Building an API in Azure

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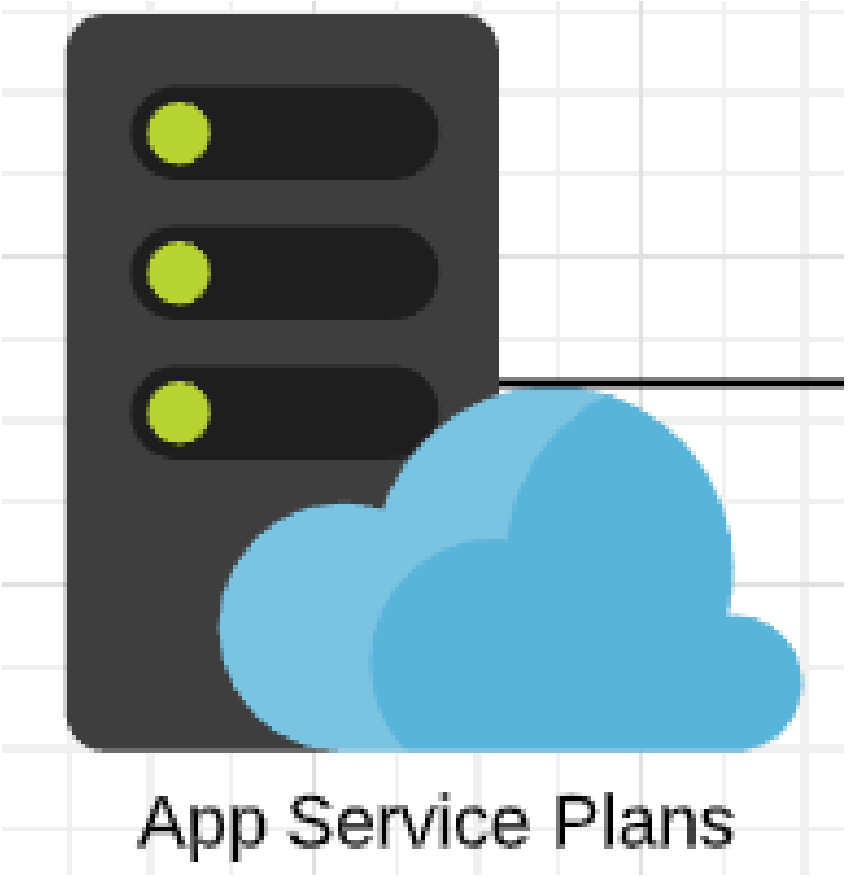
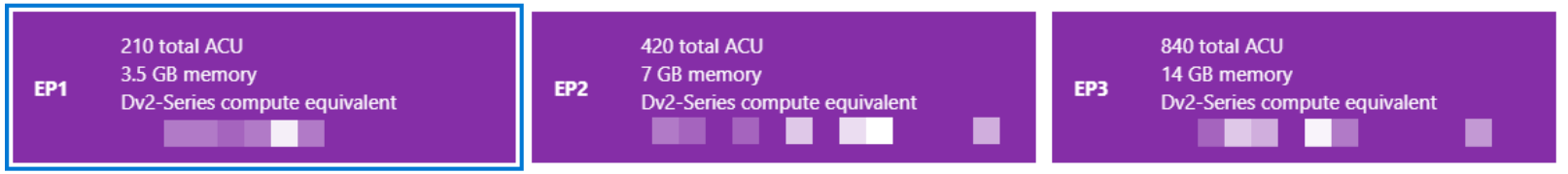
API Universe

- App Service Plan
  - This pertains to a static server of a specific size (can be scaled up/out). Serverless can only be scaled out



APP Service Tiers



Included features

Every app hosted on this App Service plan will have access to these features:

Rapid scale
Scale out function apps based on event trigger.

Virtual Network Integration
Connect to a virtual network.

High Density
Efficiently share an App Service plan across multiple function apps.

Custom domains / SSL
Configure and purchase custom domains with SNI and IP SSL bindings

Traffic manager

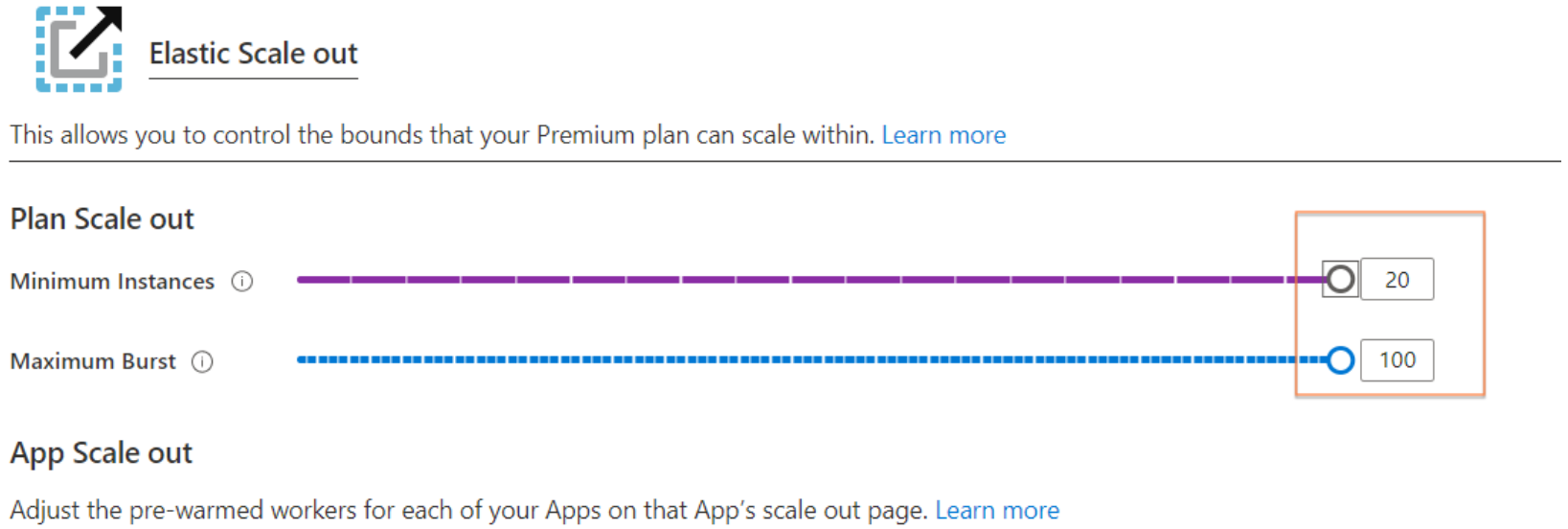
Included hardware

Every instance of your App Service plan will include the foll

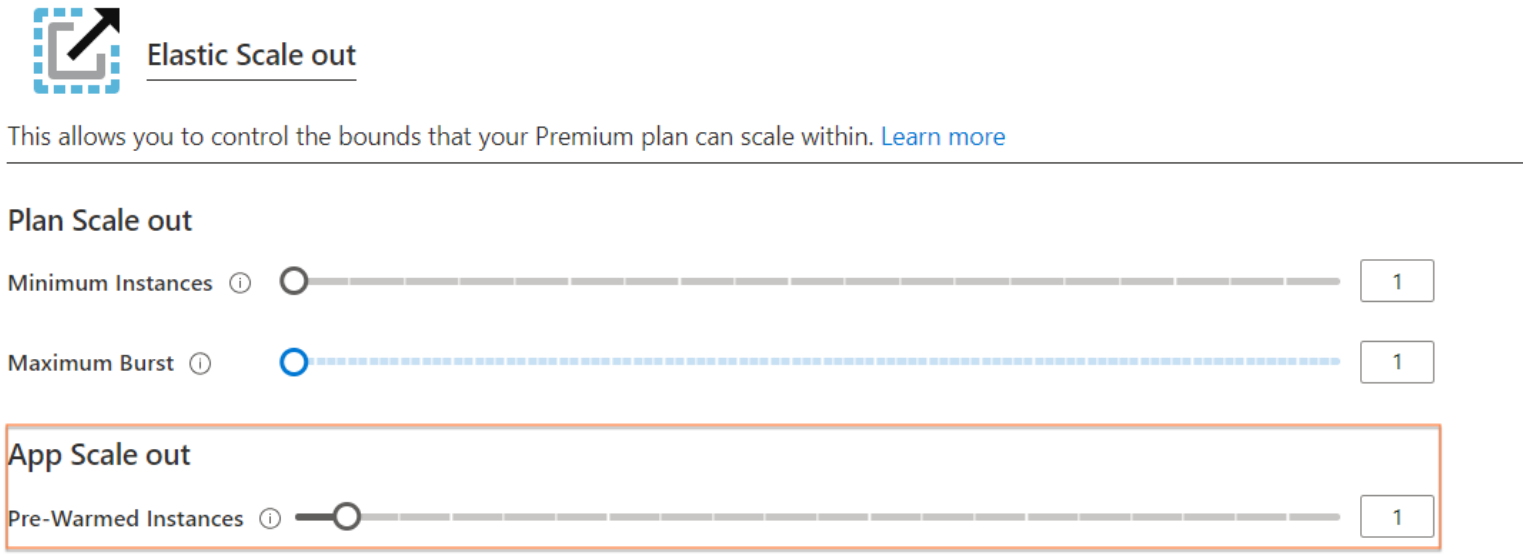
Azure Compute Units (ACU)
Dedicated compute resources used to run applica

Memory
Memory per instance available to run applications

APP Service Plan Scale out

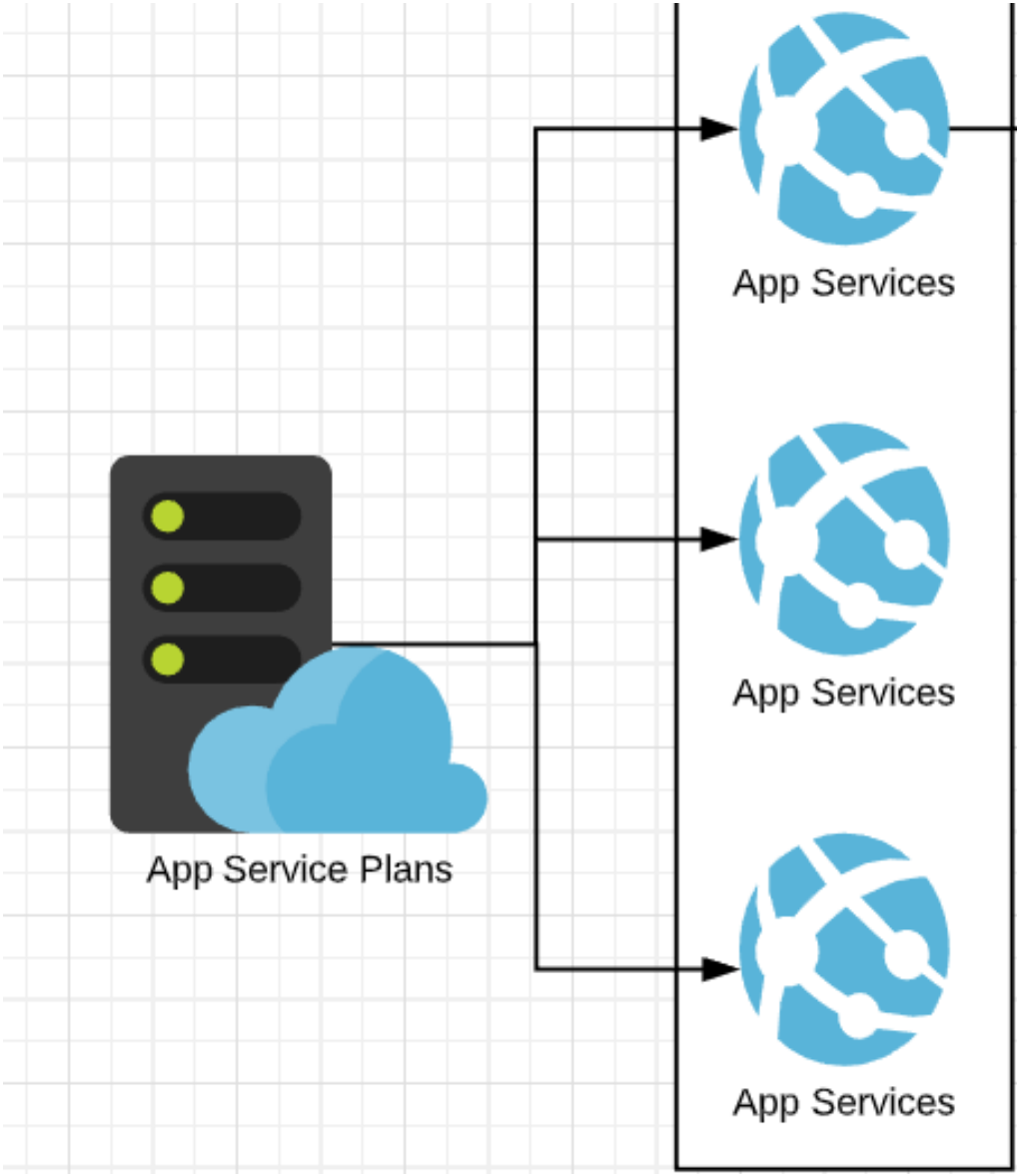


APP Service Scale out



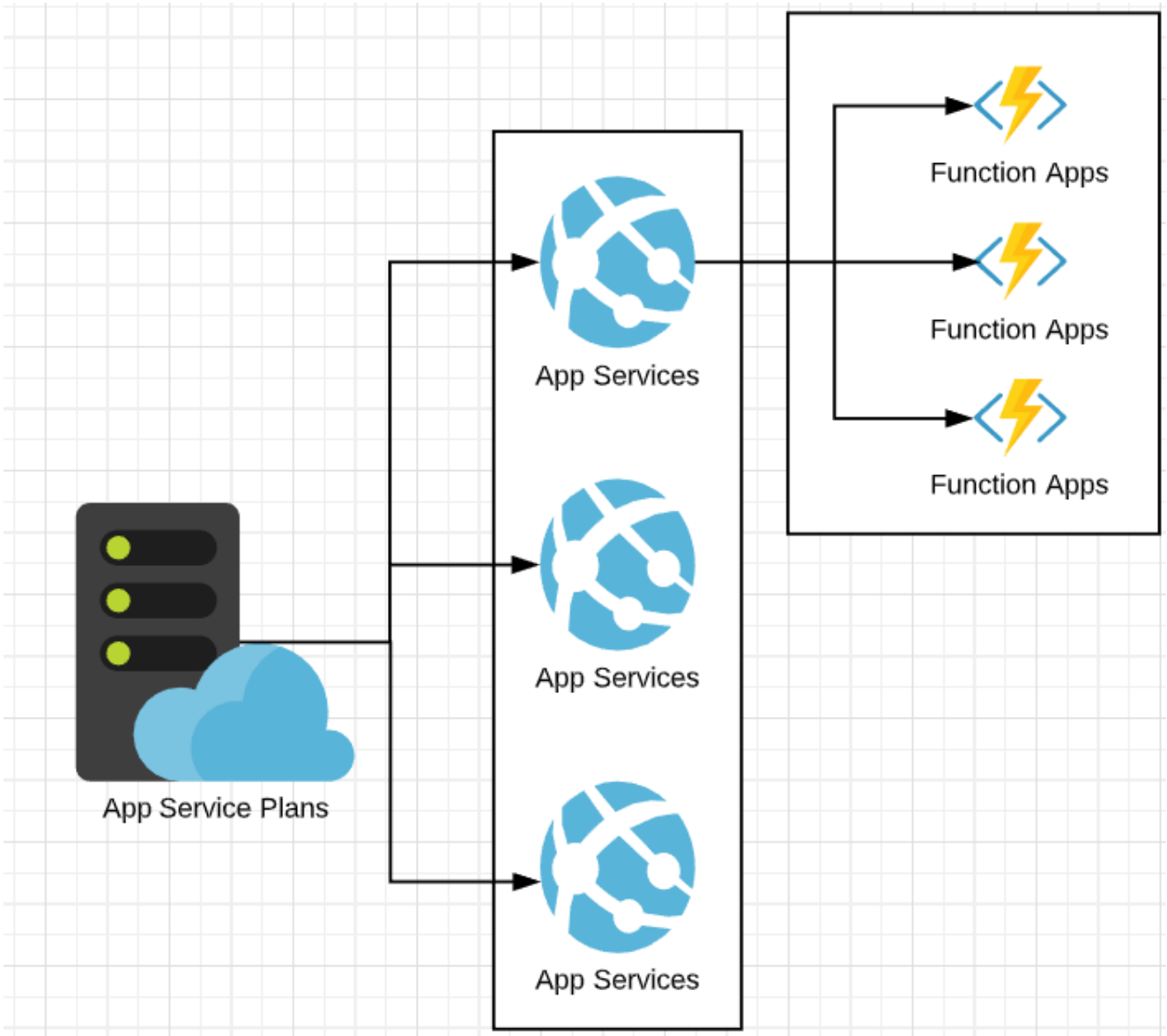
API Universe

- App Service Plan
  - This pertains to a static server of a specific size (can be scaled up/out). Serverless can only be scaled out
  - Houses 1 or more App Services
- App Services
  - A container that houses function apps



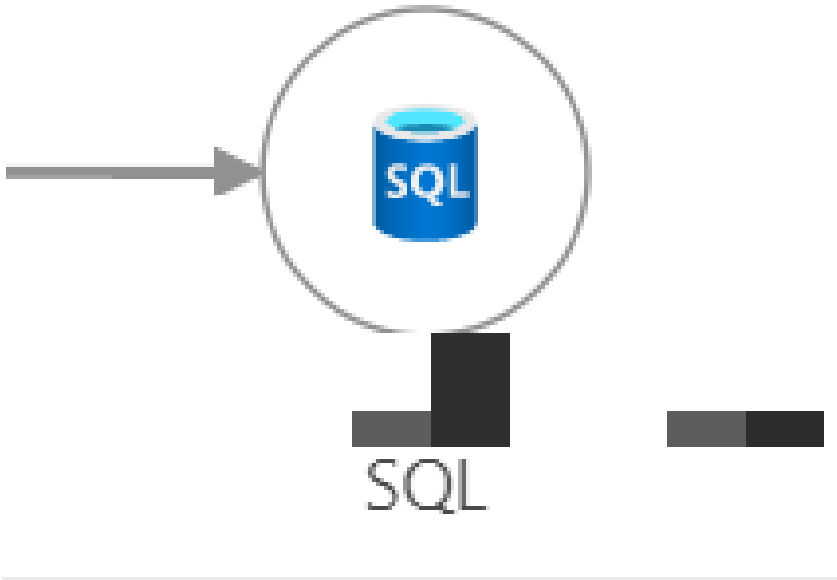
API Universe

- App Service Plan
  - This pertains to a static server of a specific size (can be scaled up/out). Serverless can only be scaled out
  - Houses 1 or more App Services
- App Services
  - A container that houses function apps
- Function Apps
  - This is a logical grouping of functions.



The API Train

- Database
  - Contains all logic required to provide raw data. No display manipulation (formatting, ordering, etc.)
  - All interaction is done through stored procedures with a specific limited access id.
  - BONUS– Free Cache!



```
(@UPN varchar(256),
 @ListId bigint)
 with execute as OWNER
 as
 select C001_ListName as ListName,
       C011_Description as [Classification],
       lt.C002_CatalogName as [Catalog],
       lt.C002_ListIndexName as [Index],
       lt.C002_SearchField as SearchField,
       case
         when C001_Owner=@UPN
           then cast(1 as bit)
         else cast(0 as bit)
       end isOwner,
       cast(C001_isPrivate as bit) as isPrivate,
       r.C002_RegionName as Region,
       C001_Listid as Listid,
       isnull(C001_ListComments,'') as Comments,
       isnull(C001_OutputColumns,'') as OutputColumns
  from mylists.T001_Lists
  join mylists.T002_ListTypes lt on (C002_ListTypeID=C001_ListTypeID
       and C002_Status=1)
  join mylists.T011_Classifications on (C011_ClassificationID=C001_ClassificationID)
  join dbo.T002_Regions r on (r.C002_RegionId=lt.C002_RegionId)
 where C001_ListId=@ListId
   and (C001_Owner=@UPN or C001_isPrivate=0)

select v.C004_ListValues,
       v.C004_Sequence
  from mylists.T004_ListValues v
  join mylists.T001_Lists on (C001_ListId=C004_ListId
       and (C001_Owner=@UPN or C001_isPrivate=0))
 where v.C004_ListId=@ListId
```

Sample Procedure

The API Train

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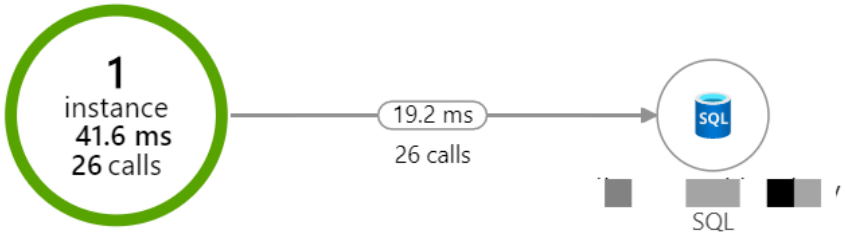
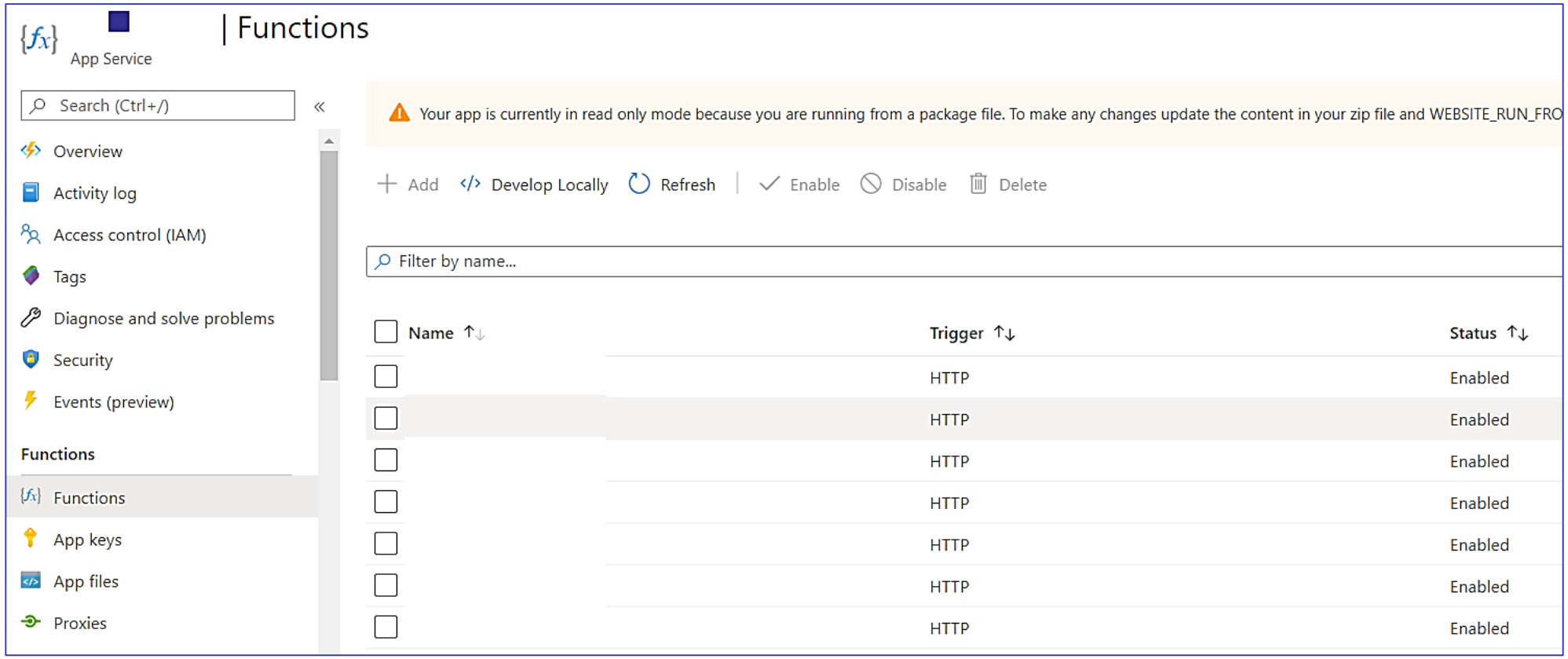
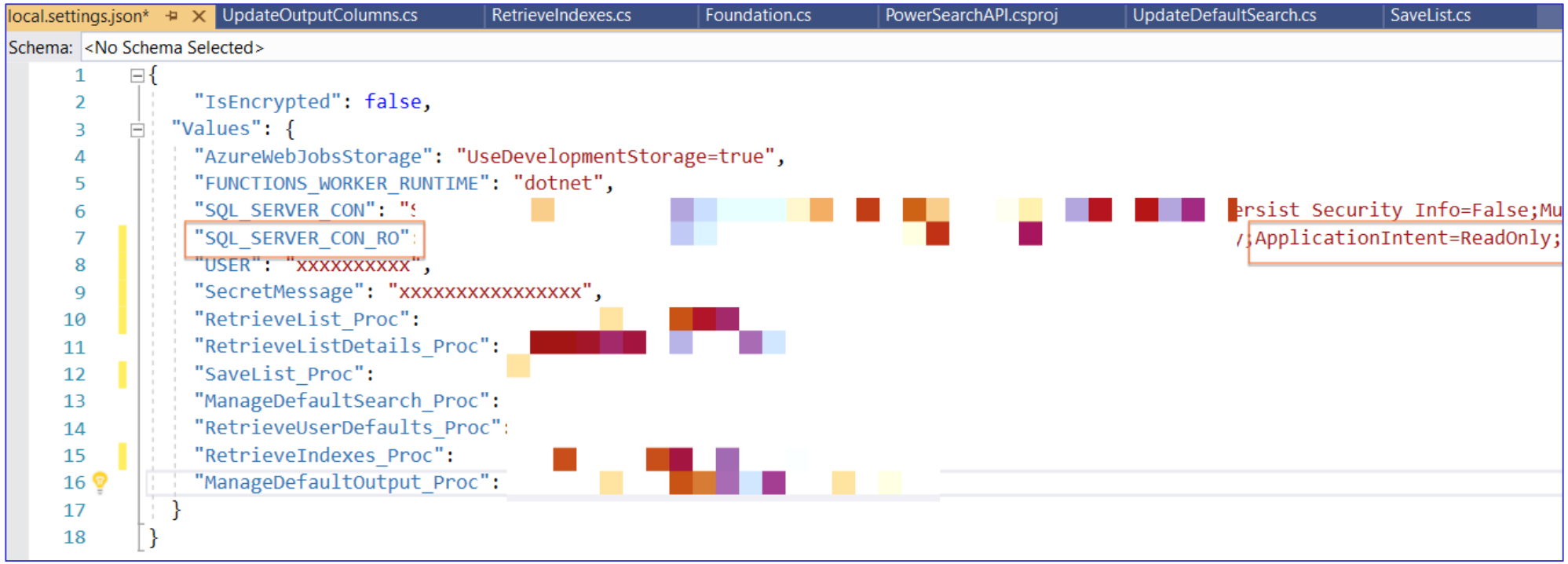
- Function App
  - Makes database calls on behalf of the calling program. Responsible for formatting (including possible ordering).



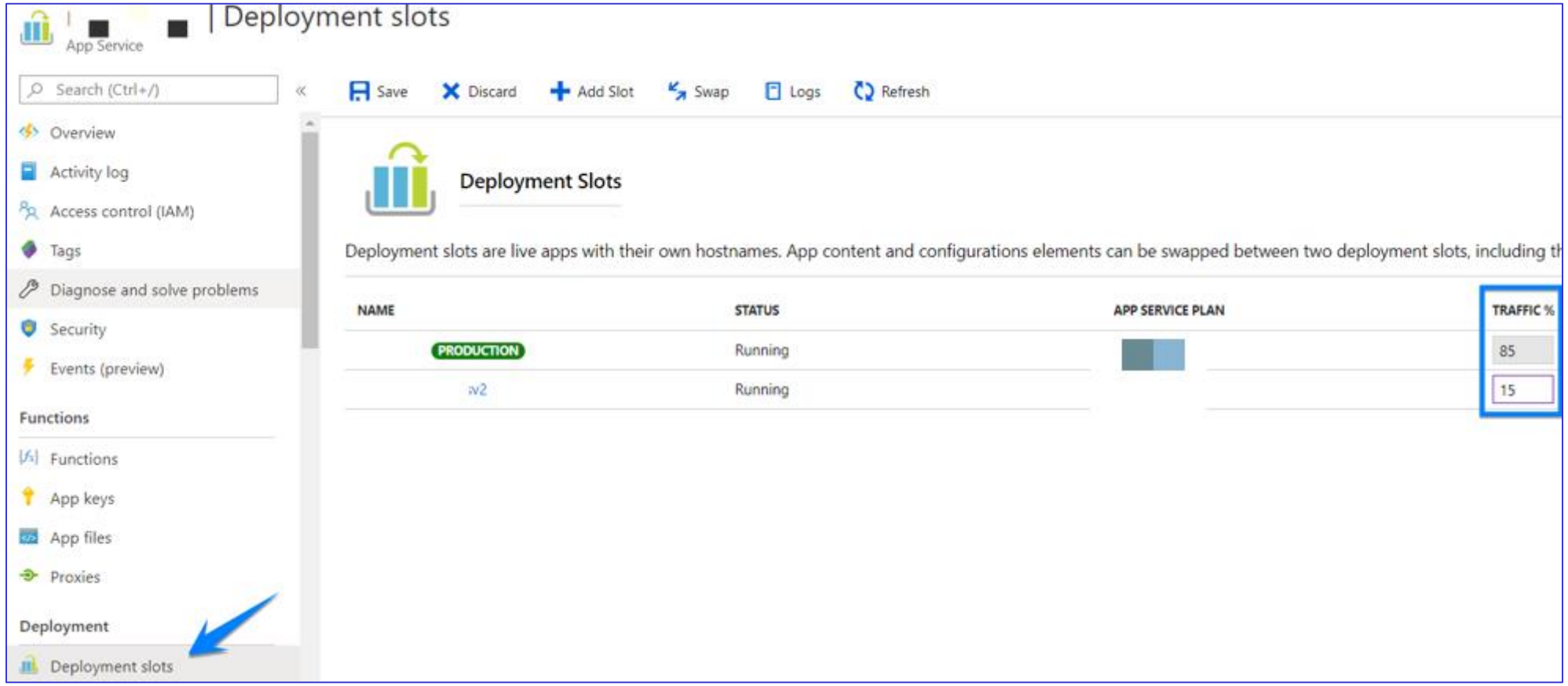
Function App



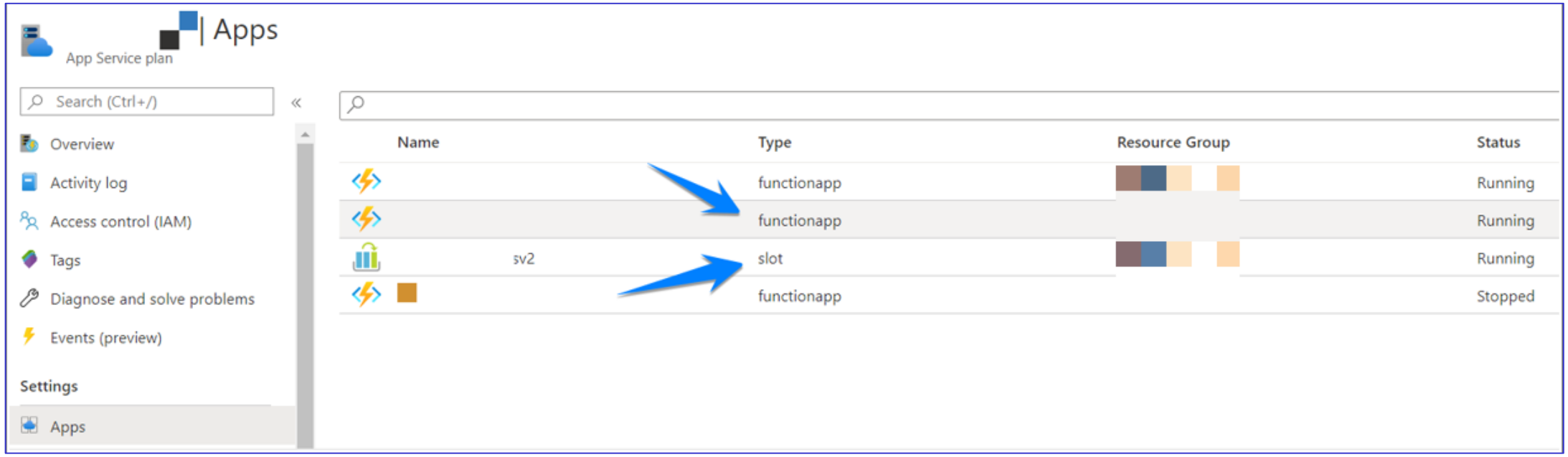
Function App – C#



App Service

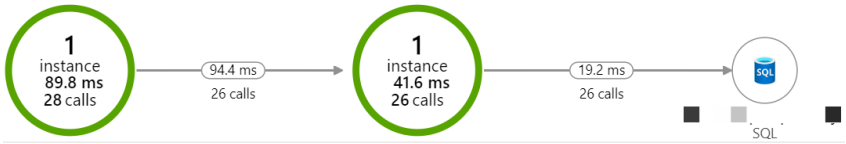

Deployment slots
App Service
Search (Ctrl+/)
Save
Discard
Add Slot
Swap
Logs
Refresh
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Security
Events (preview)
Functions
Functions
App keys
App files
Proxies
Deployment
Deployment slots
Deployment Slots
Deployment slots are live apps with their own hostnames. App content and configurations elements can be swapped between two deployment slots, including th
NAME
STATUS
APP SERVICE PLAN
TRAFFIC %
PRODUCTION
Running
85
v2
Running
15

App Services

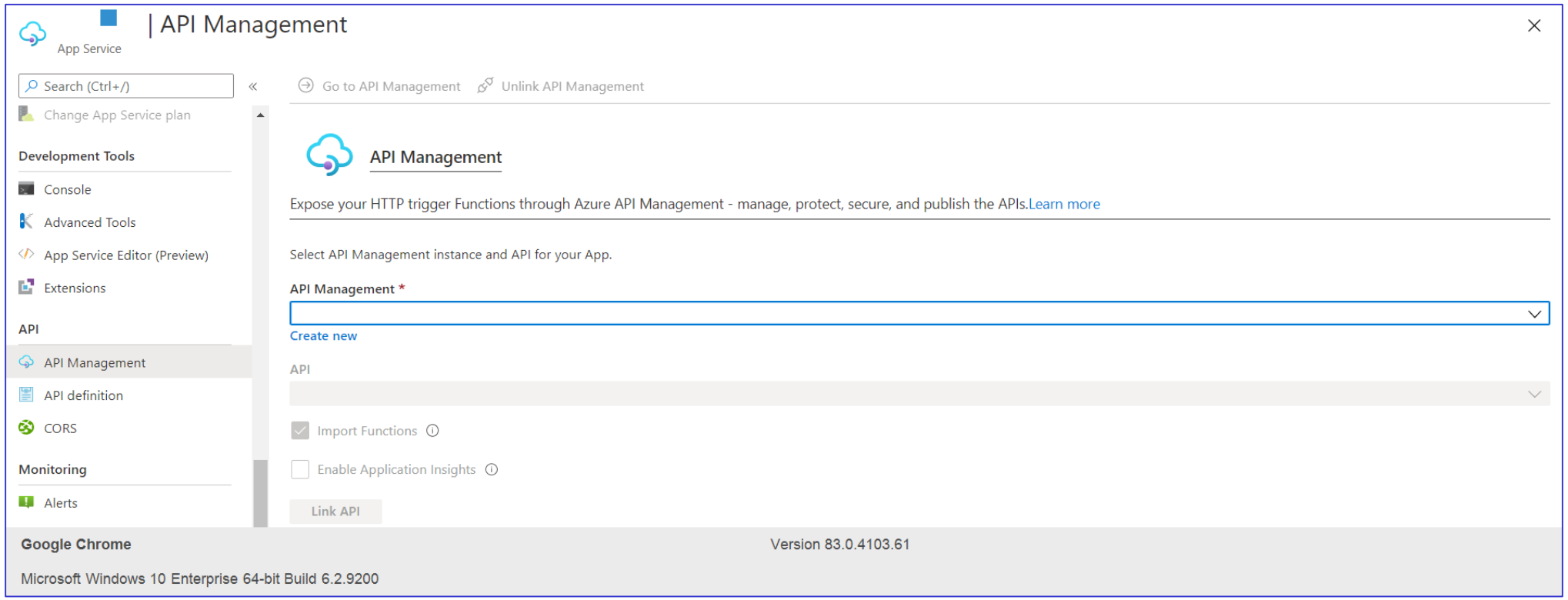


The API Train

- Database
  - Contains all logic required to provide raw data. No display manipulation (formatting, ordering, etc.)
- Function App
  - Makes database calls on behalf of the calling program, including all logic, and formatting.
- API Manager
  - Proxy that manages all function apps. Provides additional capabilities including rate limiting and mocking up APIs

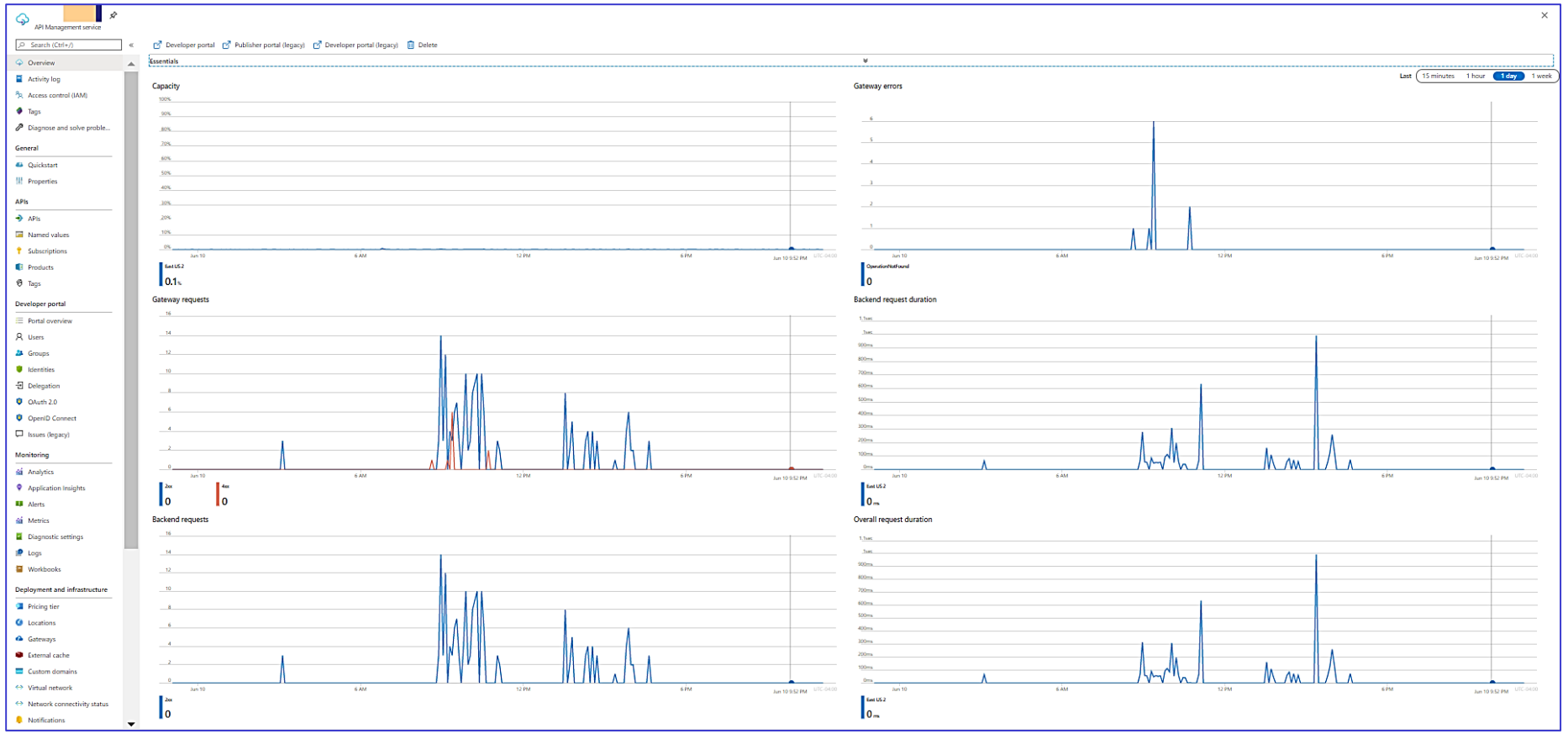


Publish to API Management Service

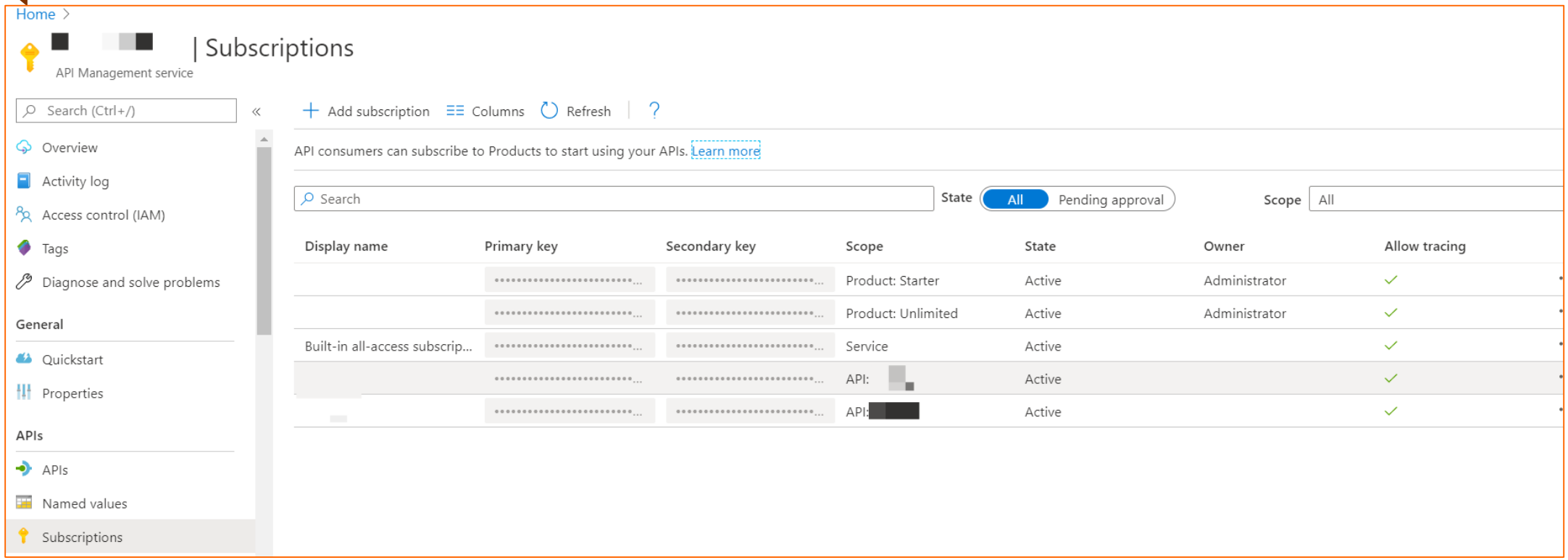


Publish to API Management -- 2

API Management Overview



Keys to the Kingdom



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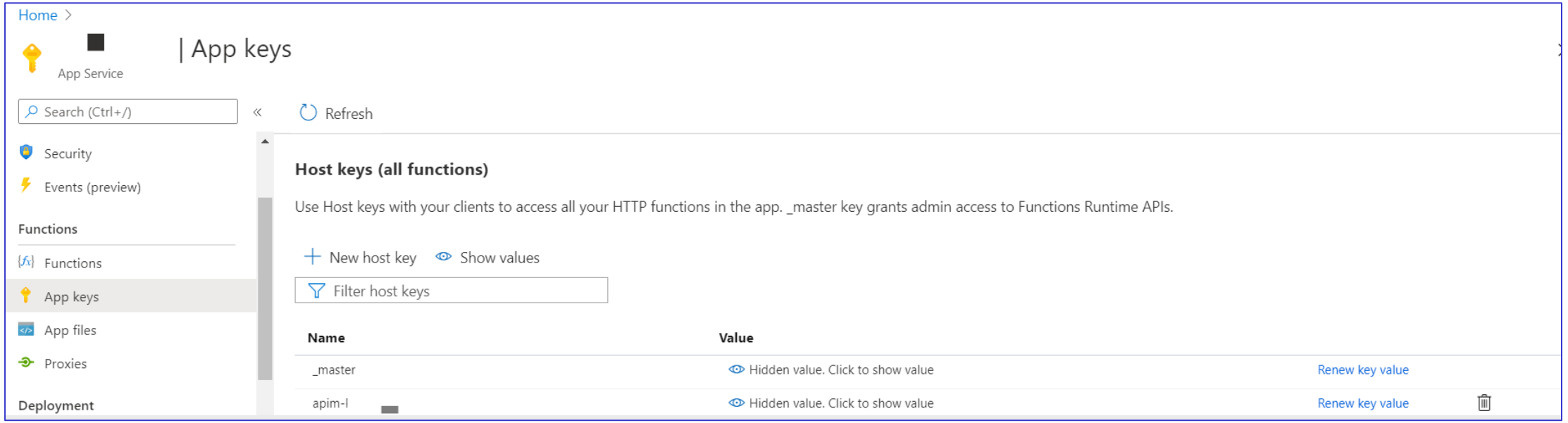
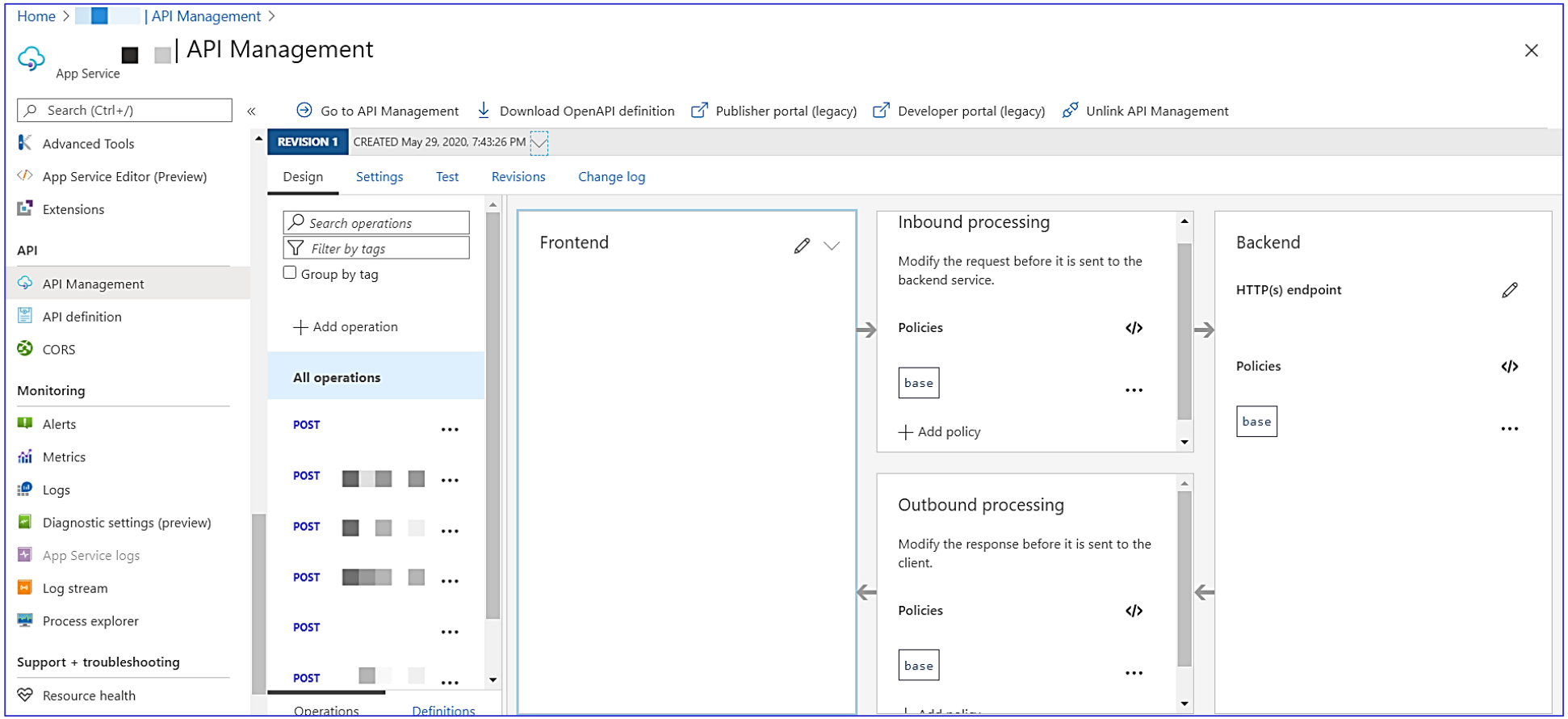


Behold the API Manager



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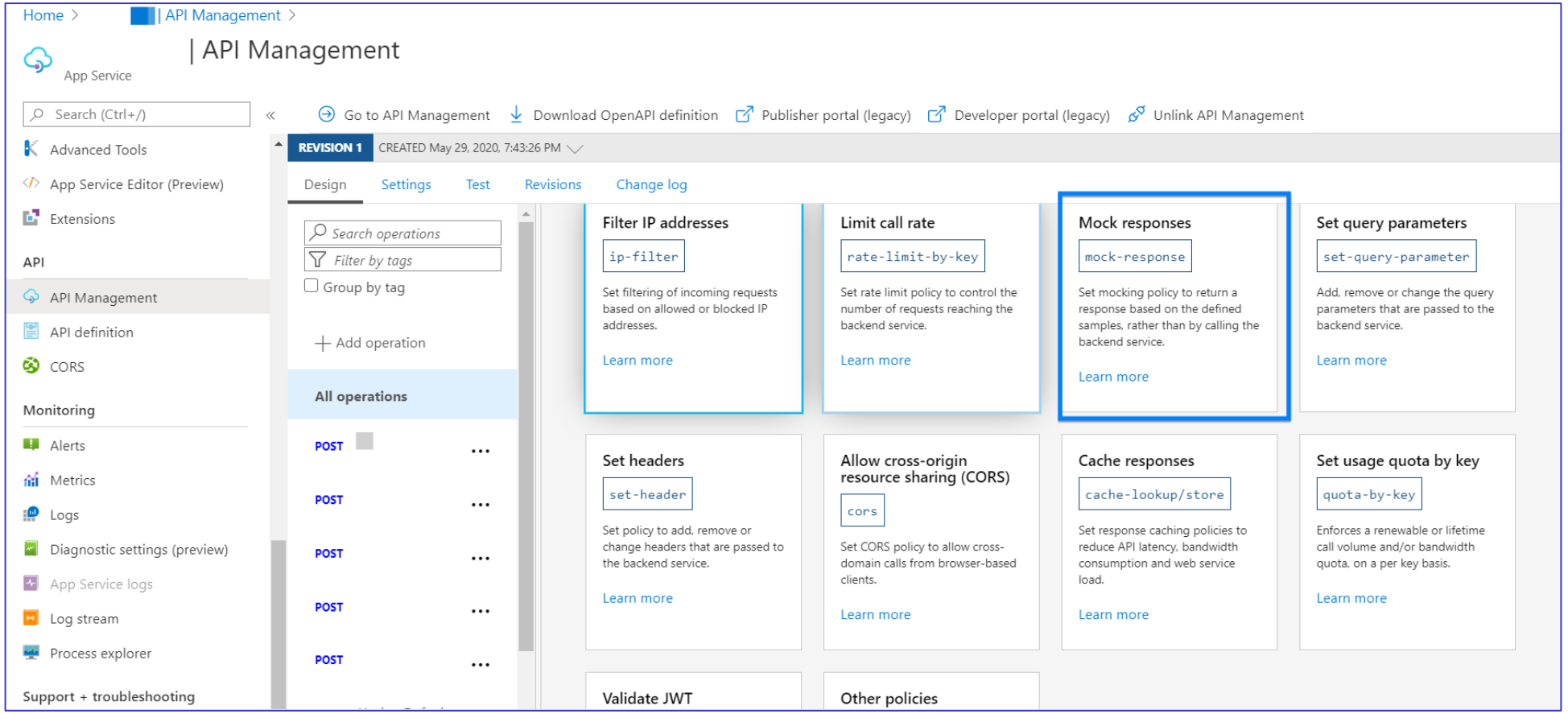

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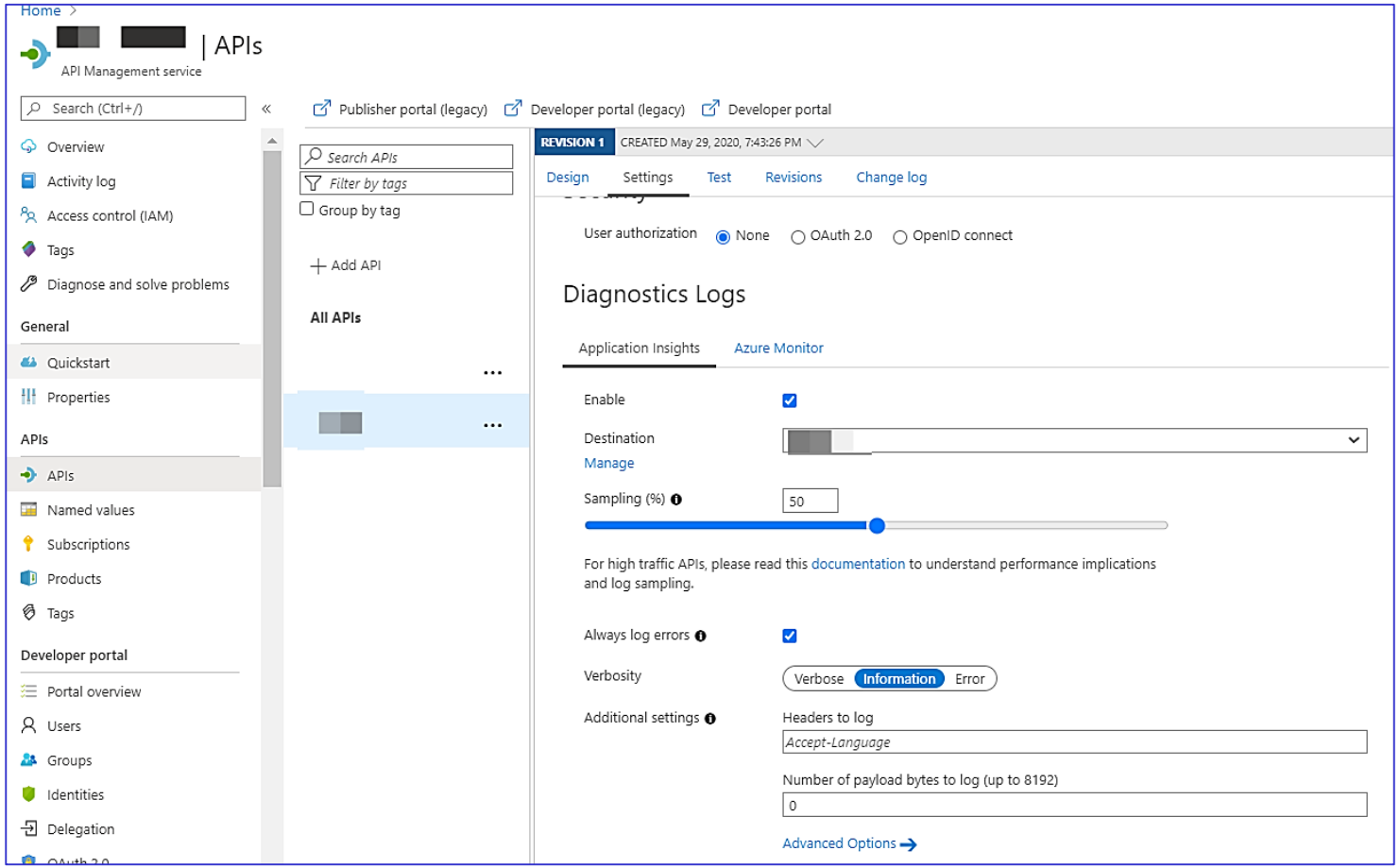

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- API Client
  - The calling application/resource