HERE Maps & Location Services
WebApp Backend ARM Template
Technical Guide
Version 8.0.0.0
Important Information

Notices

Topics:

- [Legal Notices](#)
- [Document Information](#)
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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 lookups 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](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](https://geocode.search.hereapi.com/v1/geocode?apikey={HERE_API_KEY}&q=5 Rue Daunou, 75000 Paris, France)

JSON message format:

```json
{
    "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:

```json
{
    "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:

<table>
<thead>
<tr>
<th>API Name</th>
<th>HERE API URL</th>
<th>Azure ServiceBus JSON Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geocoder</td>
<td><a href="https://geocode.search.hereapi.com/v1/geocode?apikey=%7BHERE_API_KEY%7D&amp;q=5">https://geocode.search.hereapi.com/v1/geocode?apikey={HERE_API_KEY}&amp;q=5</a> Rue Daunou, 75000 Paris, France</td>
<td>{</td>
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<tr>
<td></td>
<td></td>
<td>&quot;uid&quot;: &quot;&lt;unique_id&gt;&quot;,</td>
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|                   |                                                                              | "api": "geocoder",
|                   |                                                                              | "url": "v1/geocode?q=5 Rue Daunou, 75000 Paris, France",
|                   |                                                                              | "method": "get",
|                   |                                                                              | }                                 |
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Routing

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<td><a href="https://matrix.route.ls.hereapi.com/routing/7.2/calculatematrix.json?apikey=%7BHERE_API_KEY%7Dcalculateisoline.json?mode=fastest%3Btruck%3Btraffic%3Adisabled%3B&amp;start0=40.7790%2C-73.9622&amp;destination0=40.7482%2C-73.9860&amp;destination1=40.7558%2C-73.9870&amp;destination2=40.7054%2C-73.9961">https://matrix.route.ls.hereapi.com/routing/7.2/calculatematrix.json?apikey={HERE_API_KEY}calculateisoline.json?mode=fastest%3Btruck%3Btraffic%3Adisabled%3B&amp;start0=40.7790%2C-73.9622&amp;destination0=40.7482%2C-73.9860&amp;destination1=40.7558%2C-73.9870&amp;destination2=40.7054%2C-73.9961</a></td>
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<tr>
<td>curl -i -X POST -H 'Content-Type: application/json' -d &quot;{&quot;gsm&quot;: [{&quot;mcc&quot;: 262,&quot;mnc&quot;: 1,&quot;lac&quot;: 5126,&quot;cid&quot;: 16504,&quot;nmr&quot;: [&quot;bsic&quot;: &quot;6&quot;,&quot;bcch&quot;: &quot;82&quot;],&quot;bsic&quot;: &quot;7&quot;,&quot;bcch&quot;: &quot;85&quot;},&quot;bsic&quot;: &quot;12&quot;,&quot;bcch&quot;: &quot;93&quot;},{&quot;bsic&quot;: &quot;13&quot;,&quot;bcch&quot;: &quot;88&quot;},&quot;bsic&quot;: &quot;19&quot;,&quot;bcch&quot;: &quot;88&quot;}]},{&quot;gsm&quot;: [&quot;mcc&quot;: 262,&quot;mnc&quot;: 1,&quot;lac&quot;: 5126,&quot;cid&quot;: 16504,&quot;nmr&quot;: [&quot;bsic&quot;: &quot;6&quot;,&quot;bcch&quot;: &quot;82&quot;],&quot;bsic&quot;: &quot;7&quot;,&quot;bcch&quot;: &quot;85&quot;},&quot;bsic&quot;: &quot;12&quot;,&quot;bcch&quot;: &quot;93&quot;},{&quot;bsic&quot;: &quot;13&quot;,&quot;bcch&quot;: &quot;88&quot;},&quot;bsic&quot;: &quot;19&quot;,&quot;bcch&quot;: &quot;88&quot;}]})</td>
<td></td>
</tr>
</tbody>
</table>
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