your browser's default download directory. This file can be sent to any user who requires a connection to your globe; the remote client must also be insta on their machine.

Changing the globe being served

To change the globe being served:

• Point your browser to http://localhost:9335 and click start serving for your new globe.

Or,

• Double-click the globe file from your system.

If you're accessing the globe with the Google Earth Enterprise Client, log out of the client and logback to http://localhost:9335.

Connecting to a portable globe

It's possible to connect to a portable globe from a variety of platforms.

Google Earth EC Google Earth API Connecting to a broadcasted globe Defining options in portable.cfg

Google Earth EC

Launch the Google Earth EC client. When prompted for a server address, enter

http://localhost:9335. If you've changed the default port in portable.cfg, use the new port valuinstead.

Google Earth API

The Google Earth Enterprise Portable Server comes with a preconfigured HTML page that displays your globe using the Earth API. This page is at http://localhost:9335/earth/earth local.html

If you'd like to make your own custom Earth API application, make a copy of the included file from whi to start.

You can also reach the page listed above by clicking view in browser from the administration page a http://localhost:9335.

Connecting to a broadcasted globe

The Portable server uses connection files to simplify connections to broadcasted globes. The individu with access to the globe file serves that globe on their local machine, then creates the connection file containing the machine address and connection parameters.

To connect to a broadcasted globe, you can:

Connect with a .glr file

If you've been sent a .glr file, simply double-click the file to launch your portable server and connect the broadcasted globe. You must have the portable server already installed.

Create your own connection file

If you don't have the .glr connection file for a globe, but know the machine address and broadcast k you can create your own connection file:

- 1. Start the portable server.
- 2. In the Remote servers section, click add.
- 3. Enter the following information:

Name: The filename for this server connection file. A .glr extension will be appended to this name when the file is created.

Server: The IP address or machine name on which the portable server is running. **Port**: The default port is 9335. If you're serving on another port, enter that number here. **Key**: The access key for this server.

Remote servers		
Name docs_globe		
Server http://doc_machine		
Port 9335		
Key day675		
Cancel Add Server		

4. Click **Add Server**. A .glr file is created and saved to your globes directory. It will also show up in t **Remote servers** section of the Portable Server interface.

Defining options in portable.cfg

The **Tools** directory (.apps on OS X) in the portable server folder hierarchy contains the main configuration file, portable.cfg. This file defines a number of options, but is primarily used to chan the port on which the globe is served, if required.

- port: defines the port on which to serve the globe. Default is 9335.
- globes_directory: the directory in which to look for globe files.
- globe_name: the default globe to serve when the server is started.
- **fill_missing_map_tiles**: If set to 'True', enables pixel-filling from ancestor map tile when there are no more tile descendents.
- **max_missing_maps_tile_ancestor**: Limit the pixelation to 2^x by 2^x sized pixels.
- local_override: If set to 'True', Portable Server looks for all files on the server first before seeking them on the globe.

Changing the port

When changing the port from the default, you should re-cut your globe for the new port number as we To do so, you must override the default port parameter in the cutter:

- 1. On your cutter server, open /opt/google/gehttpd/htdocs/cutter/js/globe cutter.
- 2. Find these lines:

```
// Example:
// var FORCE_ARGUMENTS = '&FORCE_PORTABLE_PORT=8778';
var FORCE_ARGUMENTS = '';
```

3. Uncomment the second line, and update the port number. Then, comment out the third line. You end up with:

```
// Example:
var FORCE_ARGUMENTS = '&FORCE_PORTABLE_PORT=3209';
// var FORCE_ARGUMENTS = '';
```

Usage of the Apache (glc) Module

The Google Earth Enterprise Apache (glc) module supports a mechanism to serve .glb files from a

Google Earth Enterprise Server 4.2.0 (or later). This functionality provides an on-premise alternative to serving a .glb and .glc file from the Portable Server.

Setup

1. Enable the cutter (even if it was done so previously):

sudo /opt/google/bin/geserveradmin --enable cutter

2. Verify /opt/google/gehttpd/conf.d/gemodules.conf contains:

LoadModule glc_module /opt/google/gehttpd/modules/mod_glc.so

3. Verify /opt/google/gehttpd/conf.d/virtual_servers/default_glc.location exi
 and contains:

```
<Location /portable/ >
SetHandler glc-handler
Include conf.d/virtual_servers/runtime/default_glc_runtime
</Location>
```

4. Verify

/opt/google/gehttpd/conf.d/virtual_servers/runtime/default_glc_runtime
contains:

Glc "/opt/google/gehttpd/htdocs/cutter/globes"

Access

To load the glb in Google Earth Enterprise Client (EC), connect to the server using the following URL syntax:

http://<your server>/portable/<your globe.glb>

To load the glb or glm in the default application using the Google Earth API Browser Plugin:

```
http://<your_server>/earth/glb.html?map=/portable/<your_globe>.glb
http://<your_server>/maps/glm.html?map=/portable/<your_map>.glm
```

To load the glb in a custom Javascript application using the Google Earth API Browser Plugin, referent the same path when <u>creating</u> the plugin instance, e.g.

```
google.earth.createInstance('earth', initCB, failureCB, {database:'http:
/<your_server>/portable/<your_globe.glb>'});
```

Metadata

To view more information about a particular .glb, including what other globes have been served since last time the server was restarted, enter the following URL:

```
http://<your_server>/portable/<your_globe.glb>/statusz
```

The output should look similar to:

```
Glc Apache Module Status
Globe my_globe.glb
Size: 13.35 MB (13353414 bytes)
```

```
Unpacker Map Globes (3)
    /usr/local/google/globes/Atlanta.glb
    /usr/local/google/globes/SF.glb
    /usr/local/google/globes/my_globe.glb
```

If the list of globes is too long or stale (i.e. many of the globes are no longer being accessed), restart t server to refresh the information or improve performance.

Command line reference

The following command line tools are available for the portable globe and server.

gepolygontoqtnodes gerewritedbroot gekmlgrabber geportableglobebuilder geportableglobepacker

Knowledge of these command line tools is not needed for most users and system administrators. The simple cutter interface that is provided should meet the needs of nearly all users. However, if finer cor is needed or if the complete creation of globes needs to be automated, these command line tools are available. The following is the series of events for creating a globe to help give a sense of what these command line tools accomplish and in what order they are run:

```
Building LevelFive ...
No description given.
Added globe directory: /tmp/globe builder/LevelFive 4282 1287494655.5451
5/LevelFive Ok
Saved polygon to /tmp/globe builder/LevelFive 4282 1287494655.545115/Lev
lFive/earth/polygon.kml
Convert polygon to quadtree nodes ...
Executing: /opt/google/bin/gepolygontoqtnodes --qt nodes file=/tmp/globe
builder/LevelFive 4282 1287494655.545115/qt nodes.txt --kml polygon file
/tmp/globe builder/LevelFive 4282 1287494655.545115/LevelFive/earth/poly
on.kml
--max level=18
0 qtnodes Ok
Rewrite dbroot ...
Executing: /opt/google/bin/gerewritedbroot
--source=http://earth.localdomain/default ge/ --icon directory=/tmp/glob
builder/LevelFive 4282 1287494655.545115/LevelFive/icons --dbroot file=
tmp/globe builder/LevelFive 4282 1287494655.545115/dbroot.v5
--search server=localhost
--search port=9335
--kml server=localhost
--kml port=9335
--kml map file=/tmp/globe builder/LevelFive 4282 1287494655.545115/kml m
```

```
p.txt
8 icons
Executing: cp /tmp/globe builder/LevelFive 4282 1287494655.545115/dbroot
v5 /tmp/globe builder/LevelFive 4282 1287494655.545115/LevelFive/dbroot/
broot localhost 9335 Ok
Grab kml files ...
Executing: /opt/google/bin/gekmlgrabber --kml map file=/tmp/globe builde
/LevelFive 4282 1287494655.545115/kml map.txt --output directory=/tmp/gl
be builder/LevelFive 4282 1287494655.545115/LevelFive/kml --source=http:
/earth.localdomain/default ge/
--kml server=localhost
--kml port=9335
0 kml files Ok
Build globe ...
Executing: /opt/google/bin/geportableglobebuilder
--source=http://earth.localdomain/default ge/
--default level=5
--max level=5
--hires qt nodes file=/tmp/globe builder/LevelFive 4282 1287494655.54511
/qt nodes.txt --globe directory=/tmp/globe builder/LevelFive 4282 128749
655.545115/LevelFive --dbroot file=/tmp/globe builder/LevelFive 4282 128
494655.545115/dbroot.v5 > /tmp/globe builder/LevelFive 4282 1287494655.5
5115/packet info.txt & Ok
685 image packets
128 terrain packets
515 vectors packets
Extract search data ...
Getting search poi ids:
http://earth.localdomain/cgi-bin/globe cutter.py?cmd=POI IDS&db=default
Getting search poi data:
http://earth.localdomain/cgi-bin/globe cutter.py?cmd=SEARCH FILE&poi id=
polygon=Paste%20in%20KML%20containing%20polygon.%20If%20KML%20contains%2
more%20than%20one%20polygon%2C%20the%20first%20polygon%20will%20be%20use
Saving search poi data:
/tmp/globe builder/LevelFive 4282 1287494655.545115/LevelFive/search db/
epoi Ok
Add plugin files ...
Executing: cp -r /opt/google/gehttpd/htdocs/cutter/template/earth/* /tmp
globe builder/LevelFive 4282 1287494655.545115/LevelFive/earth
Executing: cp -r /opt/google/gehttpd/htdocs/cutter/template/maps/* /tmp/
lobe builder/LevelFive 4282 1287494655.545115/LevelFive/maps
Executing: cp -r /opt/google/gehttpd/htdocs/cutter/template/js/* /tmp/gl
be_builder/LevelFive_4282_1287494655.545115/LevelFive/js
Rewrite JSON from: http://earth.localdomain/default ge//query?request=Js
n&var=geeServerDefs Ok
Packaging globe for download ...
Executing: /opt/google/bin/geportableglobepacker --globe directory=/tmp/
lobe builder/LevelFive 4282 1287494655.545115/LevelFive --output=/opt/gc
gle/gehttpd/htdocs/cutter/globes/LevelFive.glb
Executing: chmod a+r /opt/google/gehttpd/htdocs/cutter/globes/LevelFive.
```

```
lb
/opt/google/gehttpd/htdocs/cutter/globes/LevelFive.glb 9.62MB Ok
Deleting tmp directory as: /tmp/globe_builder/LevelFive_4282_1287494655.
45115 Ok
```

This section uses the following typographic conventions:

Italic	Information that the user must supply
Square brackets []	Optional items

gepolygontoqtnodes

Usage

```
gepolygontoqtnodes --kml_polygon_file=filename
    --qt_nodes_file=filename --max_level=int
```

Description

Creates a list of the quadtree nodes that encompass a polygon at the given max level.

Required

--kml_polygon_file=filename

KML file containing a polygon that defines the region of interest.

--qt_nodes_file=filename

File where quadtree addresses are stored.

--max_level=int

Level of resolution of quadtree that is used to encompass the polygon.

gerewritedbroot

Usage

```
gerewritedbroot --source=server_name --icon_directory=directory
    --dbroot_file=filename [--search_server=server_name]
    [--search_port=num] [--kml_map_file=filename] [--kml_server=server_n
me]
    [--kml_port=num] [--kml_url_path=prefix] [--use_ssl_for_kml=bool]
```

Description

- Reads the dbRoot and rewrites the search tabs so that they point at the given search server ar port.
- Creates a directory of all of the icons referred to by the dbRoot.
- Creates a file listing all KML files that are referenced in the dbRoot and gives their new name c the KML server.

Required

```
--source=server_name
```

Server whose dbRoot should be rewritten.

--icon_directory=directory

Directory where the icons should be stored.

--dbroot_file=filename

File where the new dbRoot should be stored.

--kml_map_file=filename

File where the KML map of source URLs to local files should be stored.

Options

--search_server=server_name

Server to be used for search tabs in the dbRoot. Default is localhost.

--search_port=num

Port to be used for search tabs in the dbRoot. Default is 8888.

--kml_server=server_name

Server to be used for KML files in the dbRoot. Default is localhost.

--kml_port=num

Port to be used for KML files in the dbRoot. Default is 8888.

--kml_url_path=prefix

Path in new URL to prefix KML file name. Default is kml.

--use_ssl_for_kml=bool

Use https instead of http for accessing KML files. Default is false.

gekmlgrabber

gekmlgrabber --kml_map_file=/tmp/kml_map

Usage

```
gekmlgrabber --kml_map_file=filename --output_directory=path
  [--source=server_name] [--kml_server=server_name] [--kml_port=num]
  [--kml_url_path=prefix] [--use_ssl_for_kml=bool]
  [--no_recurse=bool] [--ignore_absolute_urls=bool]
```

Description

Reads KML references, retrieves them from network, and copies them into local files. If the -no_recurse flag is not set, it does the same for any additional kml files referenced within the give kml files.

Required

--kml_map_file=filename

File where map of kml source urls to local files are stored.

--output_directory=path

Directory where local kml files are to be stored.

Options

--source=server_name

Source for KML files. Default is localhost.

--kml_server=server_name

Server to be referenced in the dbroot for kml files. Default is localhost.

--kml_port=num

Port to be referenced in the dbroot for kml files. Default is 9335.

--kml_url_path=prefix

Path in new url to prefix kml file name. Default is kml.

--use_ssl_for_kml=bool

Require https:// instead of http:// for accessing kml files. Default is false.

--no_recurse=bool

Do NOT make all kml files linked within the kml files local files as well. Default is false.

--ignore_absolute_urls=bool

If kml is linked with a full url address ('http://server/...'), leave it as it is. Default is false.

geportableglobebuilder

geportableglobebuilder --source=<u>http://myserver</u> --max_level=18 --default_level=8 -hires_qt_nodes_file=qt_nodes.txt \ --globe_directory /tmp/my_portable_globe \

Usage

```
geportableglobebuilder --source=server_name --globe_directory=path
    [--max_level=num] [--default_level=num] [--hires_qt_nodes_file=filen
me]
    [--dbroot_file=filename] [--nowrite]
```

Description

Creates a set of packet bundles and other associated files. These files can be combined into a gloc file with geportableglobepacker.

Required

--source=server_name

The source globe from which the sub-globe is to be derived.

--globe_directory=path

Directory where the portable globe should be built.

Options

--max_level=num

Level of resolution of the quadtree above which no packets should be saved. Default is 24.

--default_level=num

Level of resolution of the quadtree for which all packets are kept independent of the region of interest. Default is 7.

--hires_qt_nodes_file=filename

Name of file containing the quadtree nodes that define the high-resolution area of the globe. Default is no file.

--dbroot file=filename

Name of file containing the dbRoot that should be saved with the globe. Default is no file, in wh case the dbRoot is read from the source.

--no_write

Do not write packets; print out the total size of the globe.

geportableglobepacker

Usage

```
geportableglobepacker --globe_directory=path --output=filename --make_
opy=bool
```

Description

Packs up all globe files into a single file. If --make_copy is set to true, the globe directory is undisturbed. If not, then the globe directory is rendered unusable, but the command can run considerably faster.

Options

--globe directory=path

The directory containing the globes to be packed.

--output=filename

The file to which to save the packed globe, including a file path if desired. The filename should use a .glb file extension.

--make_copy=bool

Make a copy of all files so that the globe directory is not disturbed. Default is false.