



HERE Maps & Location Services WebApp Backend ARM Template

Technical Guide

Version 8.0.0.0



Important Information

Notices

Topics:

- [Legal Notices](#)
- [Document Information](#)



Legal Notices

© 2018 HERE Global B.V. and its Affiliate(s). All rights reserved.

This material, including documentation and any related computer programs, is protected by copyright controlled by HERE. All rights are reserved. Copying, including reproducing, storing, adapting or translating, any or all of this material requires the prior written consent of HERE. This material also contains confidential information, which may not be disclosed to others without the prior written consent of HERE.

Trademark Acknowledgements

HERE is trademark or registered trademark of HERE Global B.V. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

Disclaimer

This content is provided "as-is" and without warranties of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability, fitness for a particular purpose, satisfactory quality and non-infringement. HERE does not warrant that the content is error free and HERE does not warrant or make any representations regarding the quality, correctness, accuracy, or reliability of the content. You should therefore verify any information contained in the content before acting on it.

To the furthest extent permitted by law, under no circumstances, including without limitation the negligence of HERE, shall HERE be liable for any damages, including, without limitation, direct, special, indirect, punitive, consequential, exemplary and/ or incidental damages that result from the use or application of this content, even if HERE or an authorized representative has been advised of the possibility of such damages.



Document Information

Product

Name: HERE Location Services WebApp Backend ARM Template Technical Guide

Version: Version 8.0.0.0

Document

Name: HERE Location Services WebApp Backend ARM Template Technical Guide

Status: FINAL

Date: 2019-Apr-09, 12:00 (GMT)



Contents

Notices	2
Legal Notices	3
Document Information.....	4
Contents	5
Overview	6
Introduction	7
Solution Template Overview	7
Technical Guide	9
Acquiring HERE Api Key.....	10
Technical Guide for using Solution Template on Azure Portal.....	10



Chapter 1

Overview

Topics:

- [Introduction](#)
- [Solution Template Overview](#)

This document introduces the technical steps for HERE Maps &

Location Services WebApp Backend ARM Template on Azure Marketplace. The HERE Location Services WebApp Backend ARM Template is a Solution Template on Azure Marketplace which deploys the HERE Maps & Location Services WebApp Backend ARM Template into your resources.



Introduction

HERE Maps and Location Services WebApp Backend ARM Template bring enterprise-grade, SLA backed location services to Azure applications. HERE Maps and location services solve a range of problems from map visualization, navigation and routing, geocoding, time zone look ups to geofencing, custom locations and routing, route matching GPS traces, geospatial, sequencing multiple waypoints, truck routing, positioning, etc.

Solution Template Overview

HERE Maps & Location Services WebApp Backend ARM Template deploys HERE's enterprise class SLA backed Maps & Location Services for all your Azure Applications.

These services address a range of use cases like Fleet Utilization, Supply Chain Optimization, Urban Movement, etc., and open up new location intelligence opportunities in diverse industries like Automotive, Insurance, Internet and Media, Mobile Payments, Public Sector and Infrastructure, Telecom and Utilities, and Transportation and Logistics.

The function app in this ARM Template consists of the following HERE Location Service APIs:

Geocoding and Search

- Geocoder: Forward and Reverse
- Batch Geocoder
- Geocoder Autocomplete
- Places

Maps

- Map Image
- Map Tile

Navigation and Routing

- Routing - Mode (car, truck, public transit, bicycle) and algorithm (matrix, isoline routing)
- Public Transit



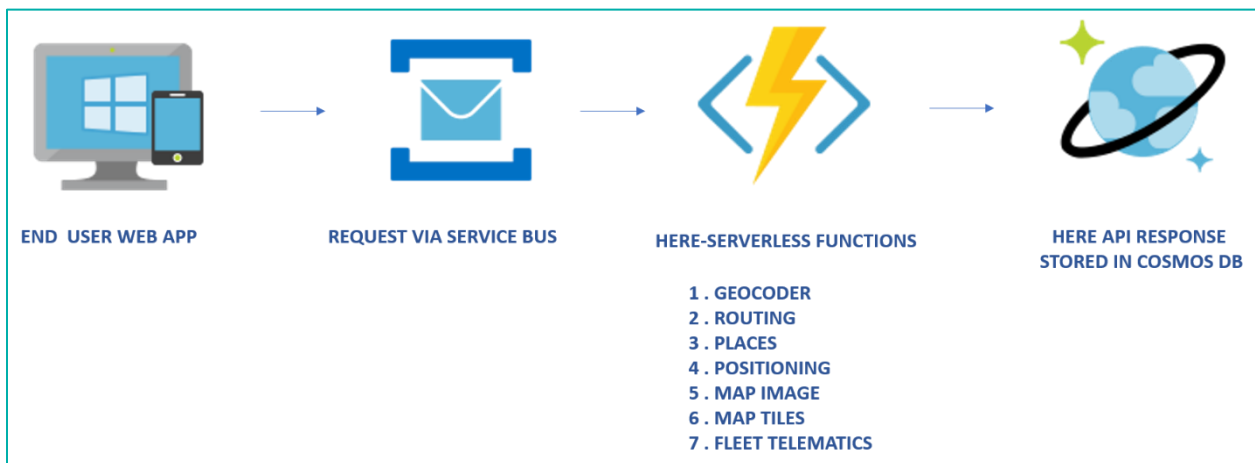
Fleet Telematics

- Considering toll costs along a route
- Working with geofences
- Working with custom locations
- Building custom routes
- Integrating advanced HERE data sets
- Route matching GPS traces
- Calculating an optimal sequence of waypoints

More APIs

- Positioning - Provides positioning estimates based on global Wi-Fi and Cell coverage, which includes the latitude and longitude of the position with accuracy.

Architecture Diagram of HERE Maps & Location Services for WebApp backends:





Chapter 2

Technical Guide

Topics:

- [Acquiring HERE Api Key](#)
- [Technical Guide for using Solution Template on Azure Portal](#)



Acquiring HERE Api Key

All users of HERE APIs must obtain authentication and authorization credentials and provide them as values for the parameter HERE App Key in the HERE Credentials section in Azure's template deployment page.

To obtain the credentials for the deployment of HERE Maps & Location Services Serverless Functions, please visit <https://developer.here.com> to register for FREE with HERE.

Technical Guide for using Solution Template on Azure Portal

Web application backend ingest incoming message on service bus in JSON format , this message internally converts to HERE Rest URL by underlying serverless functions and API response get stored in COSMOS DB in JSON format.

HERE API URL to service-bus message mapping described as below

Sample HERE Api Key : `{HERE_API_KEY}`

Geocoder :

HERE API URL : https://geocode.search.hereapi.com/v1/geocode?apikey={HERE_API_KEY}&q=5 Rue Daunou, 75000 Paris, France

JSON message format:

```
{  
  "uid" : "<unique_id>",  
  "api" : "<geocoder | places | routing | positioning | map_image | map_tile/traffic,  
map_tile/base | map_tile/aerial | map_tile/pano | fleet>",  
  "url" : "<part of the URL with server & app_id/app_code>",  
  "method" : "<get/post>",  
  "body" : "<applicable when method is post>",  
  "contenttype" : "<type of post body>"
```

```
}
```

Translated JSON Message :

```
{  
  "uid" : "<unique_id>",  
  "api" : "geocoder",  
  "url" : " v1/geocode?q=5 Rue Daunou, 75000 Paris, France ",  
  "method" : "get",  
}
```

Few more examples as below to show the mappings:

API Name	HERE API URL	Azure ServiceBus JSON Message
Geocoder	https://geocode.search.hereapi.com/v1/geocode?apikey={HERE_API_KEY}&q=5 Rue Daunou, 75000 Paris, France	<pre>{ "uid" : "<unique_id>", "api" : "geocoder", "url" : " v1/geocode?q=5 Rue Daunou, 75000 Paris, France ", "method" : "get", }</pre>
	https://geocode.search.hereapi.com/v1/geocode?apikey={HERE_API_KEY}&searchtext=200%20S%20Mathilda%20Sunnyvale%20CA&locationattributes=none&responseattributes=none&gen=9	<pre>{ "uid" : "<unique_id>", "api" : "geocoder", "url" : " v1/geocode?searchtext=200%20S%20Mathilda%20Sunnyvale%20CA&locationattributes=none&responseattributes=none&gen=9 ", "method" : "get", }</pre>
Reverse - Geocoder	https://revgeocode.search.hereapi.com/v1/revgeocode?apikey={HERE_API_KEY}&at=48.2181679%2C16.3899064&lang=en-US	<pre>{ "uid" : "<unique_id>", "api" : "geocoder", "url" : " "v1/revgeocode?at=48.2181679%2C16.3899064&lang=en-US ", "method" : "get", }</pre>

	https://revgeocode.search.hereapi.com/v1/revgeocode?apikey={HERE_API_KEY}&at=48.2181679%2C16.3899064&lang=en-US	<pre>{ "uid" : "<unique_id>", "api" : "geocoder", "url" : "v1/revgeocode?at=48.2181679%2C16.3899064&lang=en-US ", "method" : "get", }</pre>
Routing	https://router.hereapi.com/routing/v8/calculateisoline.json?apikey={HERE_API_KEY}&mode=fastest%3Bpedestrian&start=52.5160%2C13.3778&rangetype=distance&range=2000	<pre>{ "uid" : "<unique_id>", "api" : "routing", "url" : "7.2/calculateisoline.json?mode=fastest%3Bpedestrian&start=52.5160%2C13.3778&rangetype=distance&range=2000", "method" : "get", }</pre>
	https://matrix.route.ls.hereapi.com/routing/7.2/calculatematrix.json?apikey={HERE_API_KEY}calculatematrix.json?mode=fastest%3Btruck%3Btraffic%3Adisabled%3B&start0=40.7790%2C-73.9622&destination0=40.7482%2C-73.9860&destination1=40.7558%2C-73.9870&destination2=40.7054%2C-73.9961	<pre>{ "uid" : "<unique_id>", "api" : "routing", "url" : "7.2/calculatematrix.json?mode=fastest%3Btruck%3Btraffic%3Adisabled%3B&start0=40.7790%2C-73.9622&destination0=40.7482%2C-73.9860&destination1=40.7558%2C-73.9870&destination2=40.7054%2C-73.9961", "method" : "get", }</pre>
Positioning	<pre>curl -i -X POST -H 'Content-Type: application/json' -d '{"gsm": [{"mcc": 262,"mnc": 1,"lac": 5126,"cid": 16504,"nmr": [{"bsic": "6","bcch": "82"}, {"bsic": "7","bcch": "85"}, {"bsic": "12","bcch": "93"}, {"bsic": "13","bcch": "88"}, {"bsic": "19","bcch": "88"}]}]}'</pre> https://pos.ls.hereapi.com/positioning/v1/locate?apikey={HERE_API_KEY}	<pre>{ "uid" : "<unique_id>", "api" : "positioning", "url" : "/v1/locate", "method" : "post", "body" : { "gsm" : [{ "mcc": 262, "mnc": 1, "lac": 5126,</pre>

		<pre> "cid": 16504, "nmr": [{ "bsic": "6", "bcch": "82" }, { "bsic": "7", "bcch": "85" }, { "bsic": "12", "bcch": "93" }, { "bsic": "13", "bcch": "88" }, { "bsic": "19", "bcch": "88" }] }, "contenttype" : "application/json" } </pre>
--	--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

This JSON message need to be posted using a client app which connects to azure service-bus, Microsoft provides support for various language for writing service-bus clients. Refer below link for more details.

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-dotnet-get-started-with-queues>