

How to Integrate a SendGrid Mail Server with an Azure Application

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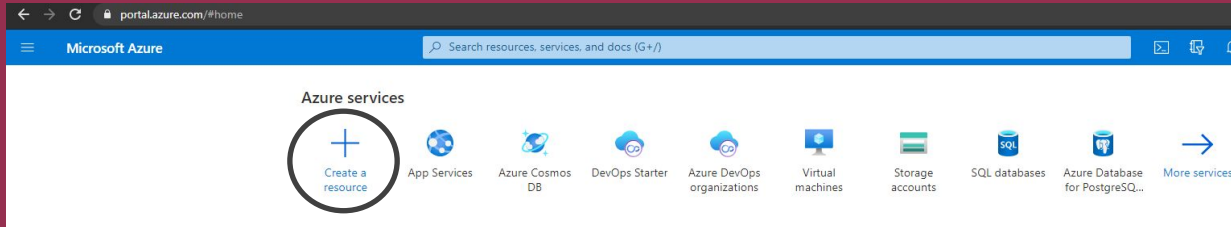
Pre-requisites



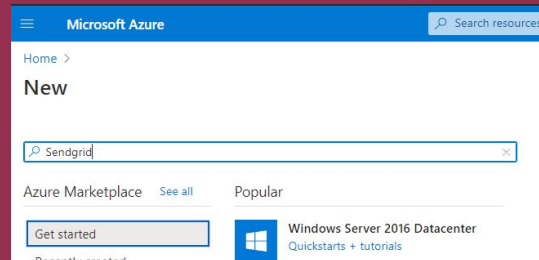
- A Microsoft Azure subscription (required)
 - Click the link below to register for a free trial:
<https://azure.microsoft.com/en-us/pricing/purchase-options/azure-account/?icid=free-services>
- A Running Application hosted in Azure App Service (suggested)
 - These instructions assume that you have an operational application, regardless of its hosting environment.

Search the Azure Marketplace for SendGrid

- Click “Create a resource” on the Azure dashboard. This will take you to the Azure Marketplace.



- In the Marketplace search bar, type “SendGrid,” then press enter.



Select a Tier

- A new page will load. Hover over the “Create” box below the “SendGrid” icon. A list of tiers will populate.
- Click “Free.”
After selecting the Free tier, you will be directed to a web form.

Create SendGrid Account
SendGrid

Basics Tags Review + Create

Configure your SendGrid Account to deliver customer communication that drives engagement and growth using the cloud. [Learn more](#) [Get started](#)

Project details

Subscription *

Resource group * [Create new](#)

Location *

Account details

Name *

Password *

Confirm password *

Pricing Tier 25,000 emails/month [Change plan](#)

Contact details
The provided information will be used as contact info for support agents / technical contacts.

First Name *

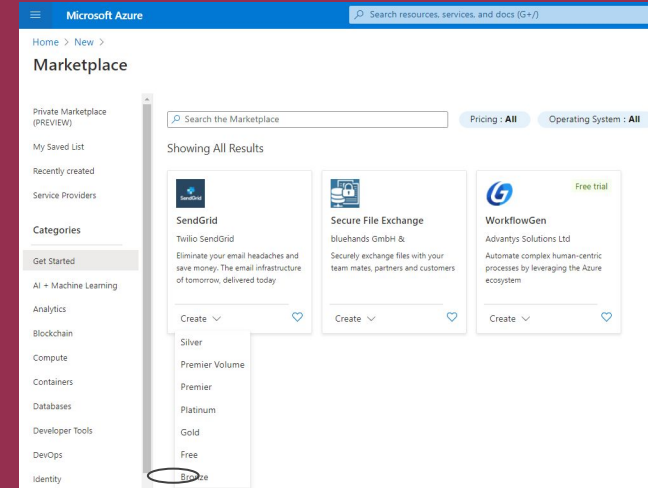
Last Name *

Email *

Company *

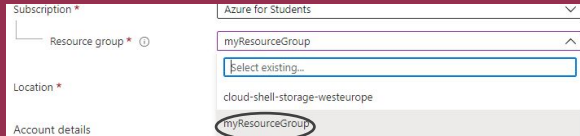
Website *

[Review + Create](#) [Previous](#) [Next: Tags >](#)



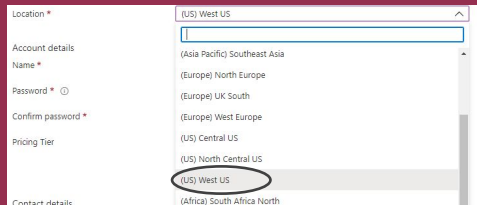
Create SendGrid Account, Pt. 1

- Fill out the form
 - The Subscription field will be pre-filled with your current subscription.
 - For Resource Group, click on the drop down and select the appropriate group.

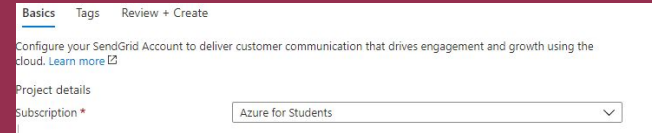


This screenshot shows the 'Account details' section of the SendGrid account creation form. The 'Subscription *' field is a dropdown menu with 'Azure for Students' selected. Below it, the 'Resource group *' field is also a dropdown menu with 'myResourceGroup' selected. A search bar with the text 'Select existing...' is visible. Below the search bar, the option 'cloud-shell-storage-west-europe' is listed. The 'Location *' field is partially visible below the resource group dropdown.

- For Location, select the region that is closest to your end users.



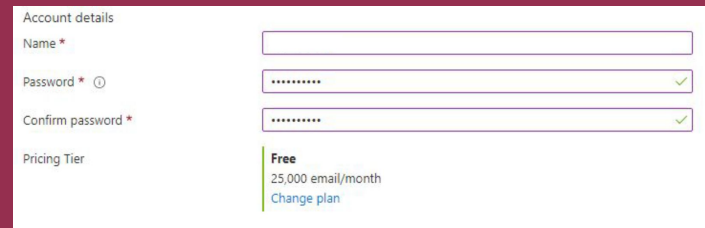
This screenshot shows the 'Location *' dropdown menu in the 'Account details' section. The dropdown is open, displaying a list of regions. The region '(US) West US' is highlighted with a red circle. Other visible regions include '(US) Central US', '(US) North Central US', '(Asia Pacific) Southeast Asia', '(Europe) North Europe', '(Europe) UK South', '(Europe) West Europe', and '(Africa) South Africa North'.



This screenshot shows the 'Project details' section of the SendGrid account creation form. The 'Subscription *' field is a dropdown menu with 'Azure for Students' selected. The form is titled 'Basics' and includes tabs for 'Tags' and 'Review + Create'. A message at the top states: 'Configure your SendGrid Account to deliver customer communication that drives engagement and growth using the cloud. [Learn more](#)'.

Create SendGrid Account, Pt. 2

- Fill out the form, continued
 - For the “Account details” portion, enter your name and create a password. This password will be used later on.
 - Next, fill in the “Contact details” section. This information will be used by SendGrid support agents if you run into trouble with the service.



Account details

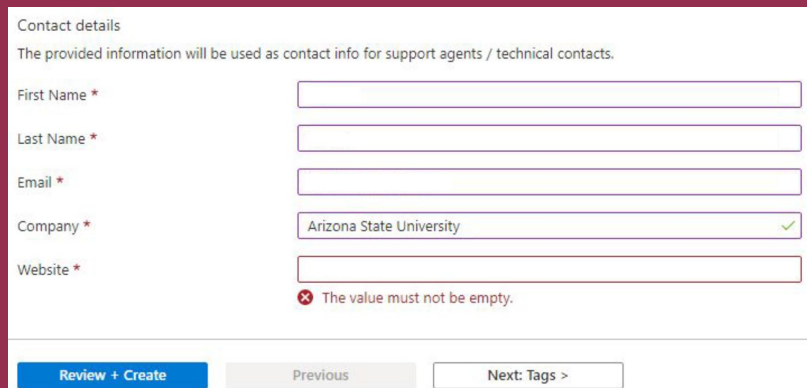
Name *

Password * ⓘ ✓

Confirm password * ✓

Pricing Tier

Free
25,000 email/month
[Change plan](#)



Contact details

The provided information will be used as contact info for support agents / technical contacts.

First Name *

Last Name *

Email *

Company * ✓

Website *

✗ The value must not be empty.

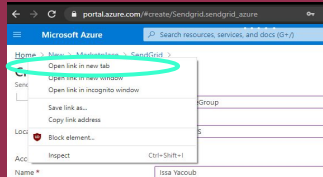
[Review + Create](#) [Previous](#) [Next: Tags >](#)

Connect Your Application to SendGrid, Pt. 1

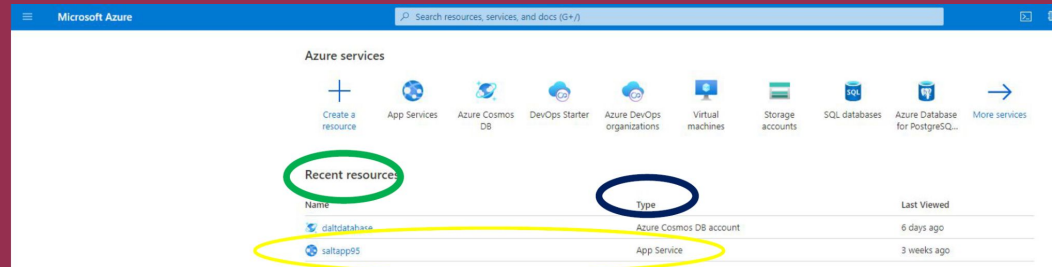
- Fill out the form, continued
 - For the “Website” portion, enter your application’s URL. To get mine, I started by opening the dashboard in a new tab.

Right click on home

Then click
“Open link in new tab”



- After the dashboard opened up, I looked for my “App Service” under “Recent resources.”

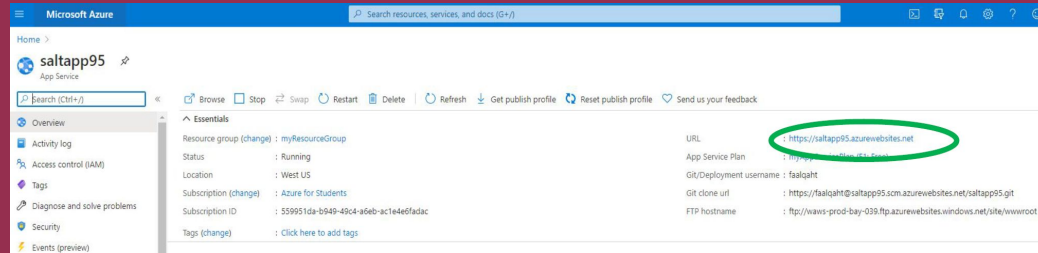


Click on your app
service



Connect Your Application to SendGrid, Pt. 2

- Fill out the form, continued
 - I then located & copied the application's URL.



- After it had been copied, I went back to the SendGrid tab, and pasted the URL into the "Website" field.
- Then, I clicked on the blue button that said "Review + Create."

Contact details

The provided information will be used as contact info for support agents / technical contacts.

First Name *

Last Name *

Email *

Company * Arizona State University ✓

Website * https://saltapp95.azurewebsites.net ✓

Review + Create Previous Next: Tags >

Connect Your Application to SendGrid, Pt. 3

- Fill out the form, continued
 - After clicking the “Review + Create” button, you will be asked to look over the form and make sure everything is correct.
 - If you made a mistake, click on “Previous” to edit the form.
 - If everything looks good, press the blue “Create” button.

Microsoft Azure

Home > New > Marketplace > SendGrid >

Create SendGrid Account

SendGrid

Validation passed

Basics Tags **Review + Create**

Overview

SendGrid Account by SendGrid Free \$0.00 per month

Basics

Subscription

Resource group

Name

Contact details

First Name

Last Name

Email

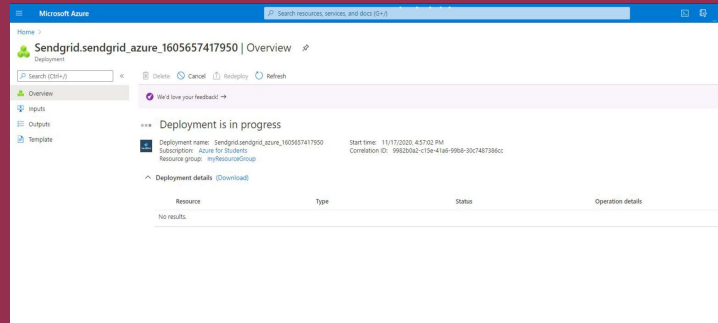
Terms of use

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with each Marketplace offering above, (b) authorize Microsoft to charge or bill my current payment method for the fees associated with my use of the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s), (c) agree that Microsoft may share my contact information and transaction details (including usage volume associated with the offering(s) with the seller(s) of the offering(s), and (d) give Microsoft permission to use and share my contact information so that Microsoft and the provider of the offer can contact me regarding this product and related products. Microsoft does not provide rights for third-party products or services. See the Azure Marketplace Terms for additional terms.

Create Previous Next

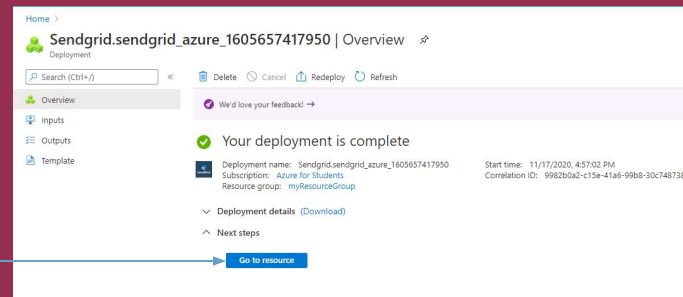
Connect Your Application to SendGrid, Pt. 4

- After pressing “Create,” the SendGrid service will deploy. This process will take at least 5 minutes.



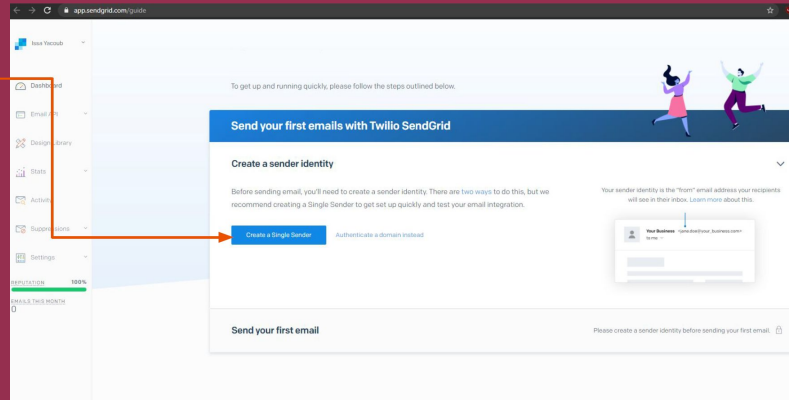
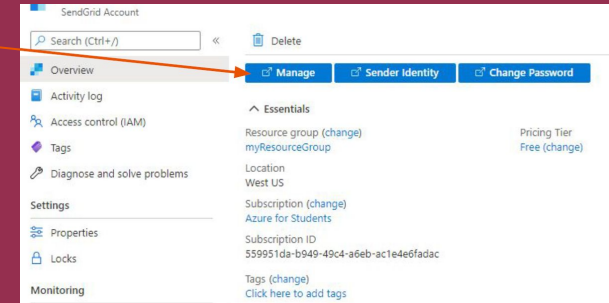
- Once it has finished deploying, the page will refresh itself and will look like this:

- Click on the blue “Go to resource” button.



Create a “Sender” Account, Pt. 1

- Once you have been redirected to SendGrid's resource page, click on the blue “Manage” button
 - This will take you to SendGrid's website.
 - SendGrid will then ask you to create a “Sender” email account that will be used to help you send emails.
 - To do this, click on “Create a Single Sender”



Create a “Sender” Account, Pt. 2

- This form will appear. Enter the following details:
 - From Name: The name that you want to appear in the “From” line of the email
 - From Email Address: The email address that will be sending your emails
 - Reply To: The email address that will receive emails
 - Company Address: Your company’s address
 - Company Address Line 2: A second line for your company’s address, if needed
 - City: Your company’s city
 - State: Your company’s state
 - Zip Code: Your company’s zip code
 - Country: Your company’s country
 - Nickname: A nickname for the Sender Address that only you will be able to see.
- After filling in the form, press the blue “Create” button.

Create a Sender

You are required to include your contact information, including a physical mailing address, inside every promotional email you send in order to comply with the anti-spam laws such as [CAN-SPAM](#) and [CASL](#). You'll find replacement tags for this information in the footer of all the email designs SendGrid provides. [Learn more](#)

From Name •
SALT Application

From Email Address •
SaltEmailTesting1@gmail.com ⓘ

Attempting to send from a free email address domain like gmail.com is not recommended. [Learn more](#)

Reply To •
SaltEmailTesting1@gmail.com

Company Address •
7001 E Williams Field Rd

Company Address Line 2

City • State
Mesa Arizona

Zip Code Country •
85212 United States

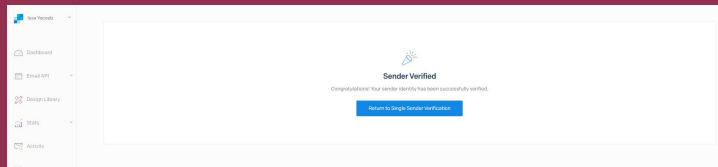
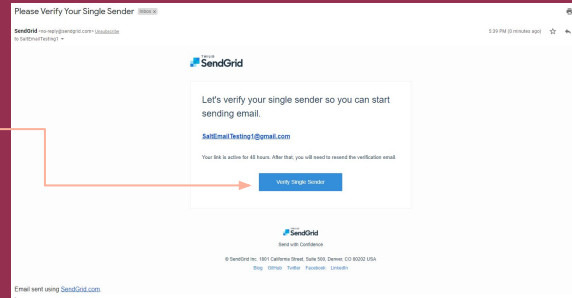
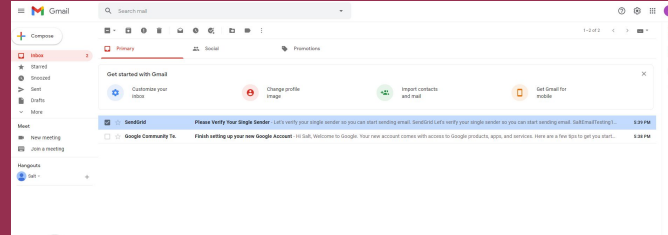
Nickname •
SaltAppEmail

Nickname is for your reference only; this field will not be displayed to recipients.

Cancel Create

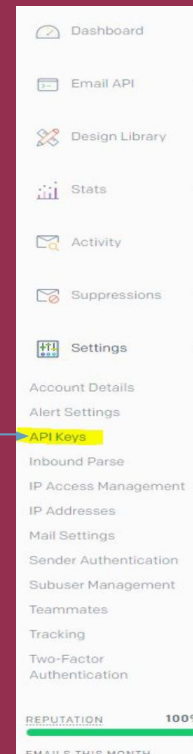
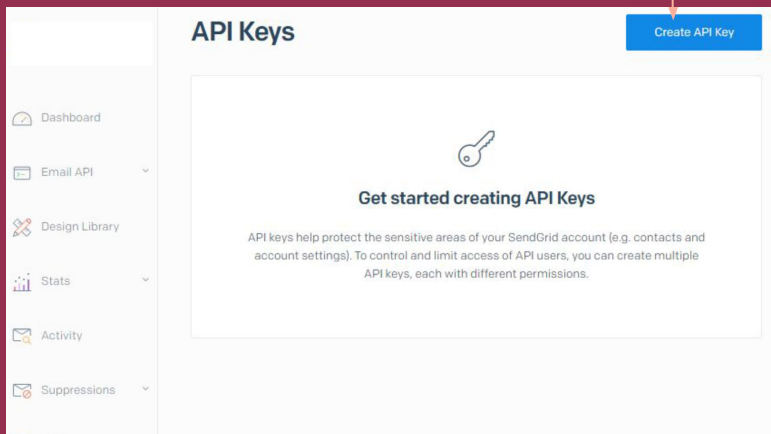
Create a “Sender” Account, Pt. 3: Verification Stage

- After pressing “Create,” SendGrid will send a verification email to the email address you designated on the form
- Open the email then click on the “Verify Single Sender” button.
- This email address will now be able to send emails via SendGrid.



Create an API Key, Pt. 1

- The next step is to create an API key.
 - Go back to SendGrid, and click “API Keys” on the left side of the page. The API Key menu will appear.
 - Click on the blue “Create API Key” button.



Create an API Key, Pt. 2

- Fill out the API form

- Give a name to the API key.
- Then click "Restricted Access"
- Under Access Details, allow the API to send mail by moving the "Mail Send" slider all the way to the right, giving it Full Access.
- After that, scroll to the bottom And click on the blue "Create & View" button.

Restricted Access
Customize levels of access for all parts of your account, excluding billing and Email Address Validation.

Billing Access
Allows the API key to access billing endpoints for the account. (This is especially useful for Enterprise or Partner customers looking for more advanced account management.)

Access Details	No Access	Read Access	Full Access
API Keys	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alerts	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Category Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Design Library	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Email Activity	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IP Management	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Inbound Parse	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mail Send	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mail Settings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Create API Key

API Key Name •
SALT_API_Key

API Key Permissions •

Full Access
Allows the API key to access GET, PATCH, PUT, DELETE, and POST endpoints for all parts of your account, excluding billing and Email Address Validation.

Restricted Access
Customize levels of access for all parts of your account, excluding billing and Email Address Validation.

Billing Access
Allows the API key to access billing endpoints for the account. (This is especially useful for Enterprise or Partner customers looking for more advanced account management.)

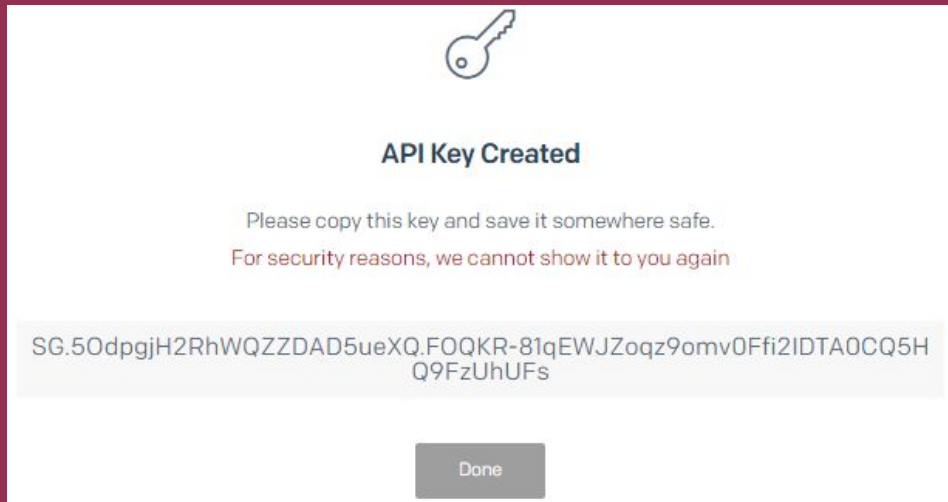
Cancel Create & View

User Account

Cancel Create & View

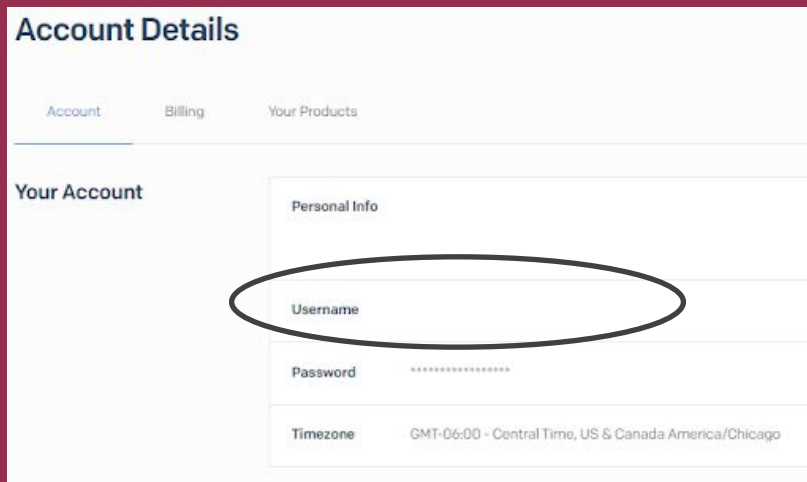
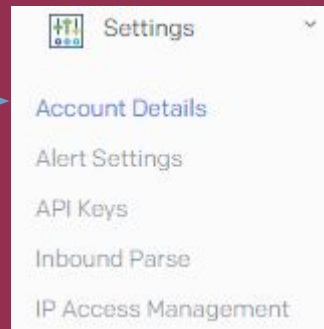
Create an API Key, Pt. 3

- Your API key will now be ready for full use.
- You will not be able to view the key again, so make sure to copy the key and save it somewhere safe.



Integrate the Key, Pt. 1

- Next, find your SendGrid username.
 - Click “Account Details” on the left-side of the page
 - On the “Account Details” page, find your username and save it somewhere safe.
 - It will end with “@azure.com”



Integrate the Key, Pt. 2

- Now that you have an API key and a SendGrid username, you can add them to your application.
 - I did this by creating a file called “register_action.php.” Feel free to check out the full file on my GitHub.
 - Key fields:
 - `$send = “YOUR SENDGRID USERNAME GOES HERE”`
 - `'Authorization: Bearer YOUR SENDGRID API GOES HERE'`
 - After I finished making the changes, I ran some tests, then committed the new code to production.

```
62 if($emailNotOnFile){
63     //email not on file - using the API below to pass data from $ar
64     register($arrays);
65
66     //SendGrid Username
67     $sendgridUsername = "YOUR-SENDGRID-USERNAME-GOES-HERE";
68     // "From" field
69     $name = "SALT - Security Awareness Library Tool";
70     //Body + Subject of Email
71     $body = "<h3>Please click the link below to complete the SALT v
72     <br><p>link/verify.php?vkey=$vdkey</p>";
73     $subject = "SALT | Please verify your account";
74
75     //Set HTTP Headers
76     $headers = array(
77         'Authorization: Bearer YOUR-SENDGRID-API-KEY-GOES-HERE',
78         'Content-Type: application/json'
79     );
```