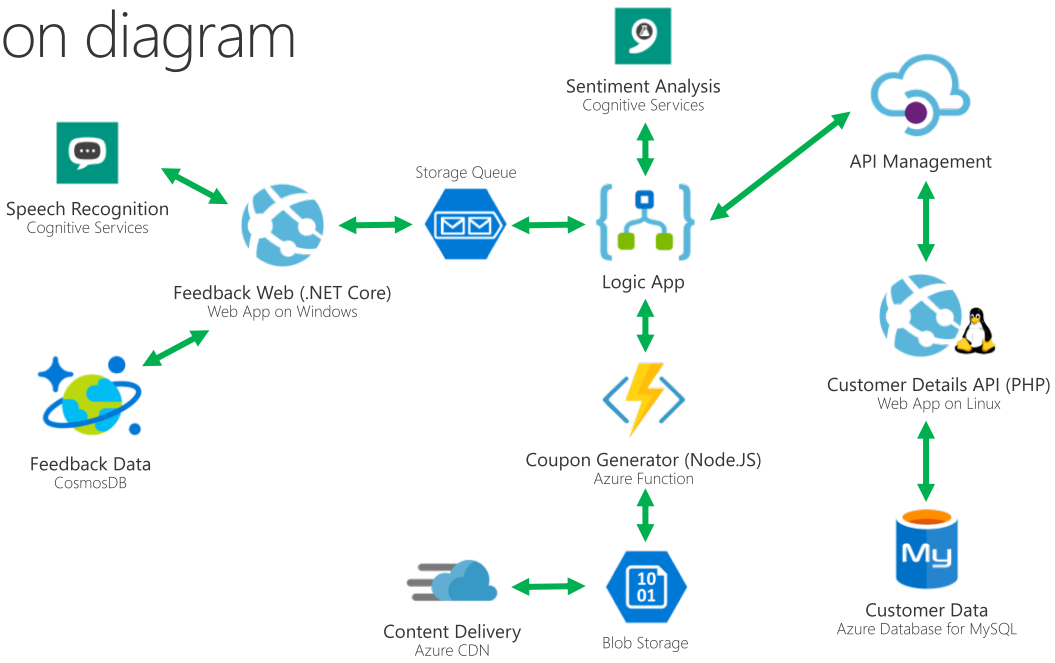
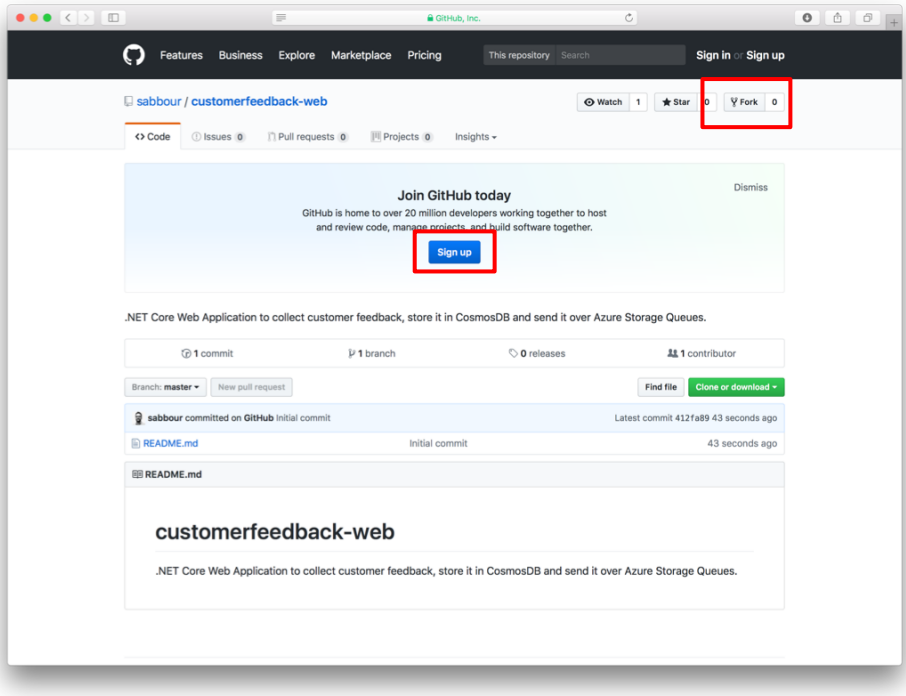
Preparing and deploying the solution

Solution diagram



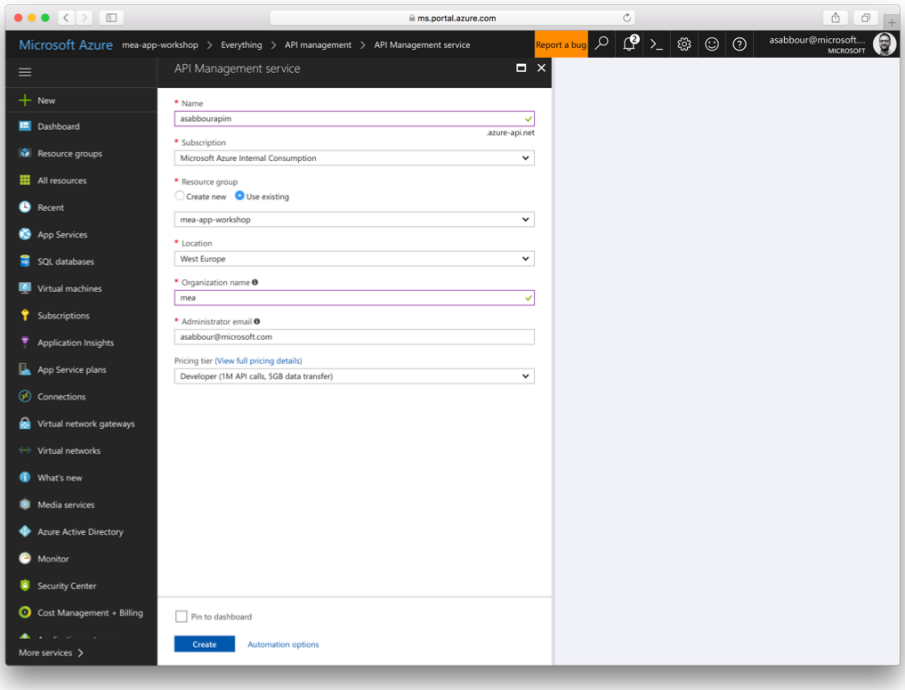
0. Pre-requisites

1. Create Resource Group **`mea-app-workshop`**. You will deploy all resources into that group.
2. Create Github account.
3. Fork the following Github repos to your account:
   - `http://github.com/sabbour/customerfeedback-web`
   - `http://github.com/sabbour/customerfeedback-api`
   - `http://github.com/sabbour/customerfeedback-functions`



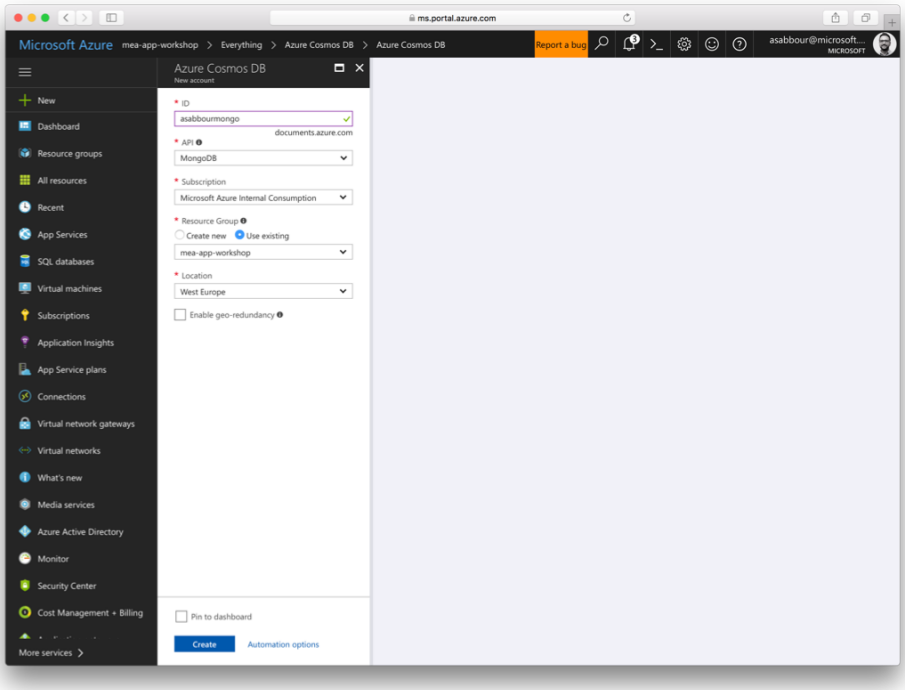
1. Create API Management Gateway

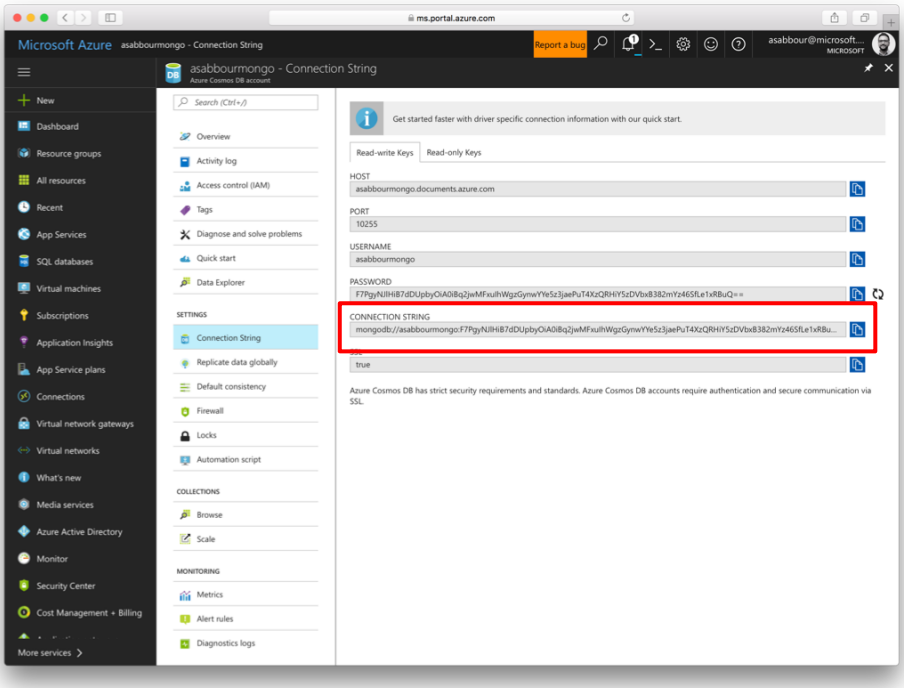
- Give it a unique name, like ***[alias]*apim**
- Choose Developer tier.
- This will take about 30 minutes to provision. Proceed with the next steps.



2. Create CosmosDB

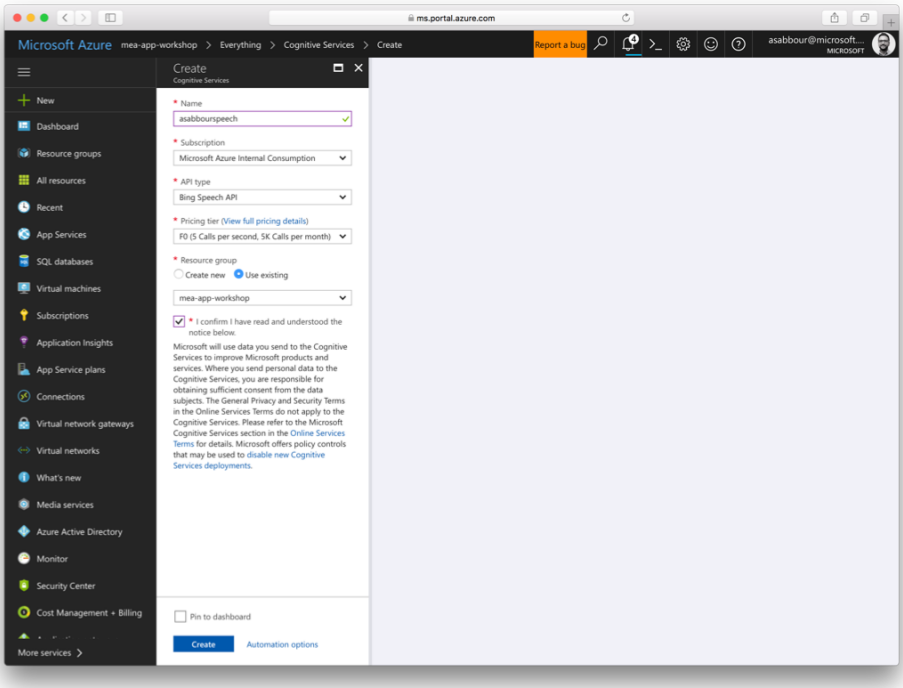
- Give it a unique name, like ***[alias]*mongo**
- Choose the **MongoDB API**
- This will take about 5 minutes to provision. Proceed with the next steps.
- When the provisioning is done, go back to get the MongoDB connection string and store it aside. You'll need it later.





3. Create Bing Speech API from Cognitive Services

- Give it a unique name, like ***[alias]*speech**
- Choose the Free tier.
- Get the key and store it aside. You'll need it later.


ms.portal.azure.com
Microsoft Azure
mea-app-workshop > Everything > Cognitive Services > Create
Report a bug
asabbour@microsoft...
MICROSOFT
Create
Cognitive Services
New
Dashboard
Resource groups
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Recent
App Services
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Virtual machines
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Application Insights
App Service plans
Connections
Virtual network gateways
Virtual networks
What's new
Media services
Azure Active Directory
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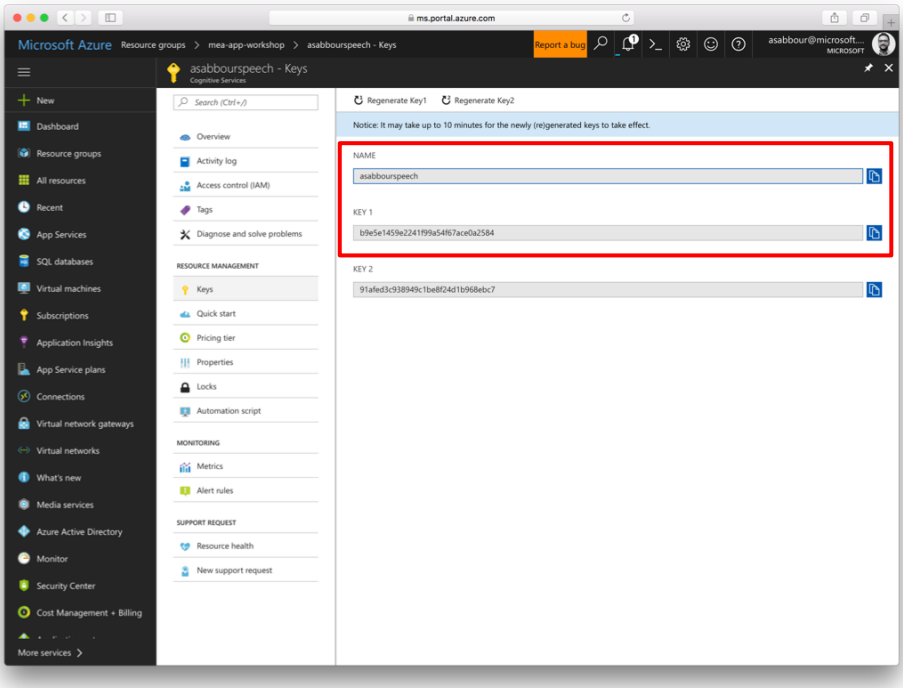
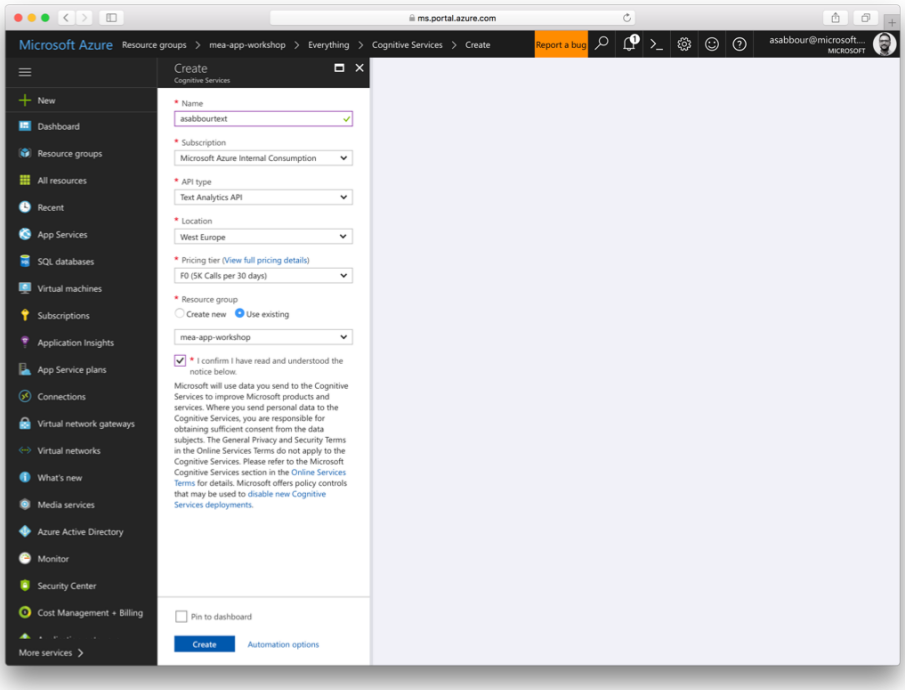
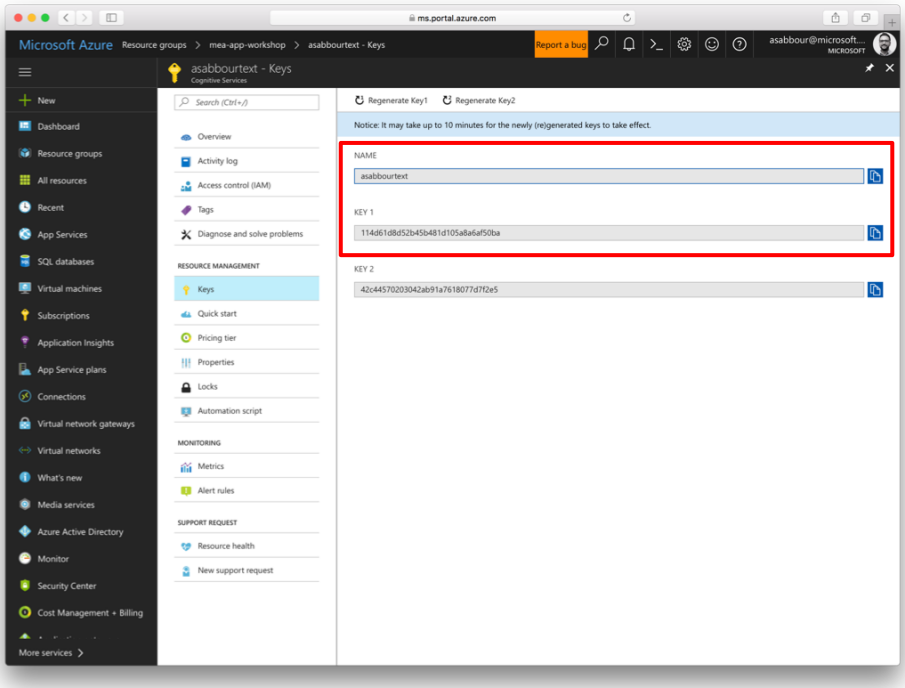
Security Center
Cost Management + Billing
More services
* Name
asabbourspeech
* Subscription
Microsoft Azure Internal Consumption
* API type
Bing Speech API
* Pricing tier (View full pricing details)
F0 (5 Calls per second, 5K Calls per month)
* Resource group
Create new
Use existing
mea-app-workshop
* I confirm I have read and understood the notice below.
Microsoft will use data you send to the Cognitive Services to improve Microsoft products and services. Where you send personal data to the Cognitive Services, you are responsible for obtaining sufficient consent from the data subjects. The General Privacy and Security Terms in the Online Services Terms do not apply to the Cognitive Services. Please refer to the Microsoft Cognitive Services section in the Online Services Terms for details. Microsoft offers policy controls that may be used to disable new Cognitive Services deployments.
Pin to dashboard
Create
Automation options


ms.portal.azure.com
Microsoft Azure
Resource groups > mea-app-workshop > asabbourspeech - Keys
Report a bug
asabbour@microsoft...
MICROSOFT
asabbourspeech - Keys
Cognitive Services
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
RESOURCE MANAGEMENT
Keys
Quick start
Pricing tier
Properties
Locks
Automation script
MONITORING
Metrics
Alert rules
SUPPORT REQUEST
Resource health
New support request
Regenerate Key1
Regenerate Key2
Notice: It may take up to 10 minutes for the newly (re)generated keys to take effect.
NAME
asabbourspeech
KEY 1
b9e5e1459e2241f99a54f67ace0a2584
KEY 2
91afed3c938949c1be8f24d1b968ebc7

4. Create Text Analytics API from Cognitive Services

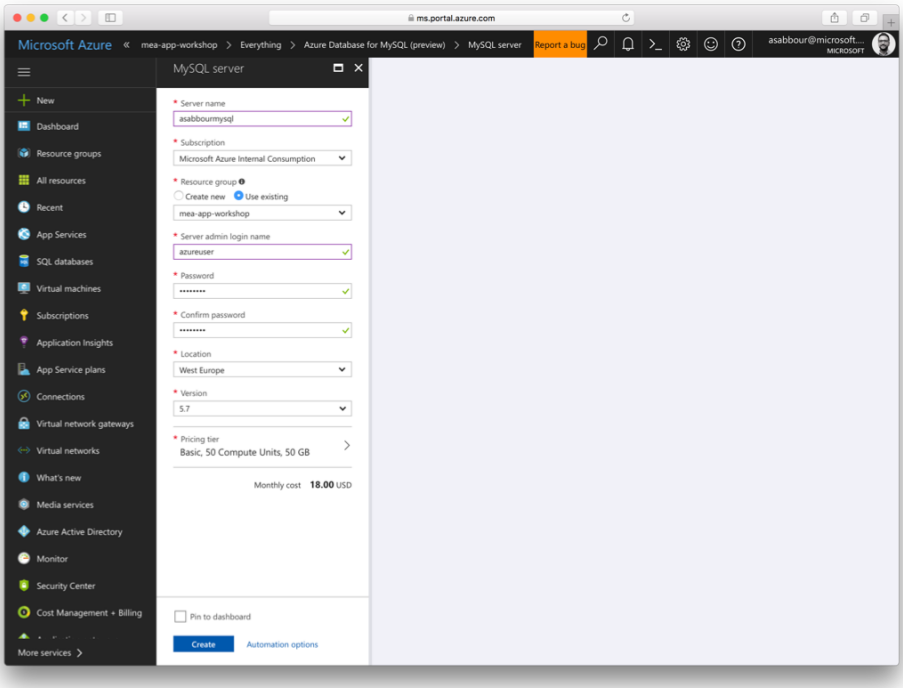
- Give it a unique name, like ***`[alias]`*`text`**
- Choose the Free tier.
- Get the key and store it aside. You'll need it later.





5. Create Azure Database for MySQL

- Give it a unique name, like ***[alias]*mysql**
- Provide **azureuser** as the admin login name.
- Provide a password and write it down, as you'll need it later.
- Switch to the Basic tier and create.
- Once provisioned, make note of your server name and full admin username.
- Disable **Enforce SSL Connection** and create a firewall rule starting with 0.0.0.0 to 255.255.255.255


ms.portal.azure.com
Microsoft Azure
mea-app-workshop
Everything
Azure Database for MySQL (preview)
MySQL server
Report a bug
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MICROSOFT
MySQL server
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Virtual network gateways
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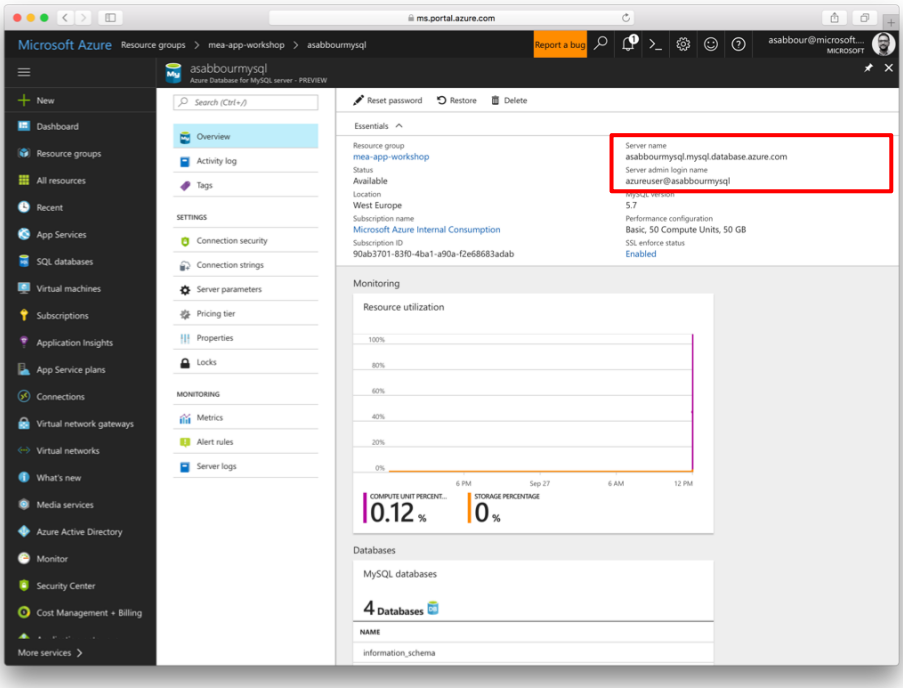
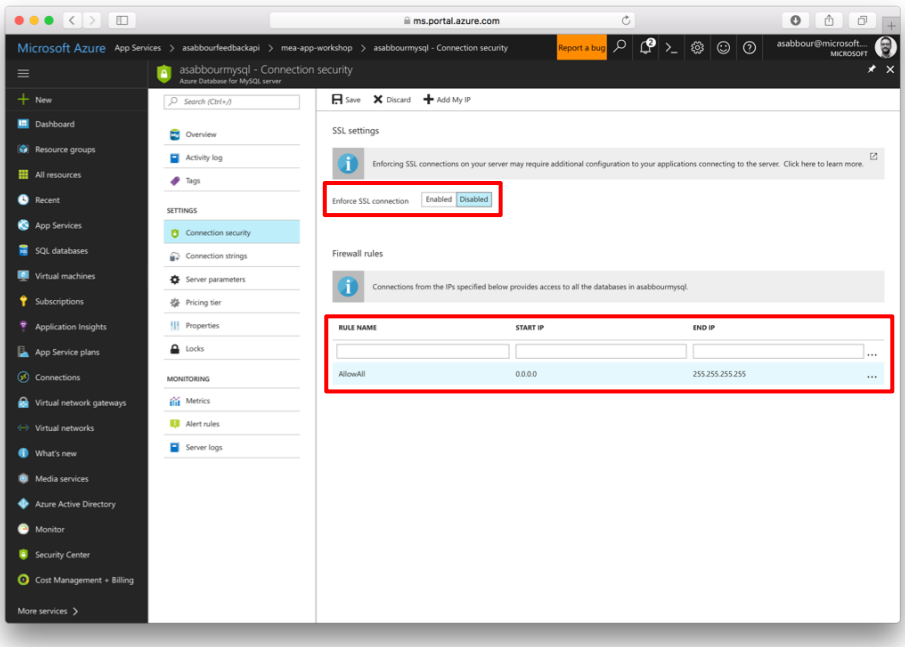
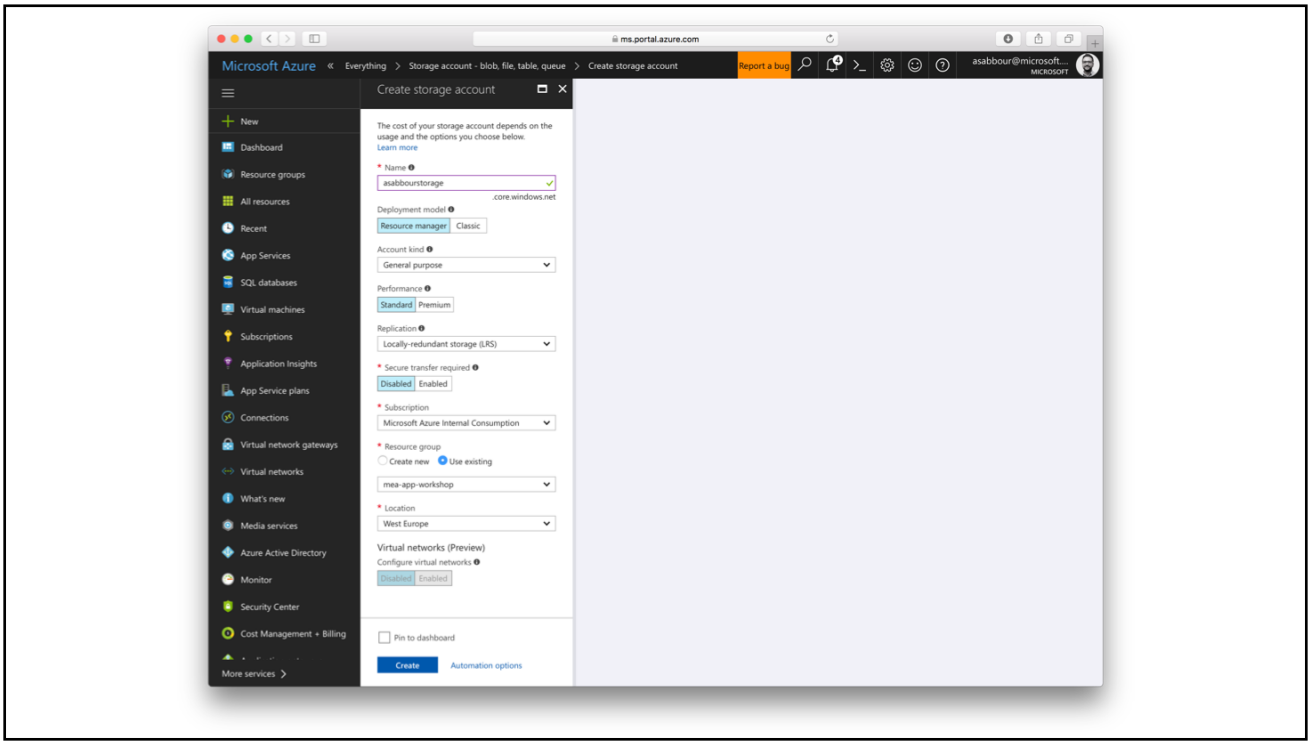
Security Center
Cost Management + Billing
More services
* Server name
asabbourmysql
* Subscription
Microsoft Azure Internal Consumption
* Resource group
Create new
Use existing
mea-app-workshop
* Server admin login name
azureuser
* Password
* Confirm password
* Location
West Europe
* Version
5.7
* Pricing tier
Basic, 50 Compute Units, 50 GB
Monthly cost 18.00 USD
Pin to dashboard
Create
Automation options


ms.portal.azure.com
Microsoft Azure
Resource groups
mea-app-workshop
asabbourmysql
Report a bug
asabbourmysql
Azure Database for MySQL server - PREVIEW
Reset password
Restore
Delete
Essentials
Overview
Activity log
Tags
SETTINGS
Connection security
Connection strings
Server parameters
Pricing tier
Properties
Locks
MONITORING
Metrics
Alert rules
Server logs
Resource group
mea-app-workshop
Status
Available
Location
West Europe
Subscription name
Microsoft Azure Internal Consumption
Subscription ID
90ab3701-83f0-4ba1-a90a-f2e68683adab
Server name
asabbourmysql.mysql.database.azure.com
Server admin login name
azureuser@asabbourmysql
MySQL version
5.7
Performance configuration
Basic, 50 Compute Units, 50 GB
SSL enforce status
Enabled
Monitoring
Resource utilization
100%
80%
60%
40%
20%
0%
6 PM
Sep 27
6 AM
12 PM
COMPUTE UNIT PERCENT...
0.12 %
STORAGE PERCENTAGE
0 %
Databases
MySQL databases
4 Databases
NAME
information_schema



6. Create Storage Account

- Give it a unique name, like `[alias]storage`
- Pick **General Purpose** as the account kind.
- Create it in the same resource group and region.
- Once provisioned, make note of your storage account name and key.
- Optionally, activate Azure CDN for the storage account with `[alias]feedbackcdn` as the CDN endpoint name and **Standard Akamai** as the tier.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Microsoft Azure
Everything
Storage account - blob, file, table, queue
Create storage account
Report a bug
asabbour@microsoft...
MICROSOFT
Create storage account
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What's new
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Azure Active Directory
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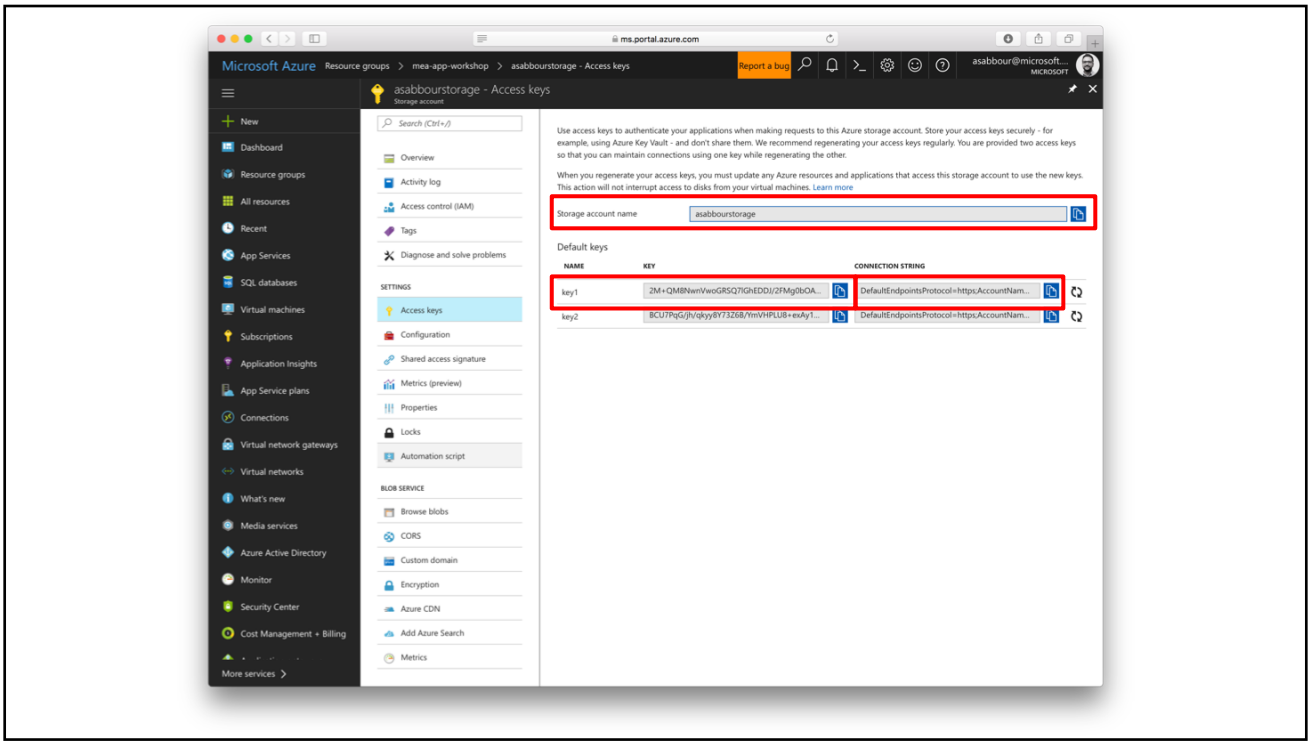
Security Center
Cost Management + Billing
More services
The cost of your storage account depends on the usage and the options you choose below.
Learn more
* Name
asabbourstorage
.core.windows.net
Deployment model
Resource manager
Classic
Account kind
General purpose
Performance
Standard
Premium
Replication
Locally-redundant storage (LRS)
* Secure transfer required
Disabled
Enabled
* Subscription
Microsoft Azure Internal Consumption
* Resource group
Create new
Use existing
mea-app-workshop
* Location
West Europe
Virtual networks (Preview)
Configure virtual networks
Disabled
Enabled
Pin to dashboard
Create
Automation options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Microsoft Azure
Resource groups
mea-app-workshop
asabbourstorage - Access keys
Report a bug
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MICROSOFT
asabbourstorage - Access keys
Storage account
Search (Ctrl+/)
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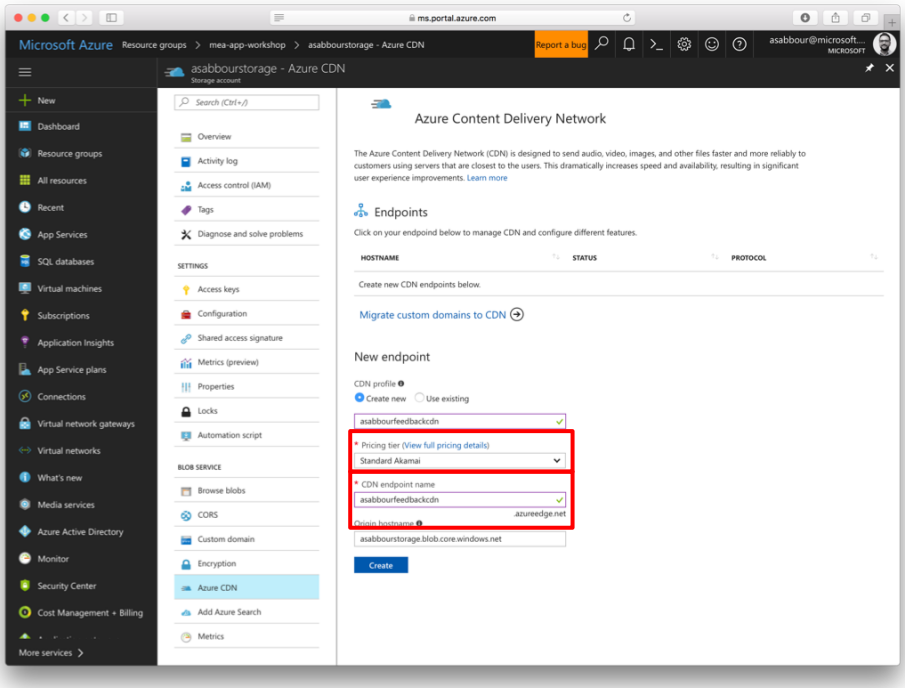
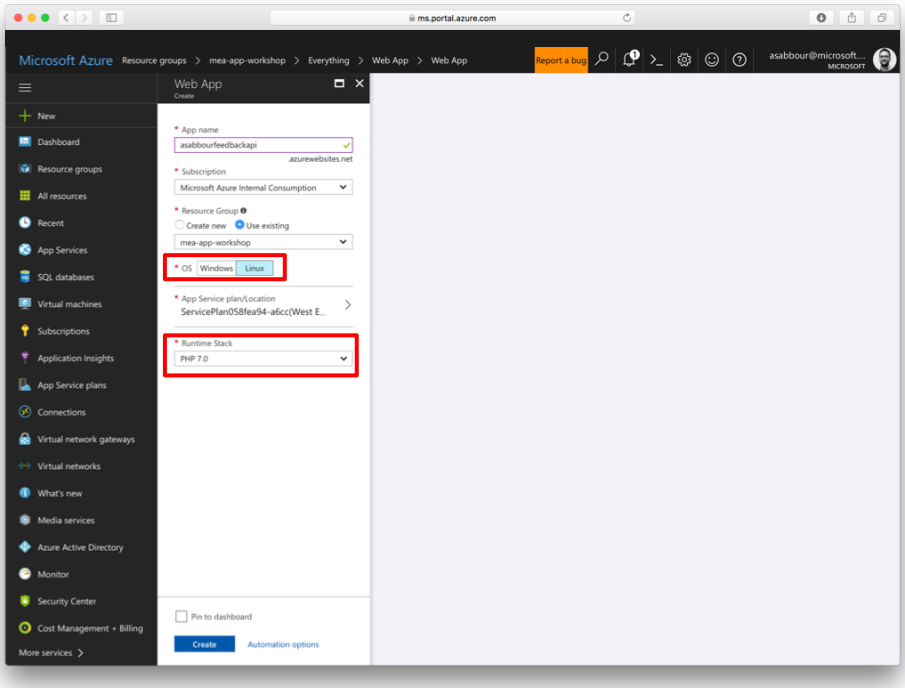
Automation script
BLOB SERVICE
Browse blobs
CORS
Custom domain
Encryption
Azure CDN
Add Azure Search
Metrics
Use access keys to authenticate your applications when making requests to this Azure storage account. Store your access keys securely - for example, using Azure Key Vault - and don't share them. We recommend regenerating your access keys regularly. You are provided two access keys so that you can maintain connections using one key while regenerating the other.
When you regenerate your access keys, you must update any Azure resources and applications that access this storage account to use the new keys. This action will not interrupt access to disks from your virtual machines. Learn more
Storage account name
asabbourstorage
Default keys
NAME
KEY
CONNECTION STRING
key1
2M+QM8NwnVwoGRSQ7IGhEDDJ/2FMg0bOA...
DefaultEndpointsProtocol=https;AccountNam...
key2
BCU7PqG/jh/qkyy8Y73Z68/YmVHPLU8+exAy1...
DefaultEndpointsProtocol=https;AccountNam...



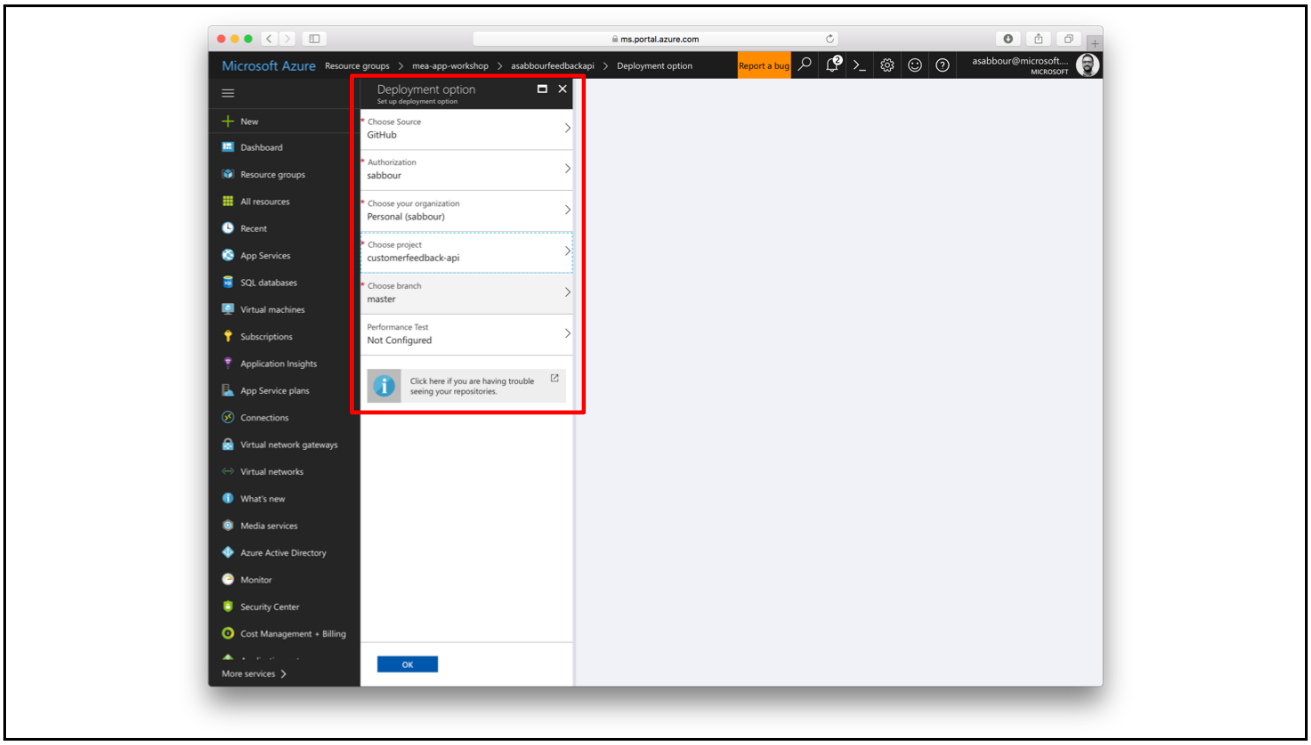
7.1 Create Web App for Feedback API running PHP on Linux

- Give it a unique name, like ***[alias]*feedbackapi**
- Choose **Linux** as the OS.
- Choose **PHP 7.0** as the Runtime Stack.



7.2 Configure Feedback API

- Setup deployment from your **`customerfeedback-api`** Github fork.
- Create App Settings with the below values:
  - `MYSQL_SERVER: [alias]mysql.mysql.database.azure.com`
  - `MYSQL_USER: azureuser@[alias]mysql`
  - `MYSQL_PASSWORD: the password you specified earlier`
- Go to http://[alias]feedbackapi.azurewebsites.net/init you should see some customers already if things are configured properly.
- Add your name and email


ms.portal.azure.com
Microsoft Azure
Resource groups > mea-app-workshop > asabbourfeedbackapi > Deployment option
Report a bug
asabbour@microsoft...
MICROSOFT
Deployment option
Set up deployment option
Choose Source
GitHub
Authorization
sabbour
Choose your organization
Personal (sabbour)
Choose project
customerfeedback-api
Choose branch
master
Performance Test
Not Configured
Click here if you are having trouble seeing your repositories.
OK
New
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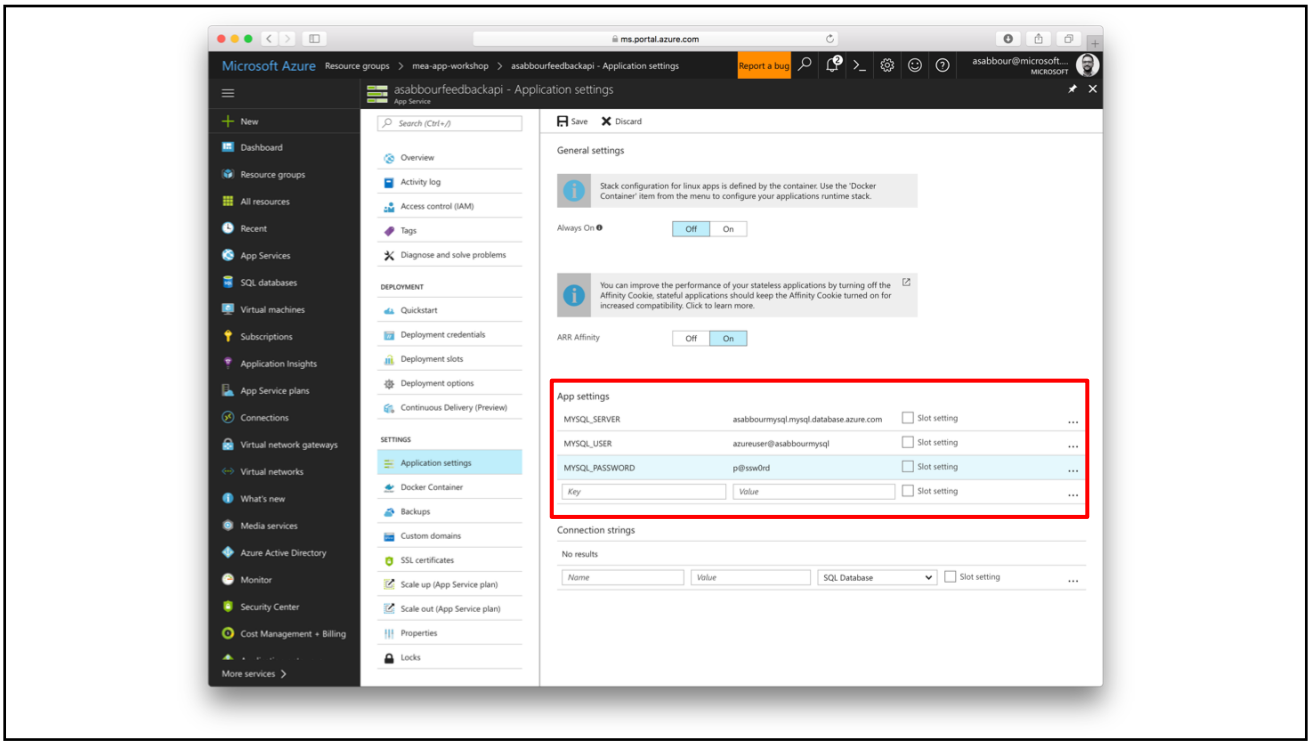
ms.portal.azure.com
Microsoft Azure
Resource groups > mea-app-workshop > asabbourfeedbackapi - Application settings
Report a bug
asabbour@microsoft...
MICROSOFT
asabbourfeedbackapi - Application settings
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Custom domains
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Scale up (App Service plan)
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Properties
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Discard
General settings
Stack configuration for linux apps is defined by the container. Use the 'Docker Container' item from the menu to configure your applications runtime stack.
Always On
Off
On
You can improve the performance of your stateless applications by turning off the Affinity Cookie, stateful applications should keep the Affinity Cookie turned on for increased compatibility. Click to learn more.
ARR Affinity
Off
On
App settings
MYSQL_SERVER
asabbourmysql.mysql.database.azure.com
Slot setting
MYSQL_USER
azureuser@asabbourmysql
Slot setting
MYSQL_PASSWORD
p@ssw0rd
Slot setting
Key
Value
Slot setting
Connection strings
No results
Name
Value
SQL Database
Slot setting
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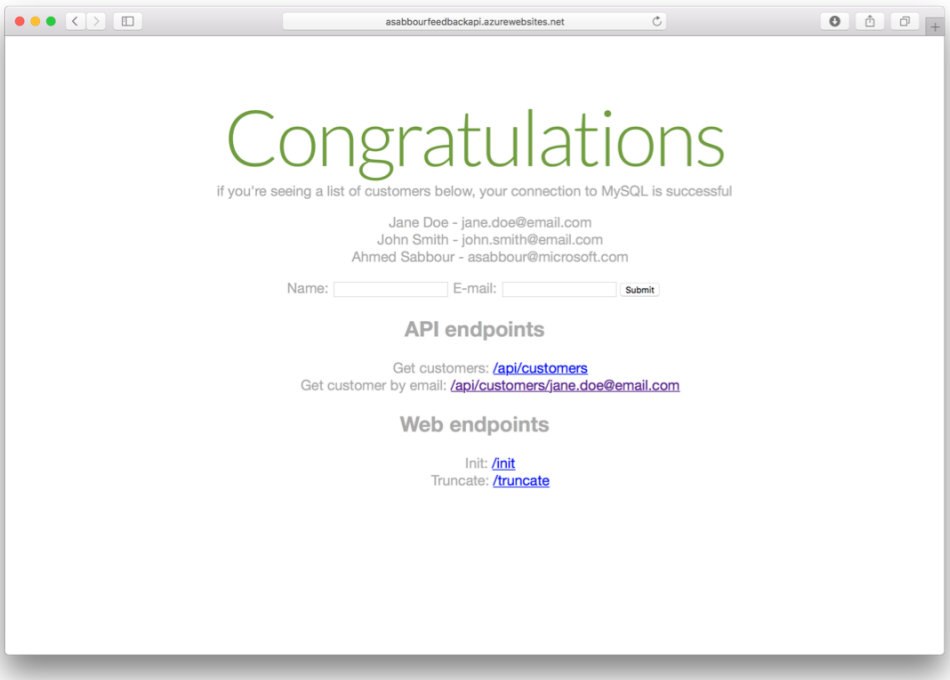
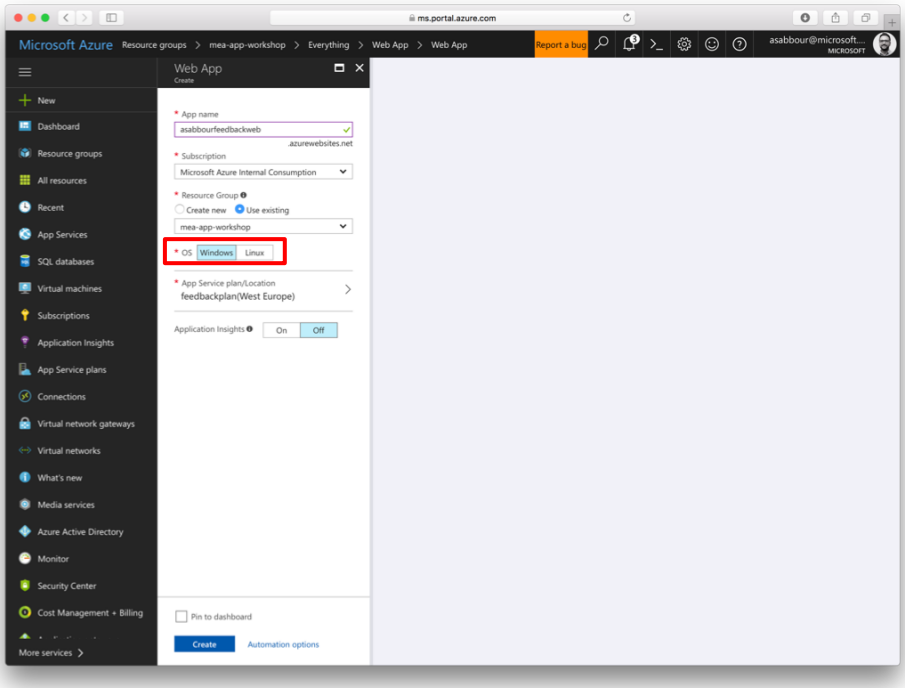


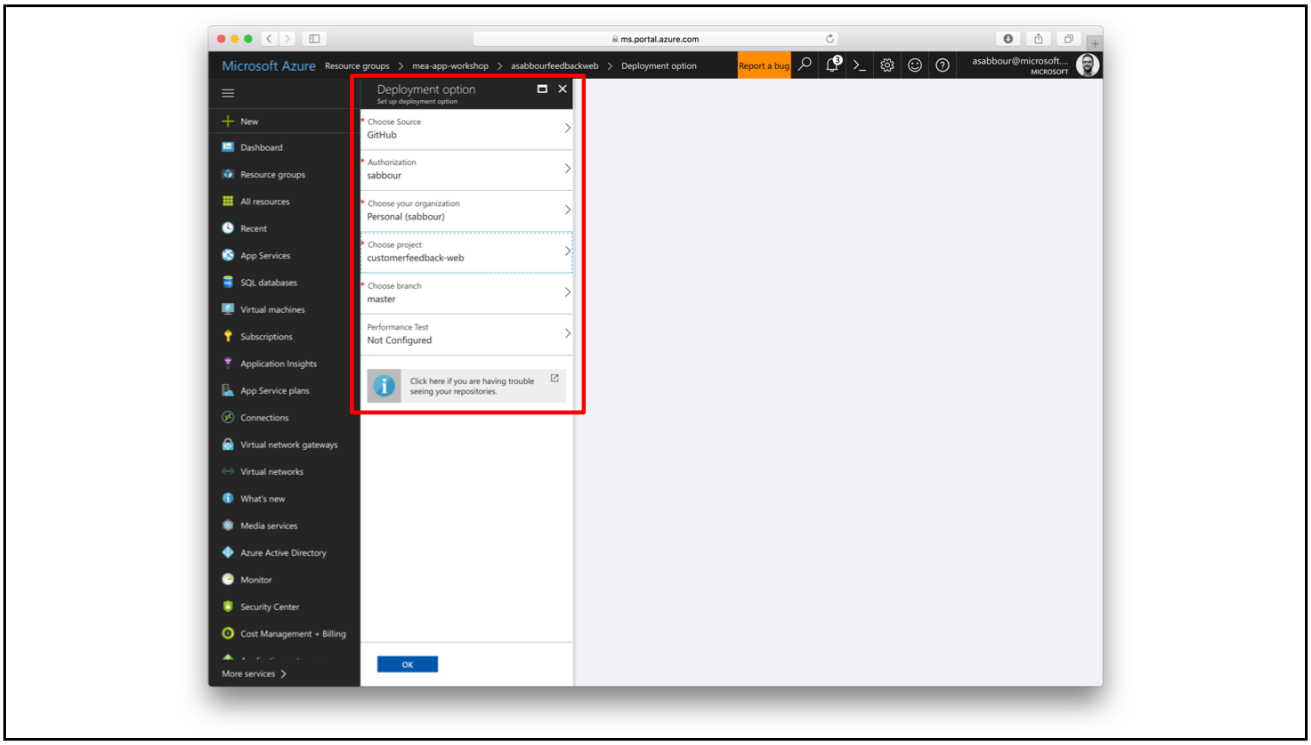
8.1 Create Web App for new Feedback website running .NET on Windows

- Give it a unique name, like `[alias]feedbackweb`
- Choose **Windows** as the OS.



8.2 Configure the new .NET Feedback website

- Setup deployment from your **`customerfeedback-web`** Github fork.
- Create App Settings with the below values:
  - `MONGO_URL`: `mongodb connection string specified earlier`
  - `SPEECH_KEY: speech API key specified earlier`
  - `STORAGEACCOUNT_NAME: storage account name`
  - `STORAGEACCOUNT_KEY: storage account key`
- Go to http://[alias]feedbackweb.azurewebsites.net you should see a form to collect feedback


ms.portal.azure.com
Microsoft Azure
Resource groups > mea-app-workshop > asabbourfeedbackweb > Deployment option
Report a bug
asabbour@microsoft...
MICROSOFT
Deployment option
Set up deployment option
Choose Source
GitHub
Authorization
sabbour
Choose your organization
Personal (sabbour)
Choose project
customerfeedback-web
Choose branch
master
Performance Test
Not Configured
Click here if you are having trouble seeing your repositories.
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New
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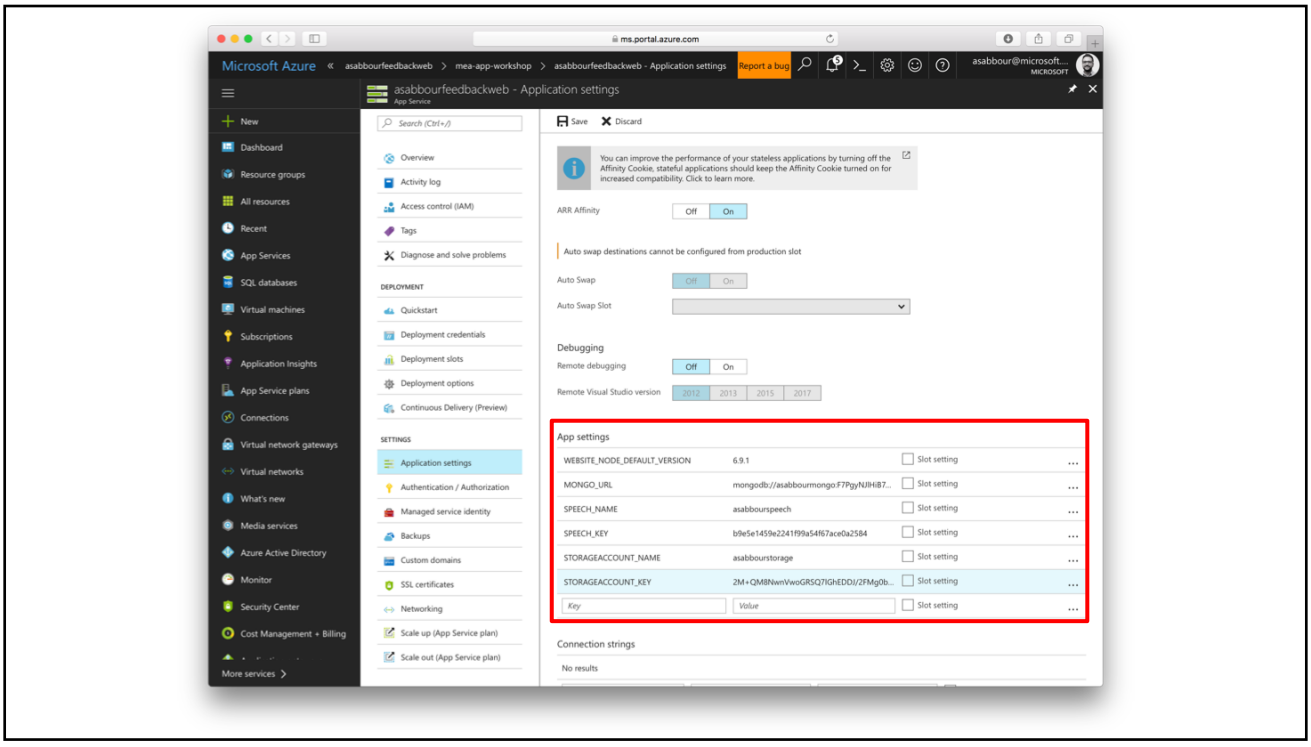
ms.portal.azure.com
Microsoft Azure
asabbourfeedbackweb > mea-app-workshop > asabbourfeedbackweb - Application settings
Report a bug
asabbour@microsoft...
MICROSOFT
asabbourfeedbackweb - Application settings
App Service
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Managed service identity
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SSL certificates
Networking
Scale up (App Service plan)
Scale out (App Service plan)
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ARR Affinity
Off
On
Auto swap destinations cannot be configured from production slot
Auto Swap
Auto Swap Slot
Debugging
Remote debugging
Remote Visual Studio version
2012
2013
2015
2017
App settings
WEBSITE_NODE_DEFAULT_VERSION
6.9.1
MONGO_URL
mongodb://asabbourmongo:F7PgyNJIHiB7...
SPEECH_NAME
asabbourspeech
SPEECH_KEY
b9e5e1459e2241f99a54f67ace0a2584
STORAGEACCOUNT_NAME
asabbourstorage
STORAGEACCOUNT_KEY
2M+QM8NwnVwoGRSQ7IGhEDDJ/2FMg0b...
Slot setting
Key
Value
Connection strings
No results
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Dashboard
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Subscriptions
Application Insights
App Service plans
Connections
Virtual network gateways
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Cost Management + Billing
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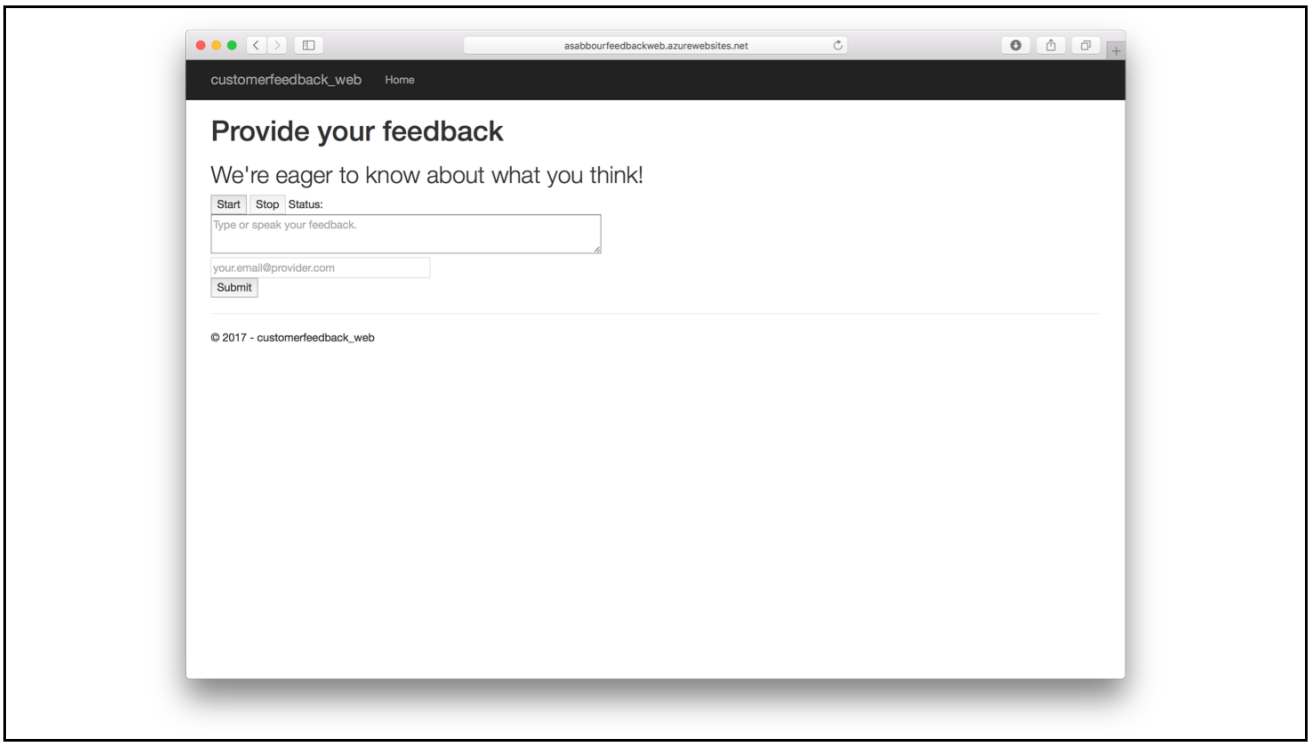
asabbourfeedbackweb.azurewebsites.net
customerfeedback_web
Home
Provide your feedback
We're eager to know about what you think!
Start
Stop
Status:
Type or speak your feedback.
your.email@provider.com
Submit
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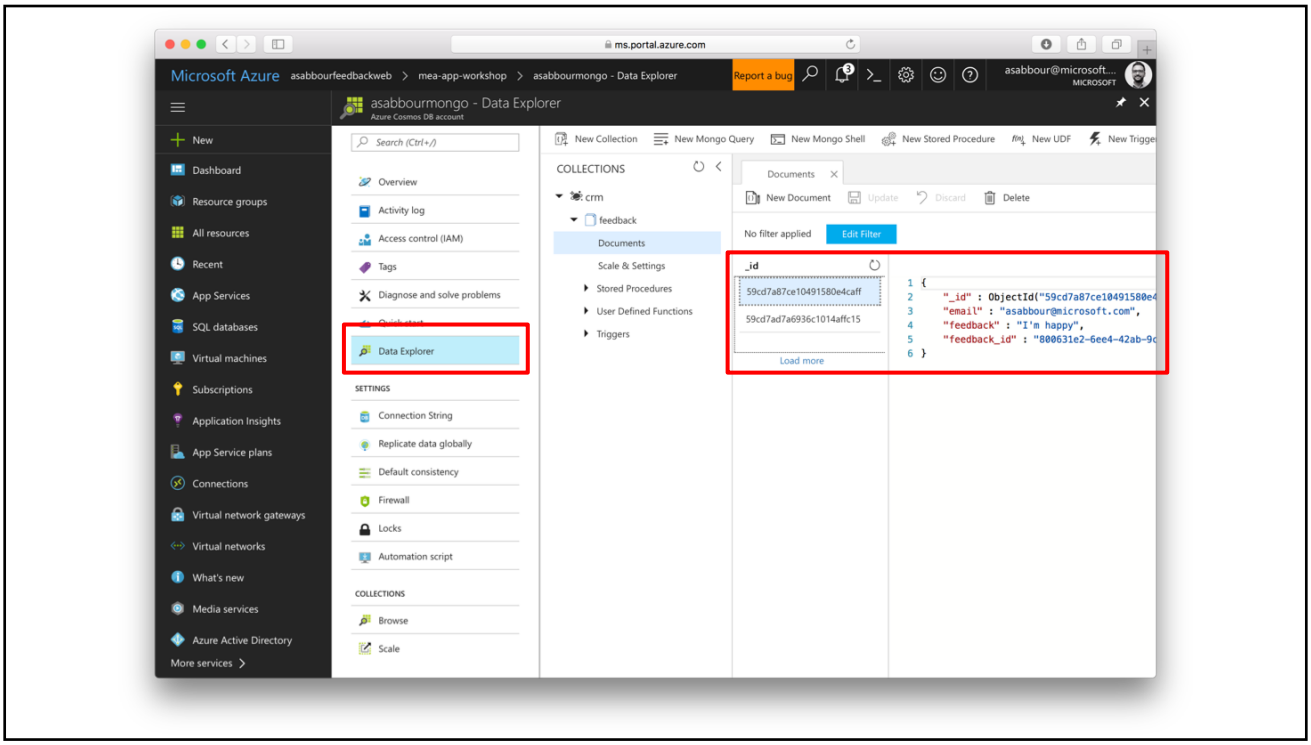
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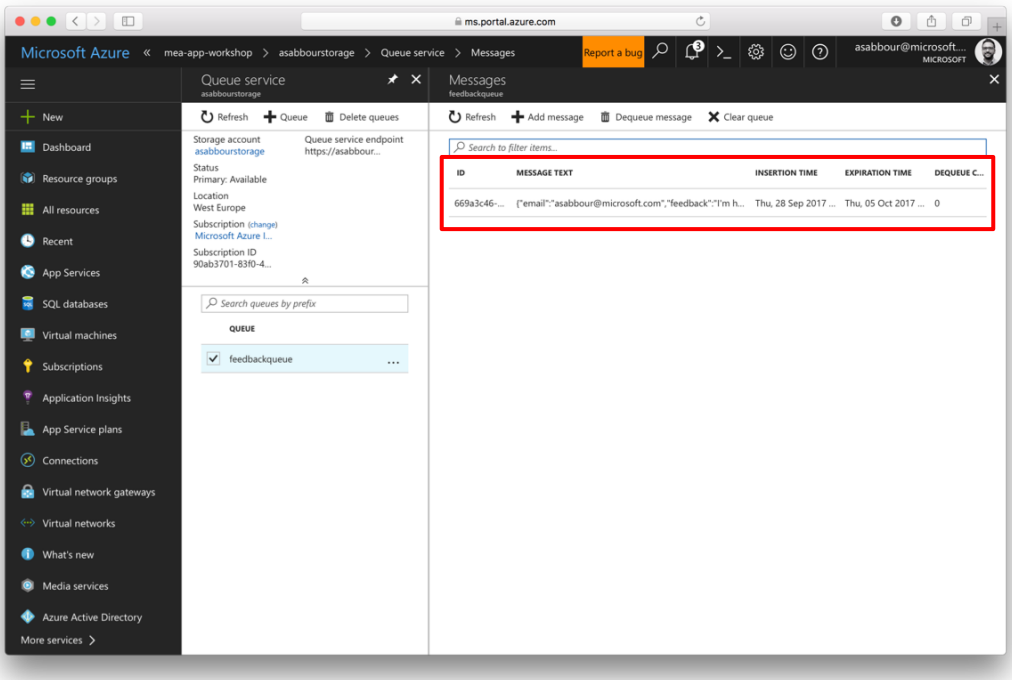
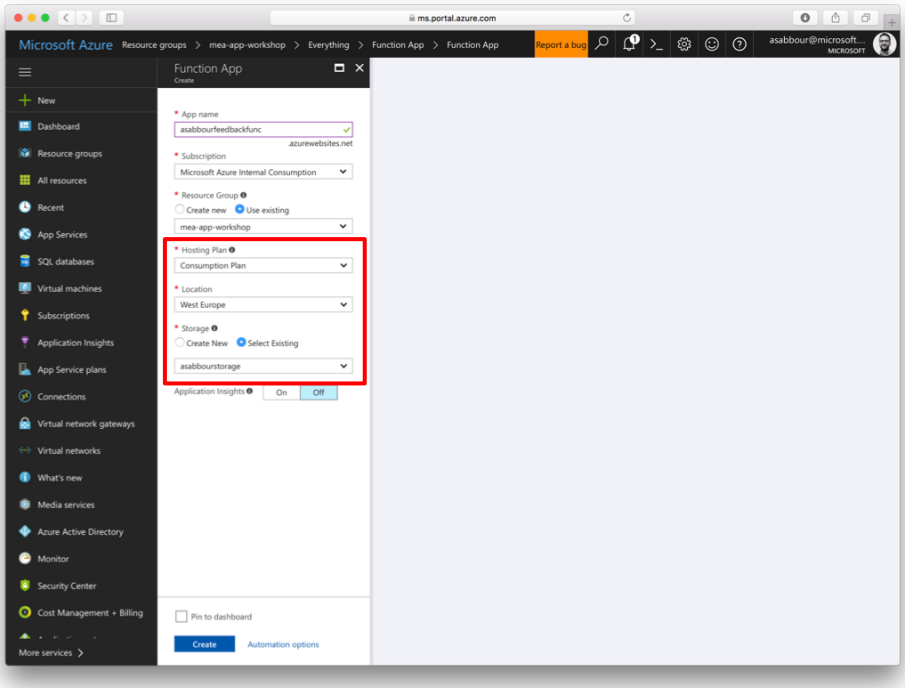
Microsoft Azure
asabbourfeedbackweb
mea-app-workshop
asabbourmongo - Data Explorer
Report a bug
asabbour@microsoft....
MICROSOFT
asabbourmongo - Data Explorer
Azure Cosmos DB account
New
Dashboard
Resource groups
All resources
Recent
App Services
SQL databases
Virtual machines
Subscriptions
Application Insights
App Service plans
Connections
Virtual network gateways
Virtual networks
What's new
Media services
Azure Active Directory
More services
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Data Explorer
SETTINGS
Connection String
Replicate data globally
Default consistency
Firewall
Locks
Automation script
COLLECTIONS
Browse
Scale
New Collection
New Mongo Query
New Mongo Shell
New Stored Procedure
New UDF
COLLECTIONS
crm
feedback
Documents
Scale & Settings
Stored Procedures
User Defined Functions
Triggers
Documents
New Document
Update
Discard
Delete
No filter applied
Edit Filter
_id
59cd7a87ce10491580e4caff
59cd7ad7a6936c1014affc15
Load more
1 {
2 "_id" : ObjectId("59cd7a87ce10491580e4
3 "email" : "asabbour@microsoft.com",
4 "feedback" : "I'm happy",
5 "feedback_id" : "800631e2-6ee4-42ab-9c
6 }



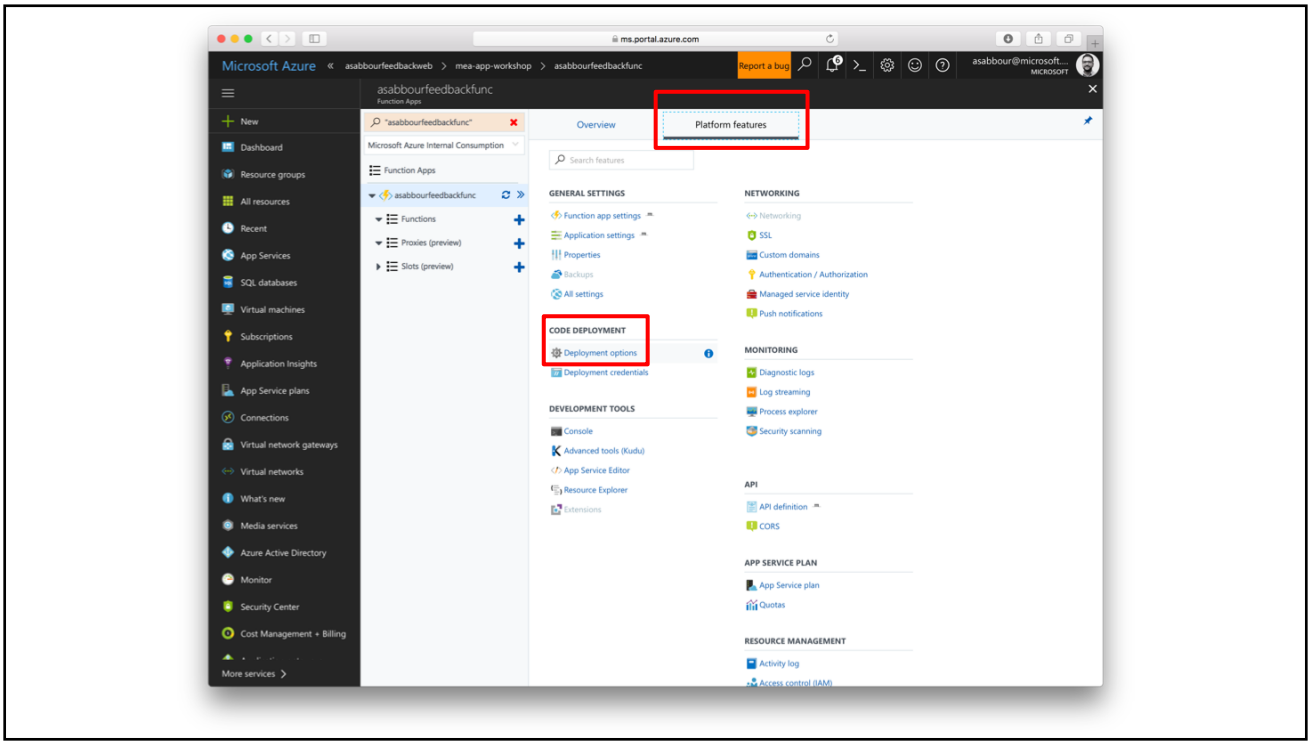
9.1 Create Function App to generate coupons

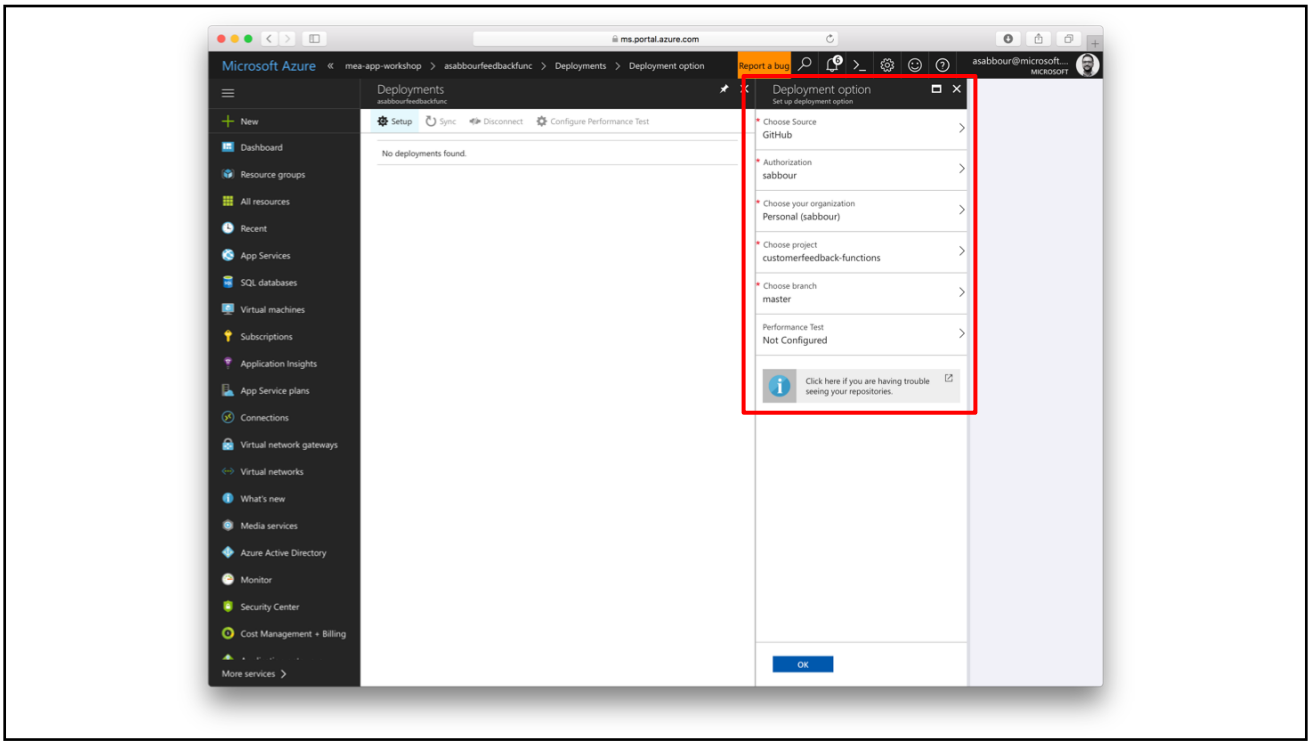
- Use **Consumption Plan** as the hosting plan.
- Choose the same resource group and region.
- Choose the same storage account.

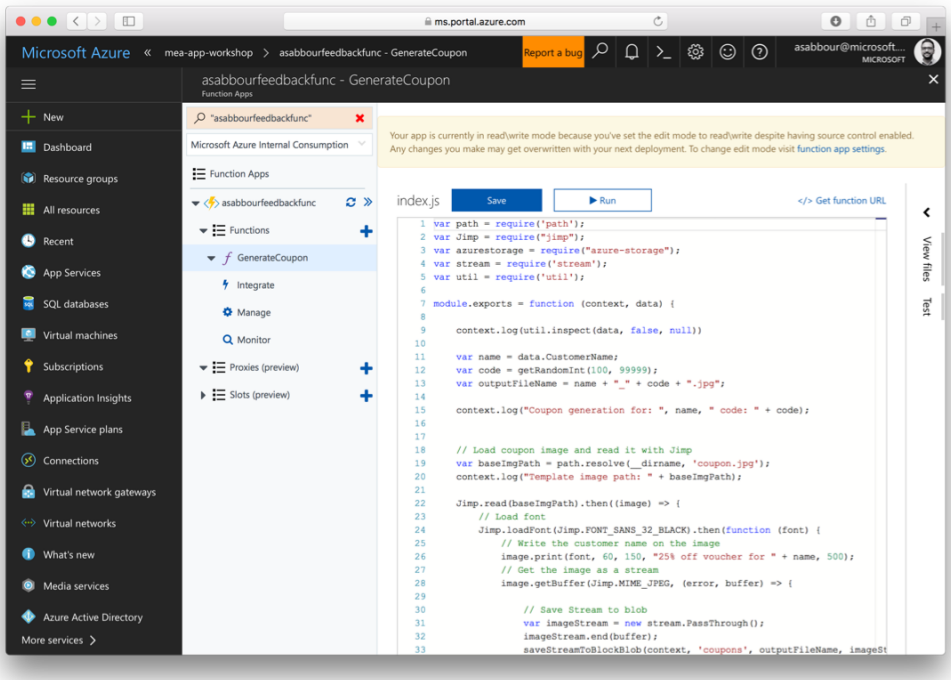


9.2 Configure the Function App

- Setup deployment from your **`customerfeedback-functions`** Github fork.
- Create App Settings with the below values:
  - **`BlobStorageConnection: blob storage connection string in the form of`** `DefaultEndpointsProtocol=https;AccountName=[account name];AccountKey=[account key]`


ms.portal.azure.com
Microsoft Azure
asabbourfeedbackweb > mea-app-workshop > asabbourfeedbackfunc
Report a bug
asabbourfeedbackfunc
Function Apps
Overview
Platform features
GENERAL SETTINGS
Function app settings
Application settings
Properties
Backups
All settings
CODE DEPLOYMENT
Deployment options
Deployment credentials
DEVELOPMENT TOOLS
Console
Advanced tools (Kudu)
App Service Editor
Resource Explorer
Extensions
NETWORKING
Networking
SSL
Custom domains
Authentication / Authorization
Managed service identity
Push notifications
MONITORING
Diagnostic logs
Log streaming
Process explorer
Security scanning
API
API definition
CORS
APP SERVICE PLAN
App Service plan
Quotas
RESOURCE MANAGEMENT
Activity log
Access control (IAM)


ms.portal.azure.com
Microsoft Azure
mea-app-workshop > asabbourfeedbackfunc > Deployments > Deployment option
Report a bug
Deployments
No deployments found.
Deployment option
Set up deployment option
Choose Source
GitHub
Authorization
sabbour
Choose your organization
Personal (sabbour)
Choose project
customerfeedback-functions
Choose branch
master
Performance Test
Not Configured
Click here if you are having trouble seeing your repositories.
OK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Microsoft Azure
mea-app-workshop
asabbourfeedbackfunc - GenerateCoupon
Report a bug
asabbour@microsoft....
MICROSOFT
asabbourfeedbackfunc - GenerateCoupon
Function Apps
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App Services
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Virtual machines
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Application Insights
App Service plans
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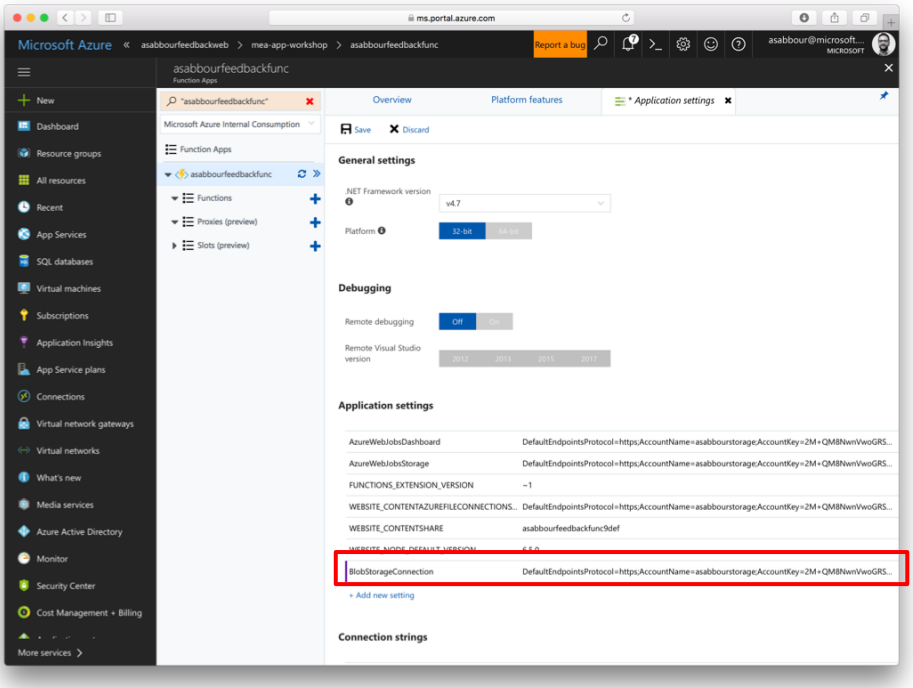
Virtual network gateways
Virtual networks
What's new
Media services
Azure Active Directory
More services
"asabbourfeedbackfunc"
Microsoft Azure Internal Consumption
Function Apps
asabbourfeedbackfunc
Functions
GenerateCoupon
Integrate
Manage
Monitor
Proxies (preview)
Slots (preview)
Your app is currently in read\write mode because you've set the edit mode to read\write despite having source control enabled. Any changes you make may get overwritten with your next deployment. To change edit mode visit function app settings.
index.js
Save
Run
</> Get function URL
View files
Test
var path = require('path');
var Jimp = require("jimp");
var azurestorage = require("azure-storage");
var stream = require('stream');
var util = require('util');
module.exports = function (context, data) {
context.log(util.inspect(data, false, null))
var name = data.CustomerName;
var code = getRandomInt(100, 99999);
var outputFileName = name + "_" + code + ".jpg";
context.log("Coupon generation for: ", name, " code: " + code);
// Load coupon image and read it with Jimp
var baseImgPath = path.resolve(__dirname, 'coupon.jpg');
context.log("Template image path: " + baseImgPath);
Jimp.read(baseImgPath).then((image) => {
// Load font
Jimp.loadFont(Jimp.FONT_SANS_32_BLACK).then(function (font) {
// Write the customer name on the image
image.print(font, 60, 150, "25% off voucher for " + name, 500);
// Get the image as a stream
image.getBuffer(Jimp.MIME_JPEG, (error, buffer) => {
// Save Stream to blob
var imageStream = new stream.PassThrough();
imageStream.end(buffer);
saveStreamToBlockBlob(context, 'coupons', outputFileName, imageSt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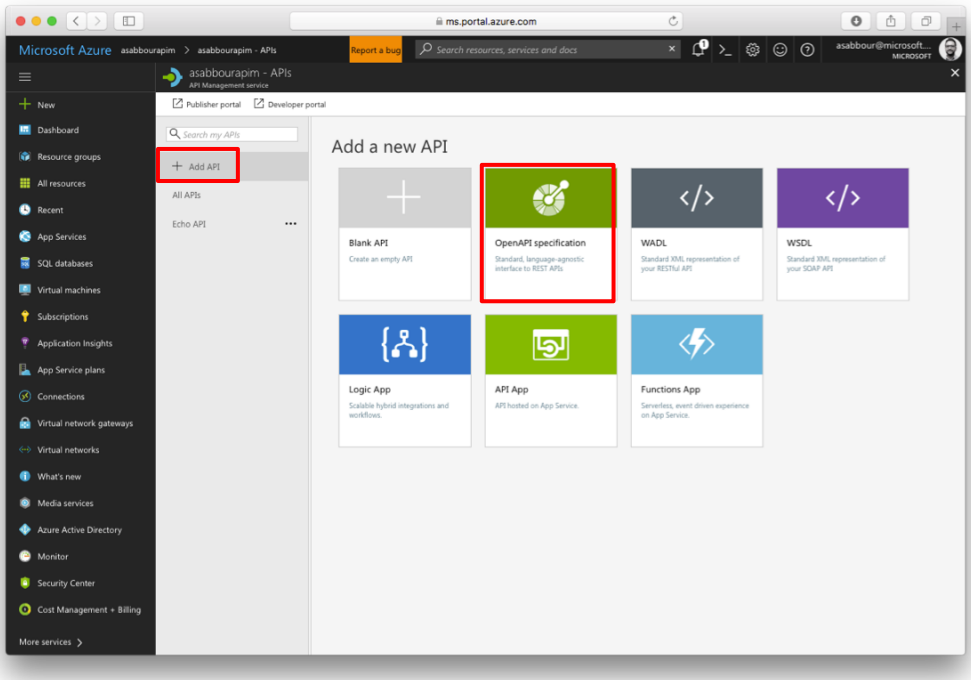
mea-app-workshop
asabbourfeedbackfunc
Report a bug
asabbour@microsoft...
MICROSOFT
asabbourfeedbackfunc
Function Apps
Overview
Platform features
* Application settings
Save
Discard
General settings
.NET Framework version
v4.7
Platform
32-bit
64-bit
Debugging
Remote debugging
Off
On
Remote Visual Studio version
2012
2013
2015
2017
Application settings
AzureWebJobsDashboard
DefaultEndpointsProtocol=https;AccountName=asabbourstorage;AccountKey=2M+QM8NwnVwoGRS...
AzureWebJobsStorage
DefaultEndpointsProtocol=https;AccountName=asabbourstorage;AccountKey=2M+QM8NwnVwoGRS...
FUNCTIONS_EXTENSION_VERSION
~1
WEBSITE_CONTENTAZUREFILECONNECTIONS...
DefaultEndpointsProtocol=https;AccountName=asabbourstorage;AccountKey=2M+QM8NwnVwoGRS...
WEBSITE_CONTENTSHARE
asabbourfeedbackfunc9def
BlobStorageConnection
DefaultEndpointsProtocol=https;AccountName=asabbourstorage;AccountKey=2M+QM8NwnVwoGRS...
+ Add new setting
Connection strings

Importing Feedback API into API Management

10.1 Import Feedback API using Swagger

- Import using OpenAPI specification
- Point towards https://[alias]feedbackapi.azurewebsites.net/swagger.json
- Give the API a suffix, e.g: **crm**
- Wait for a few seconds, the interface should populate
- Put the API in the **Unlimited** product
- Once imported, change the Web Service URL to https://[alias]feedbackapi.azurewebsites.net
- Test the API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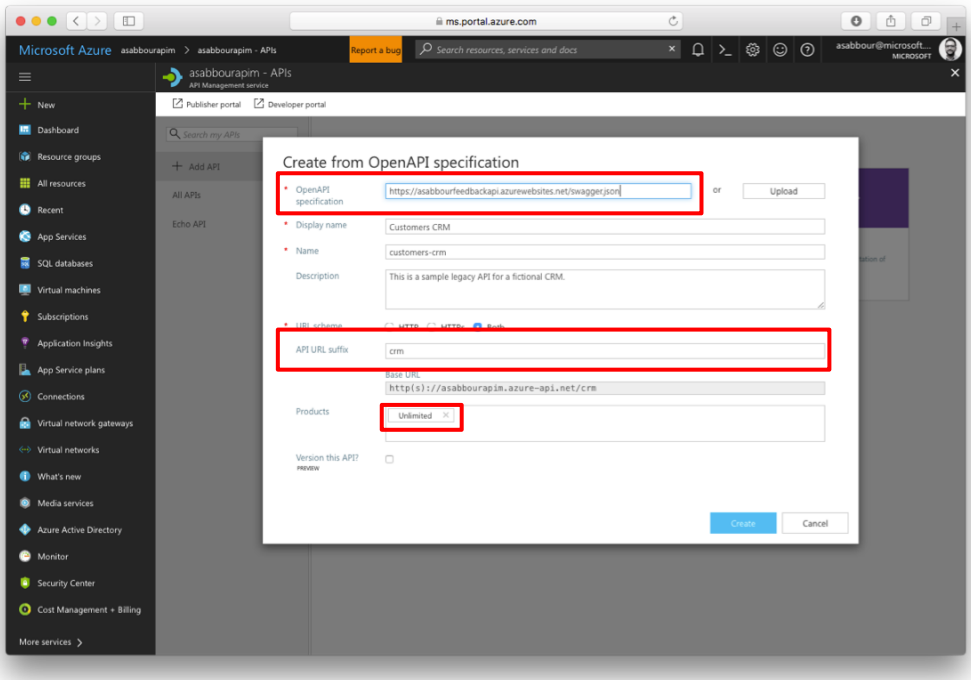
Report a bug
Search resources, services and docs
asabbourapim - APIs
API Management service
Publisher portal
Developer portal
Add API
All APIs
Echo API
Add a new API
Blank API
Create an empty API
OpenAPI specification
Standard, language-agnostic interface to REST APIs
WADL
Standard XML representation of your RESTful API
WSDL
Standard XML representation of your SOAP API
Logic App
Scalable hybrid integrations and workflows
API App
API hosted on App Service
Functions App
Serverless, event driven experience on App Service
New
Dashboard
Resource groups
All resources
Recent
App Services
SQL databases
Virtual machines
Subscriptions
Application Insights
App Service plans
Connections
Virtual network gateways
Virtual networks
What's new
Media services
Azure Active Directory
Monitor
Security Center
Cost Management + Billing
More services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Microsoft Azure
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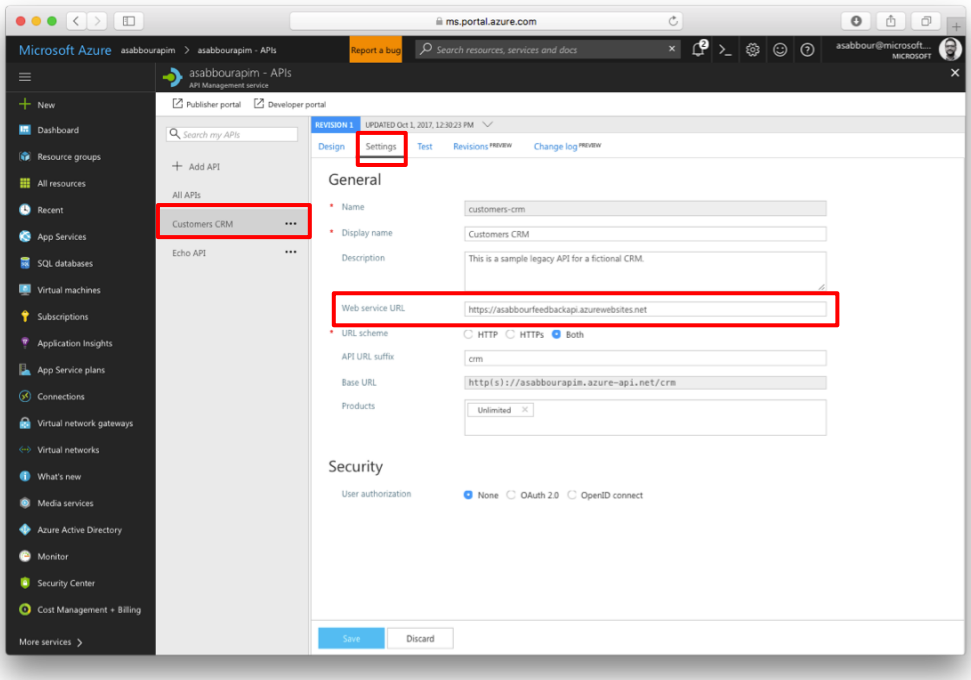
Report a bug
Search resources, services and docs
asabbourapim - APIs
API Management service
Publisher portal
Developer portal
Add API
All APIs
Echo API
Create from OpenAPI specification
OpenAPI specification
https://asabbourfeedbackapi.azurewebsites.net/swagger.json
or
Upload
Display name
Customers CRM
Name
customers-crm
Description
This is a sample legacy API for a fictional CRM.
API URL suffix
crm
Base URL
http(s)://asabbourapim.azure-api.net/crm
Products
Unlimited
Version this API?
PREVIEW
Create
Cancel
New
Dashboard
Resource groups
All resources
Recent
App Services
SQL databases
Virtual machines
Subscriptions
Application Insights
App Service plans
Connections
Virtual network gateways
Virtual networks
What's new
Media services
Azure Active Directory
Monitor
Security Center
Cost Management + Billing
More services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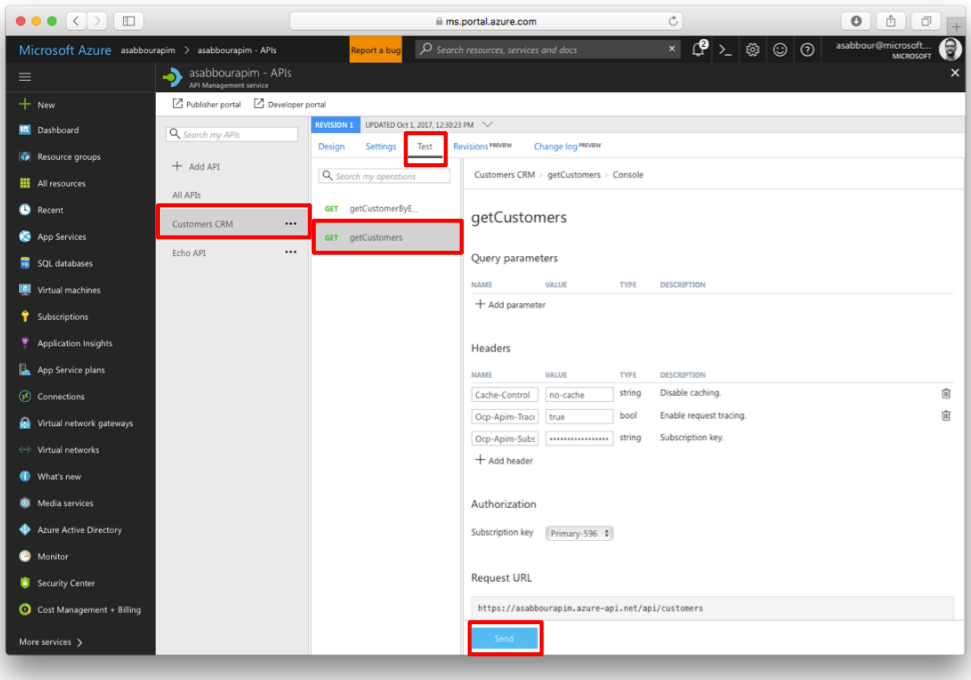
Report a bug
Search resources, services and docs
asabbourapim - APIs
API Management service
Publisher portal
Developer portal
Search my APIs
Add API
All APIs
Customers CRM
Echo API
REVISION 1
UPDATED Oct 1, 2017, 12:30:23 PM
Design
Settings
Test
Revisions PREVIEW
Change log PREVIEW
General
Name
customers-crm
Display name
Customers CRM
Description
This is a sample legacy API for a fictional CRM.
Web service URL
https://asabbourfeedbackapi.azurewebsites.net
URL scheme
HTTP
HTTPs
Both
API URL suffix
crm
Base URL
http(s)://asabbourapim.azure-api.net/crm
Products
Unlimited
Security
User authorization
None
OAuth 2.0
OpenID connect
Save
Discard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Microsoft Azure
asabbourapim > asabbourapim - APIs
Report a bug
Search resources, services and docs
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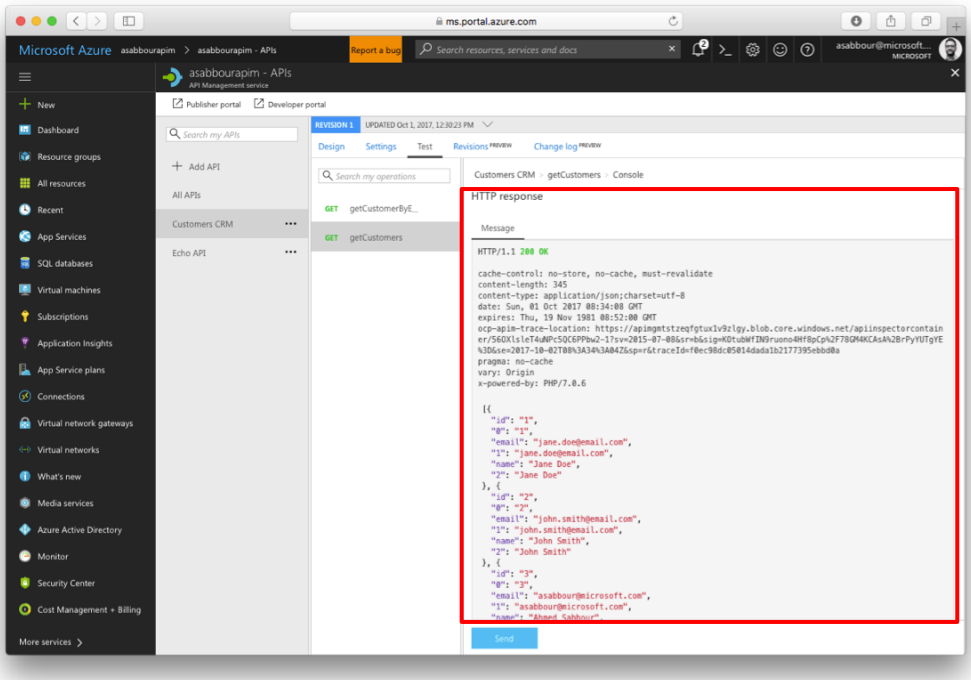
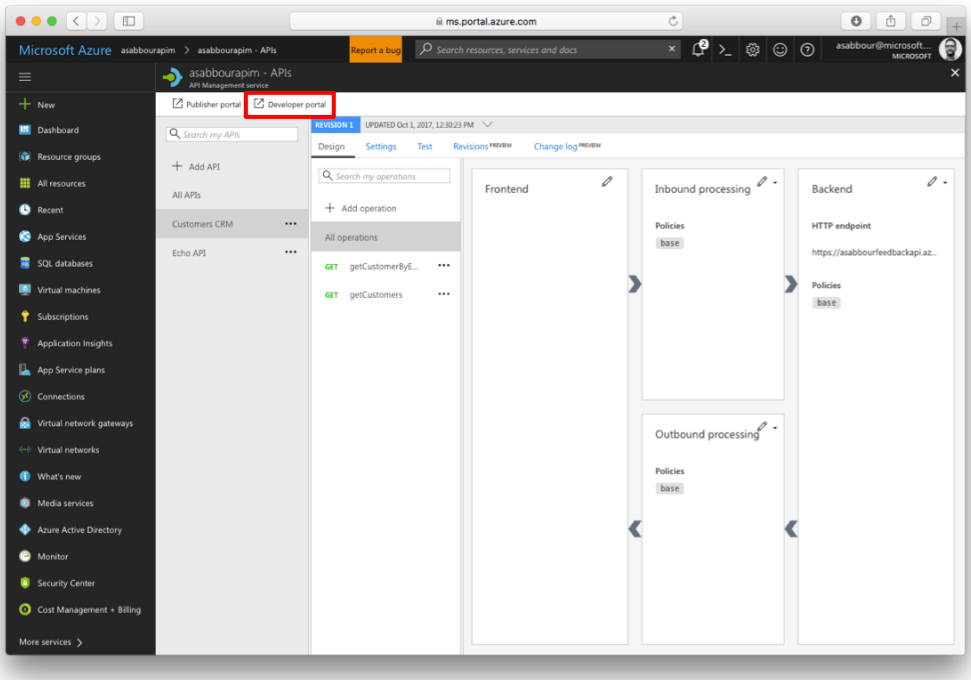
API Management service
Publisher portal
Developer portal
Search my APIs
Add API
All APIs
Customers CRM
Echo API
REVISION 1
UPDATED Oct 1, 2017, 12:30:23 PM
Design
Settings
Test
Revisions PREVIEW
Change log PREVIEW
Search my operations
GET getCustomerByE...
GET getCustomers
Customers CRM > getCustomers > Console
getCustomers
Query parameters
NAME
VALUE
TYPE
DESCRIPTION
Add parameter
Headers
Cache-Control
no-cache
string
Disable caching.
Ocp-Apim-Trace
true
bool
Enable request tracing.
Ocp-Apim-Subs
string
Subscription key.
Add header
Authorization
Subscription key
Primary-596
Request URL
https://asabbourapim.azure-api.net/api/customers
Send



10.2 Obtain the subscription key for Unlimited product

- Go to the **Developer Portal**
- Click on **Administrator -> Profile**
- Copy the **Primary key** of the **Unlimited** subscription and keep it aside, you'll use it in the subsequent steps.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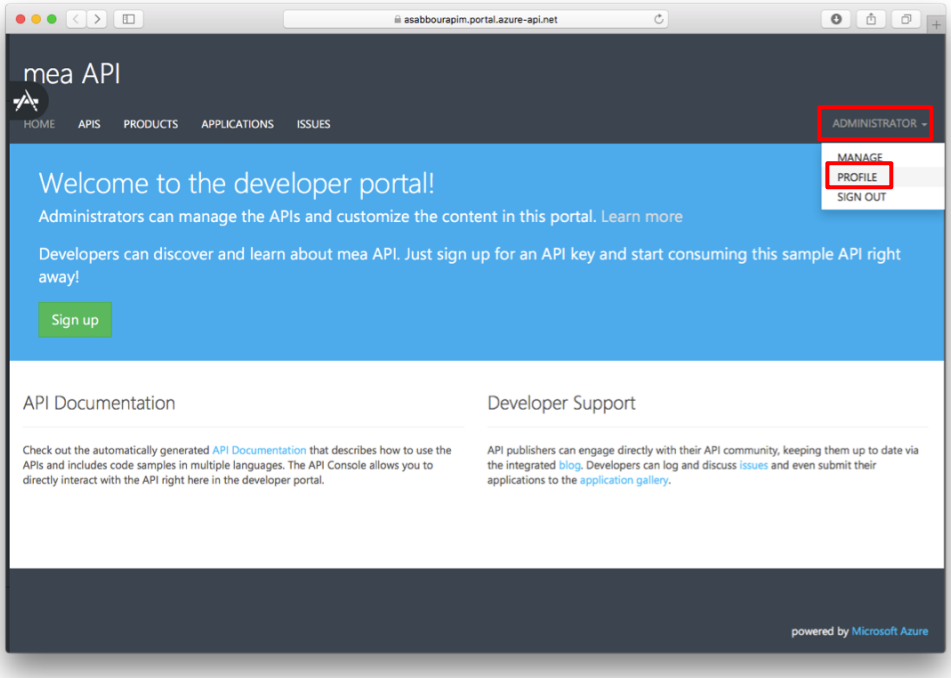
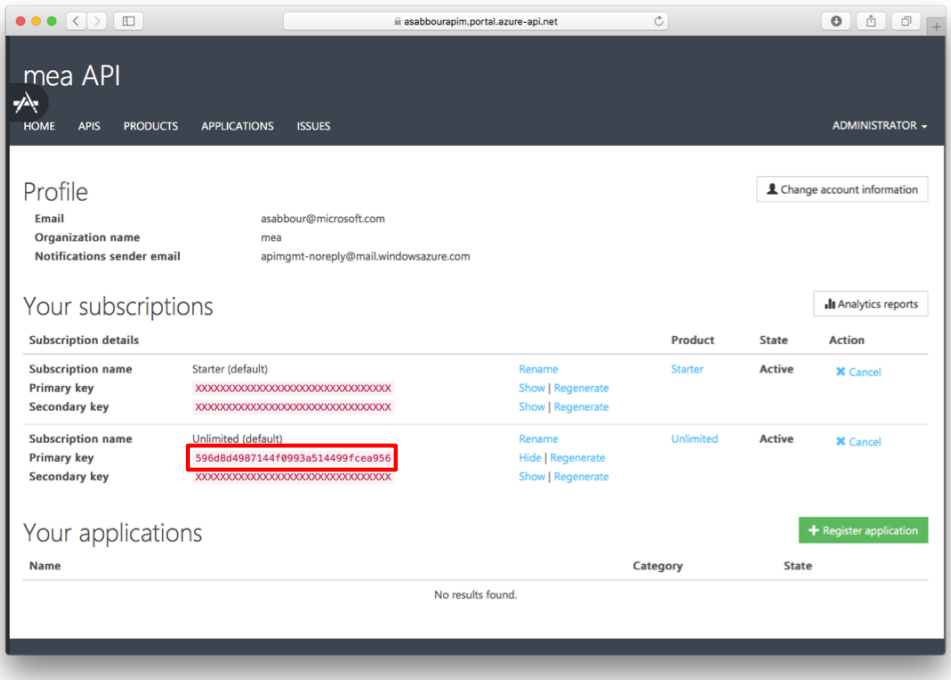
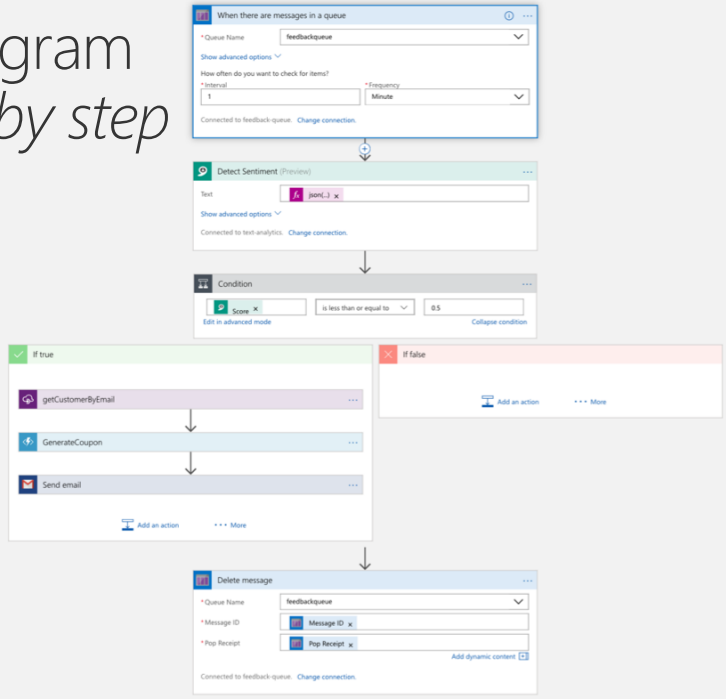
Microsoft Azure
asabbourapim - APIs
Publisher portal
Developer portal
Design
Settings
Test
Revisions
Change log
Add API
Add operation
All operations
Frontend
Inbound processing
Backend
Outbound processing
Policies
base
HTTP endpoint


asabbourapim.portal.azure-api.net
mea API
HOME
APIS
PRODUCTS
APPLICATIONS
ISSUES
ADMINISTRATOR
MANAGE
PROFILE
SIGN OUT
Welcome to the developer portal!
Administrators can manage the APIs and customize the content in this portal. Learn more
Developers can discover and learn about mea API. Just sign up for an API key and start consuming this sample API right away!
Sign up
API Documentation
Check out the automatically generated API Documentation that describes how to use the APIs and includes code samples in multiple languages. The API Console allows you to directly interact with the API right here in the developer portal.
Developer Support
API publishers can engage directly with their API community, keeping them up to date via the integrated blog. Developers can log and discuss issues and even submit their applications to the application gallery.
powered by Microsoft Azure



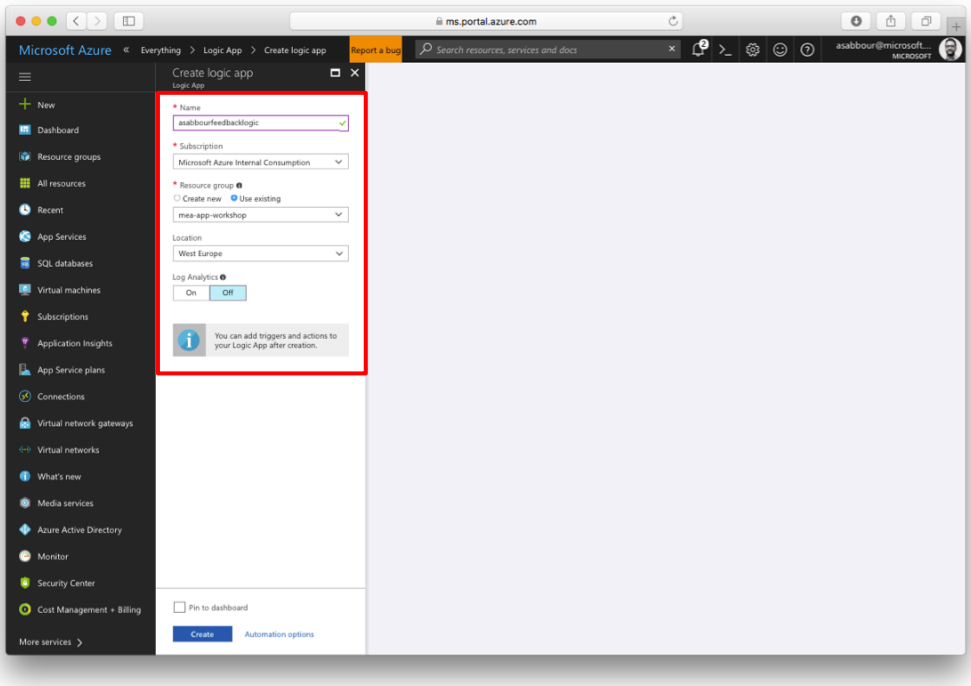
Integrating the solution using Logic Apps

Full Logic App diagram
You'll build it step by step



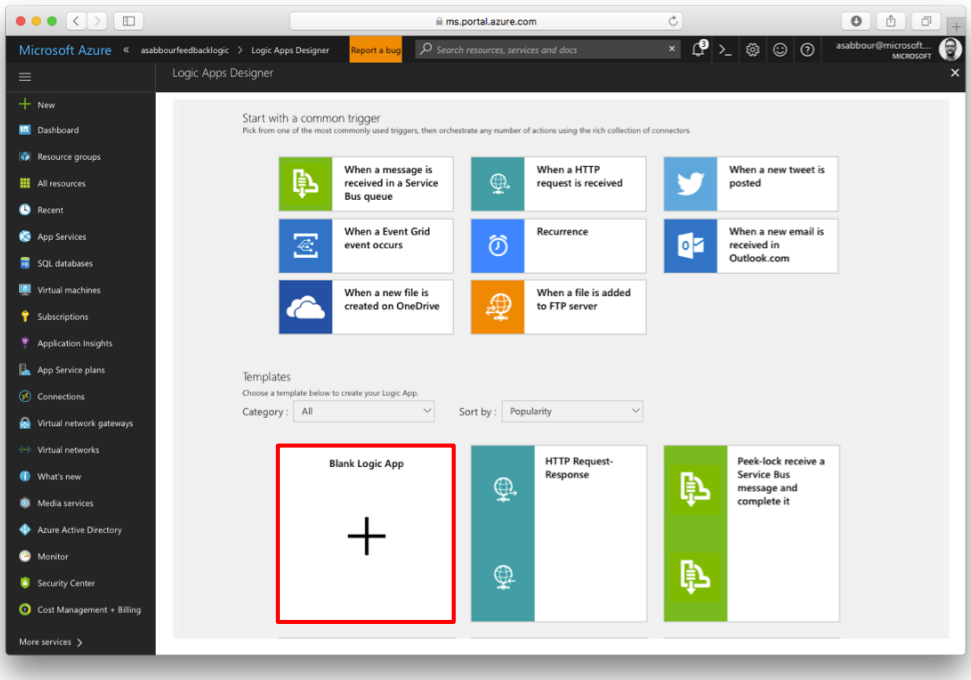
11. Create Logic App

- Give it a unique name, like `[alias]feedbacklogic`
- Choose the same resource group and region.



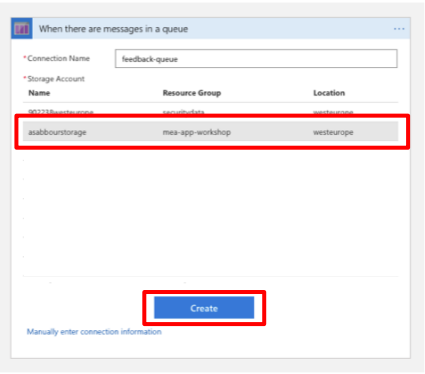
12.1 Create the workflow

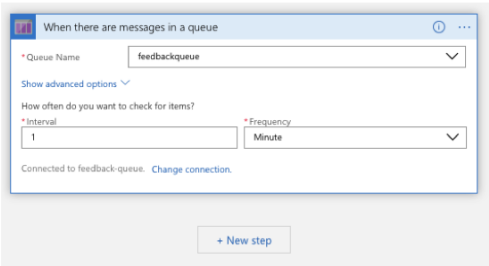
- Open the Logic Apps Designer
- Start from a **Blank Logic App** template



12.2 Add queue trigger

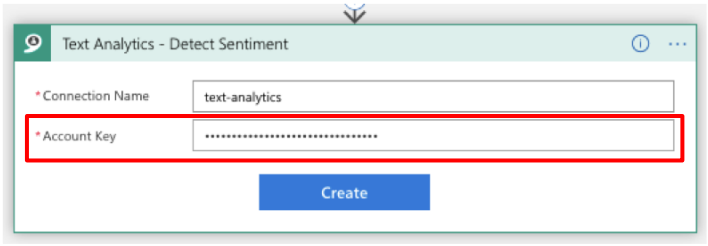
- Add a new Queue trigger, pointing to your storage account created earlier





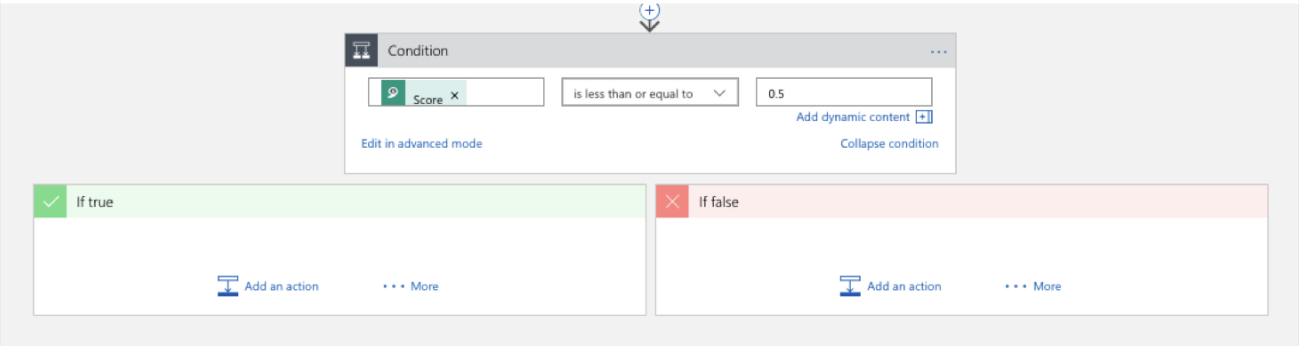
12.2 Add Text Analytics action

- Add a Text Analytics action to detect sentiment
- Provide the Cognitive Services account name and key
- Configure the text field to be `@{json(triggerBody()?['MessageText']).feedback}`



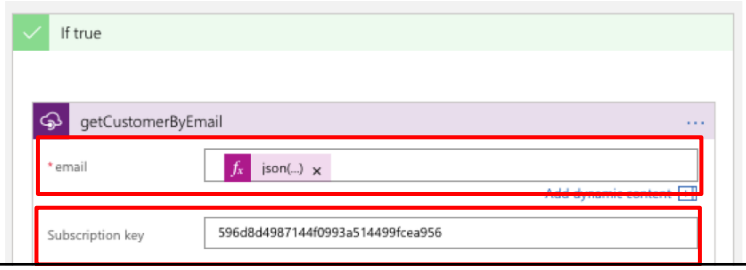
12.3 Add condition, when the sentiment is negative

- When the **score** is **less than or equal to 0.5**
  - This is a negative sentiment
  - When this is true, add the next action to get customer details



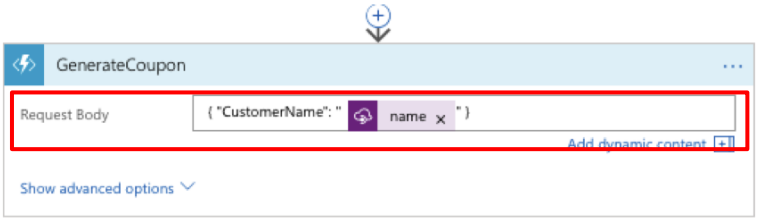
12.4 Add API Management action

- Query API Management for customer name by email
- Use this as the value of the email field, it will extract it out of the message on the queue:
  `@{encodeURIComponent(json(triggerBody()?['MessageText']).email)}`
- Provide the API Management subscription key



12.5 Add Generate Coupon Azure Function action

- Call the Generate Coupon function, passing in the customer name returned from the API Management call



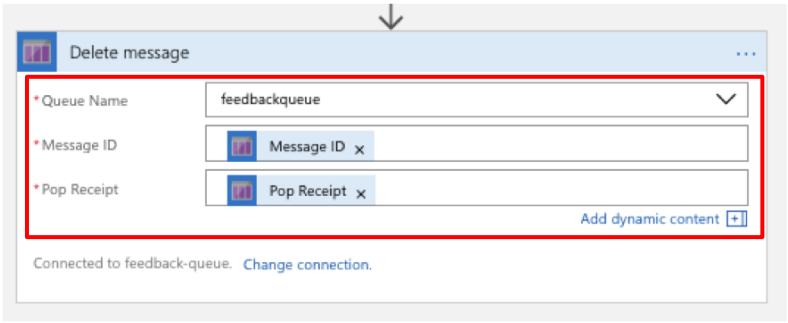
12.6 Add Email action

- Use your favorite email action to send an email to the customer with the coupon link
- Configure it with the email, name and Coupon URL obtained from the previous actions.
- You may use this as the body of the email action:

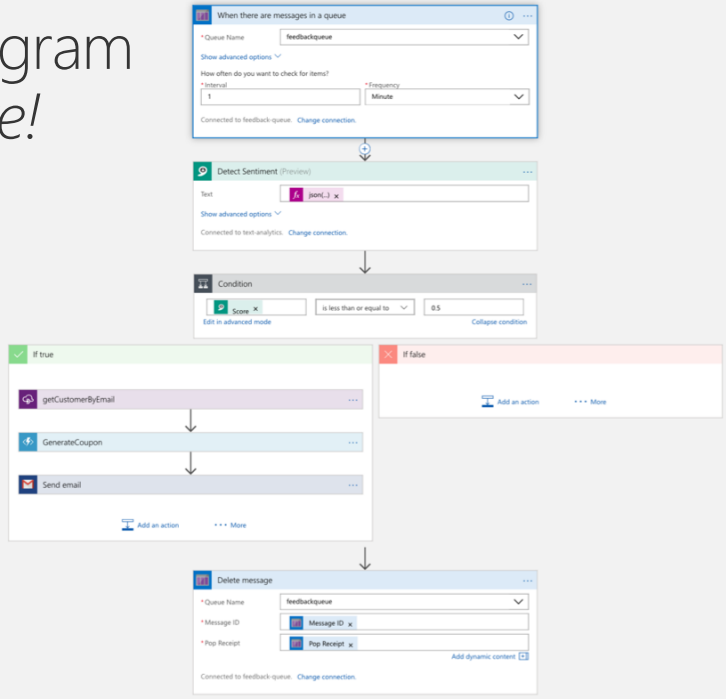
```
Dear @{body('getCustomerByEmail')['name']}, we want to make it up to you. Here is a coupon: @{body('GenerateCoupon').CouponUrl}
```

12.7 Delete the message from the queue

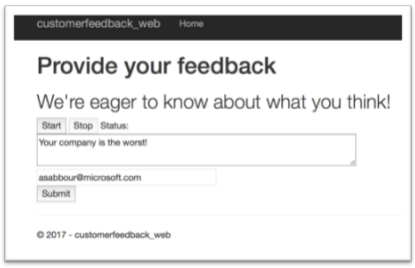
- Now that you've processed this message, delete it from the queue to avoid processing it again. Configure with queue name, message ID and pop receipt ID from the original trigger.

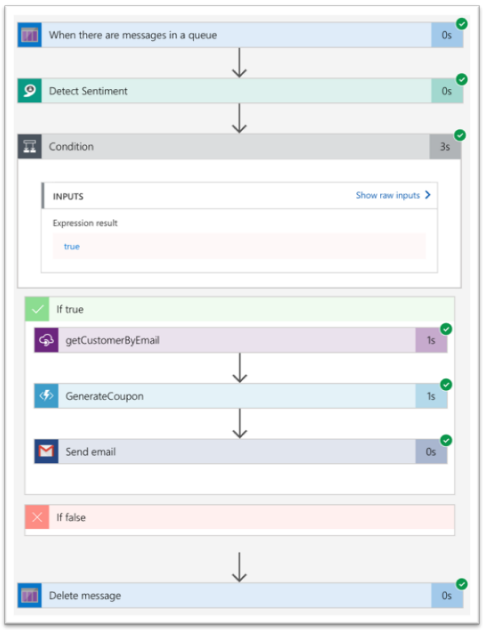


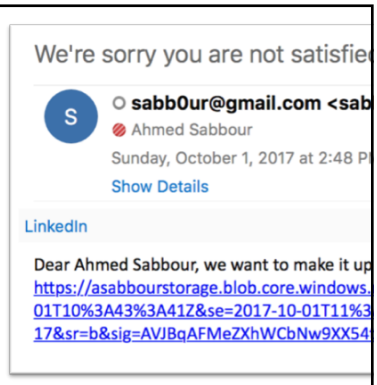
Full Logic App diagram
don't forget to save!

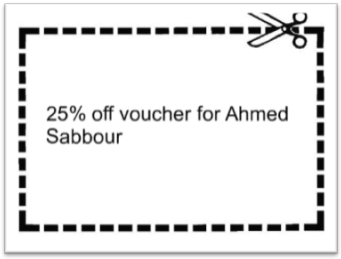


Testing the solution









Bonus (CDN): https://*[alias]*feedbackcdn.azureedge.net/coupons/Ahm

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