How to WP SES in AWS to win at DMARC

Sending DMARC compliant email with Wordpress in AWS

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Old World

Anyone can send email with you spoofed as the sender.

...Turns out, that’s bad. :(  

Does this look like a great thing for reputation?

From: SomeoneImportant <someoneimportant@wisc.edu>
To: You <yournamehere@wisc.edu>
Subject: <Some awful spam or spear phishing subject>
New World: Enter DMARC

- DMARC: Domain-based Message Authentication, Reporting & Conformance
- See Jesse’s presentation for MUCH more detail
- Basically: In order to send email with a From address like something@something.wisc.edu, you need to prove you have permission from something.wisc.edu in order to send email
- Additional DNS entries is how we prove we have permission
Verify one email address?

To verify a new email address, enter it below and click the **Verify This Email Address** button. A verification email will be sent to the email address you entered.

**Email Address:**

[Enter email address]

[Cancel] [Verify This Email Address]
Or verify a whole domain?
Domain Verification

Verify a New Domain

To verify a new domain, enter the domain name below and choose whether you'd like to generate DKIM settings. Once done, click the Verify This Domain button.

Domain: emailtest.wiscweb.wisc.edu

DomainKeys Identified Mail (DKIM) provides proof that the email you send originates from your domain and is authentic. DKIM signatures are stored in your domain's DNS system. You can generate DNS records for DKIM now, or do it later by going to the DKIM tab for this domain. Learn more about DKIM.

Generate DKIM Settings

Cancel  Verify This Domain
Domain Verification (cont’d)

Verify a New Domain

The domain emailtest.wiscweb.wisc.edu has been added to the list of Verified Identities with a Status of "pending verification". Further action is needed to complete verification of this domain. See details below.

To complete verification of emailtest.wiscweb.wisc.edu, you must add the following TXT record to the domain's DNS settings:

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>_amazonses.emailtest.wiscweb.wisc.edu</td>
<td>TXT</td>
<td>ypwek/nfMyfVp0vvu0bT8qoLQqAPZATvbJMU49CleFrw=</td>
</tr>
</tbody>
</table>

To enable DKIM signing for your domain (optional but recommended), you must add the following CNAME records to your domain's DNS settings:

<table>
<thead>
<tr>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ejtgubkteaixqpyemailltest.wiscweb.wisc.edu</td>
</tr>
<tr>
<td>nmxtxs2qelgyspskemailltest.wiscweb.wisc.edu</td>
</tr>
</tbody>
</table>

**NOTE:** Unlike for domain verification, you cannot omit the underscore from _domainkey because the underscore is required by RFC 4871.
Now Pending Verification of DNS

<table>
<thead>
<tr>
<th>Domain Identities</th>
<th>Verification</th>
<th>DKIM Status</th>
<th>Enabled for</th>
</tr>
</thead>
<tbody>
<tr>
<td>email.wiscweb.wisc.edu</td>
<td>verified</td>
<td>verified</td>
<td>Yes</td>
</tr>
<tr>
<td>emailtest.wiscweb.wisc.edu</td>
<td>pending verification</td>
<td>pending verification</td>
<td>No</td>
</tr>
<tr>
<td>webhosting.cals.wisc.edu</td>
<td>verified</td>
<td>verified</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Mind the Limits

Amazon Simple Email Service (Amazon SES) Limits

The following are the default limits for Amazon SES in the sandbox environment.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Default Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily sending quota</td>
<td>200 messages per 24-hour period.</td>
</tr>
<tr>
<td>Maximum send rate</td>
<td>1 email per second.</td>
</tr>
</tbody>
</table>

**Note**

The rate at which Amazon SES accepts your messages might maximum send rate.
Limit Increase

Create case

- Account and billing support
  Assistance with account and billing-related enquiries
- Service limit increase
  Requests to increase the service limit of your AWS resources
- Technical support
  Service-related technical issues and third-party applications
  Unavailable under the Basic Support Plan

Case classification

- Limit type
  SES Sending Limits
- Severity
  The severity of your service limit increase request is automatically determined by your support subscription.
- Mail Type - optional
  Select or search
- Website URL - optional
Limit Increase, Longform
WP-SES - just use wp-config.php

• There is a control panel, but for multi-site we get more options using wp-config.php:

```php
define('WP_SES_ACCESS_KEY', 'XXXXXXXXXXXXXXXX'); // AWS Access Key ID
define('WP_SES_SECRET_KEY', 'XXXXXXXXXXXXXXXXXXXXXXXX'); // AWS Secret Access Key
define('WP_SES_FROM', 'noreply@email.wiscweb.wisc.edu'); // From Email
define('WP_SES_RETURNPATH', 'noreply@amazonses.email.wiscweb.wisc.edu'); // Return path for bounced emails
define('WP_SES_REPLYTO', 'headers'); // ReplyTo Email, using the headers of the existing email
#define('WP_SES_REPLYTO', 'cms-support@doit.wisc.edu'); // ReplyTo Email
define('WP_SES_HIDE_VERIFIED', true); // Hide list of verified emails
define('WP_SES_HIDE_STATS', true); // Hide Stats panel
define('WP_SES_AUTOACTIVATE', true); // Auto activate plugin for all sites
define('WP_SES_ENDPOINT', 'email.us-west-2.amazonaws.com'); // Amazon Endpoint
```
Code Options to Force Valid Settings

From Scott Berg:
GFCommon::replace_variables($notification['fromName'],
GFAPI::get_form( $entry['form_id'] ), $entry);

From Jason Lemahieu:
add_filter( 'wp_mail_from', array( &$this,
'wp_ses_modifer_filter_wp_mail_from_force_from' ), 999, 1 );

    // phpmail_init is one of the last hooks in sending mail
add_action( 'phpmailer_init', array( &$this,
'wp_ses_modifer_action_phpmailer_init_clear_headers' ) );
Shoutouts and Thanks

Jesse Thompson
Al Nemec
Jason Pursian
Scott Berg
Jenna Kliner
Jason Lemahieu

Rest of the WiscWeb Team & All our customers for giving us a break while figuring this all out
References & Further Reading

- Email Authenticity: [https://it.wisc.edu/it-community/email-authenticity/](https://it.wisc.edu/it-community/email-authenticity/)
- KB DMARC Links:
  - [https://kb.wisc.edu/91833](https://kb.wisc.edu/91833) Office 365 - DMARC Compliance for Amazon Simple Email Service
  - [https://kb.wisc.edu/86177](https://kb.wisc.edu/86177) Office 365 - Publishing a Custom DMARC Record for your Email Domain in DNS
- Getting started with an Cloud Account:
  - [https://kb.wisc.edu/public-cloud/](https://kb.wisc.edu/public-cloud/)
  - [https://it.wisc.edu/it-projects/projects-initiatives/uw-cloud-services/](https://it.wisc.edu/it-projects/projects-initiatives/uw-cloud-services/)
- WiscWeb Service: [https://wiscweb.wisc.edu/](https://wiscweb.wisc.edu/)