

WWPass External Authentication Solution for IBM Security Access Manager 8.0

Setup guide

Enhance your IBM Security Access Manager for Web with the WWPass hardware authentication

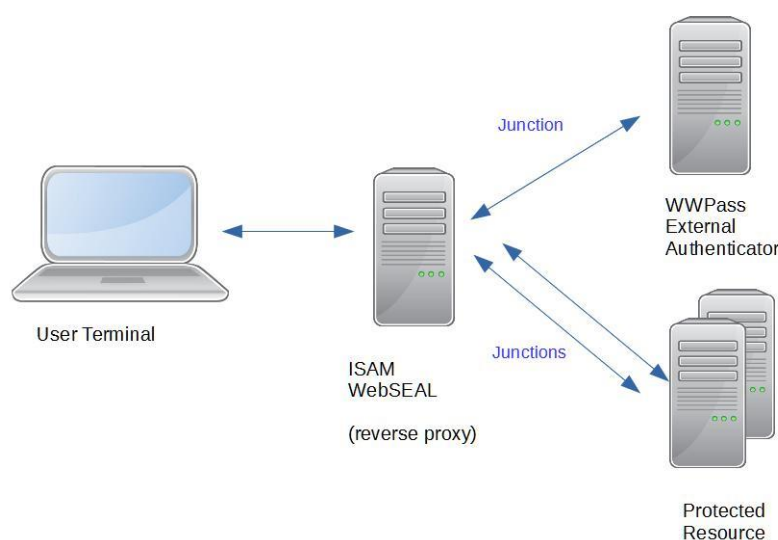
IBM Security Access Manager (ISAM) for Web is essentially a "reverse Web-proxy" which guards access to a number of enterprise Web services.

In its basic form, users authenticate into ISAM protected resources with login / password pairs. This kind of authentication is vulnerable to multiple well-known attacks. At the same time user names and passwords are always a compromise between simplicity and security. ISAM comes with rigorous password policy, thus insisting on secure and hard to remember passwords.

WWPass External Authentication Solution (EAS) provides strong hardware authentication and at the same time removes username/password pairs completely. WWPass EAS is a Web service which utilizes ISAM External Authentication Interface (EAI) and is to be installed and configured as an ISAM External Authenticator junction.

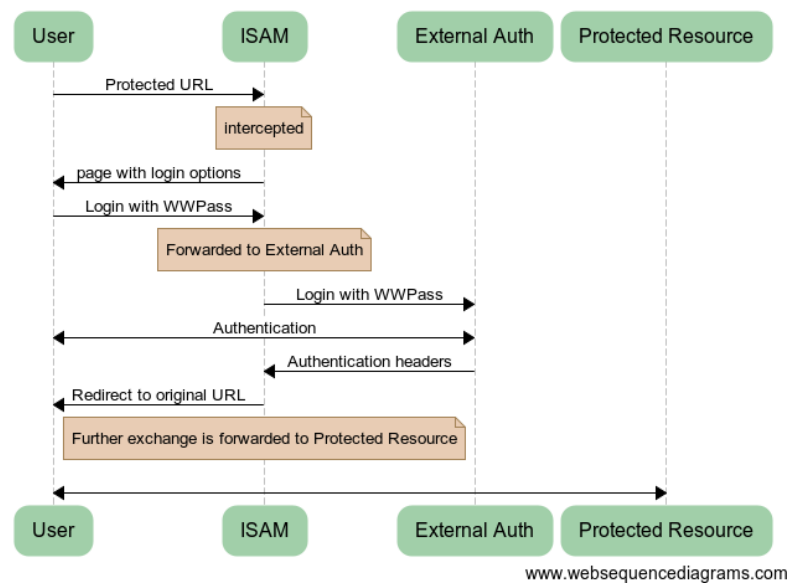
-- When user authenticates at ISAM server, the request is transparently rerouted to WWPass Web application. On success, ISAM gets user DN (distinguished name) and forwards user to destination Web resource.

ISAM / WWPass external authentication architecture



ISAM / WWPass external authentication message flow

1. User tries to access protected resource
2. ISAM WebSeal intercepts and redirects user request to WWPass authentication server. User is presented WWPass web page.
3. User clicks on "Login with WWPass" button and starts WWPass authentication procedure
4. On success the WWPass server reports authenticated user distinguished name (DN) to ISAM WebSEAL
5. WebSEAL detects authentication success report and allows user to access protected resource



Prerequisites

- IBM Security Access Manager 8.0 for Web
- Experience with ISAM configuration
- Reverse proxy already configured for a protected Web application
- Web application protected by ISAM
- WWPass External Authentication Solution source code
- WWPass Service Provider' certificate and private key
- WWPass Passkeys, provisioned to users

Configuring IBM Security Access Manager 8.0 for Web Summary

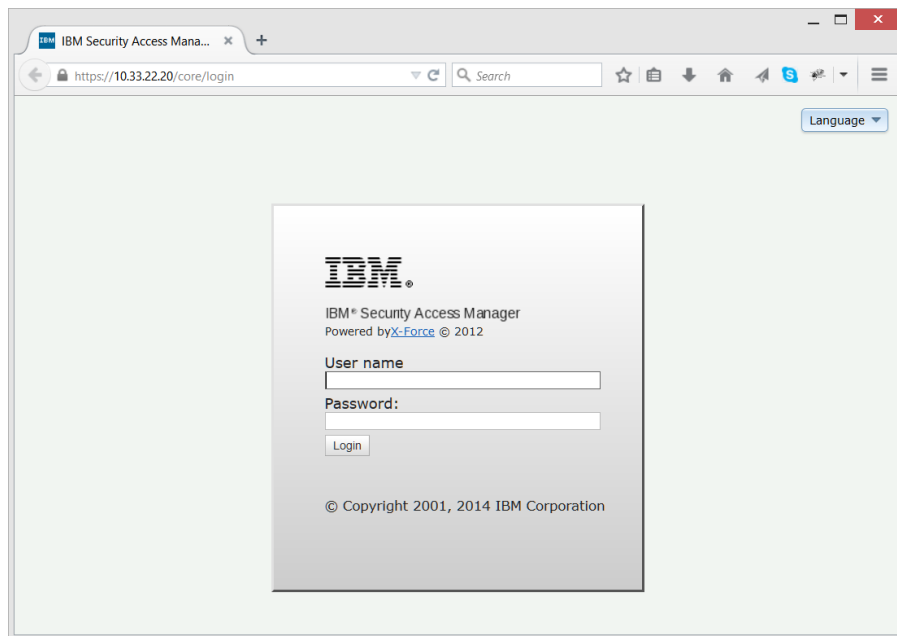
NOTE: It is assumed that there is a reverse proxy already configured for a protected Web application.

To add WWPass authentication to the reverse proxy, do the following:

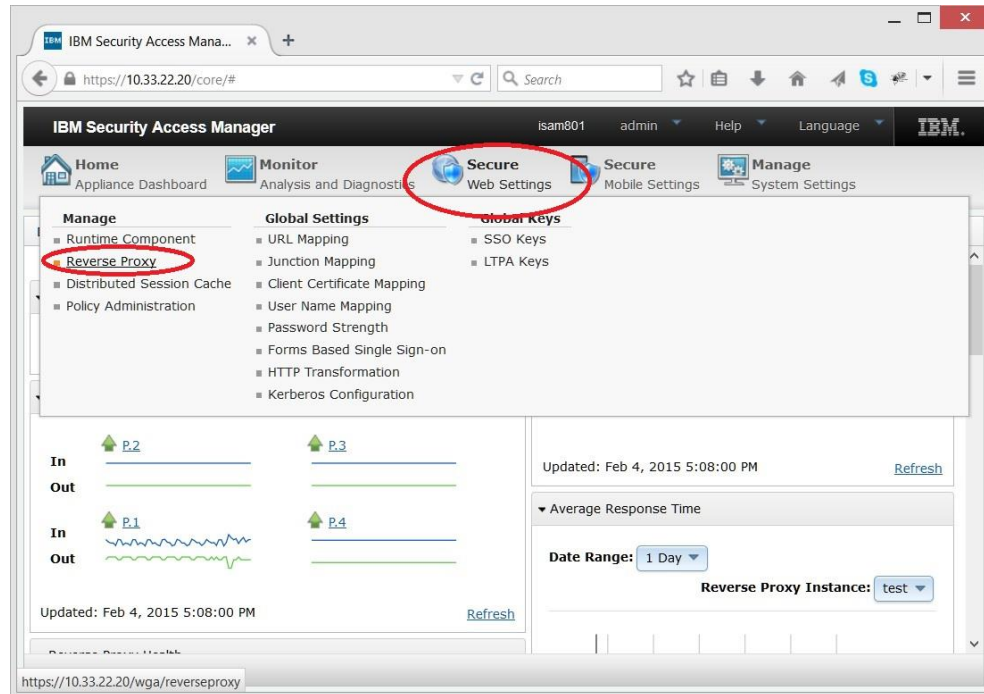
- Go to particular Reverse Proxy management page
- Create new junction for WWPass External Authenticator
- Modify authentication rules for selected ISAM Reverse proxy
- Set ACL for External Authenticator
- Set Protected Object Policy (POPs)
- Setup WWPass External Authenticator Software
- Modify Web pages of the reverse proxy

1. Select a Reverse Proxy

Log in to ISAM administrative URL



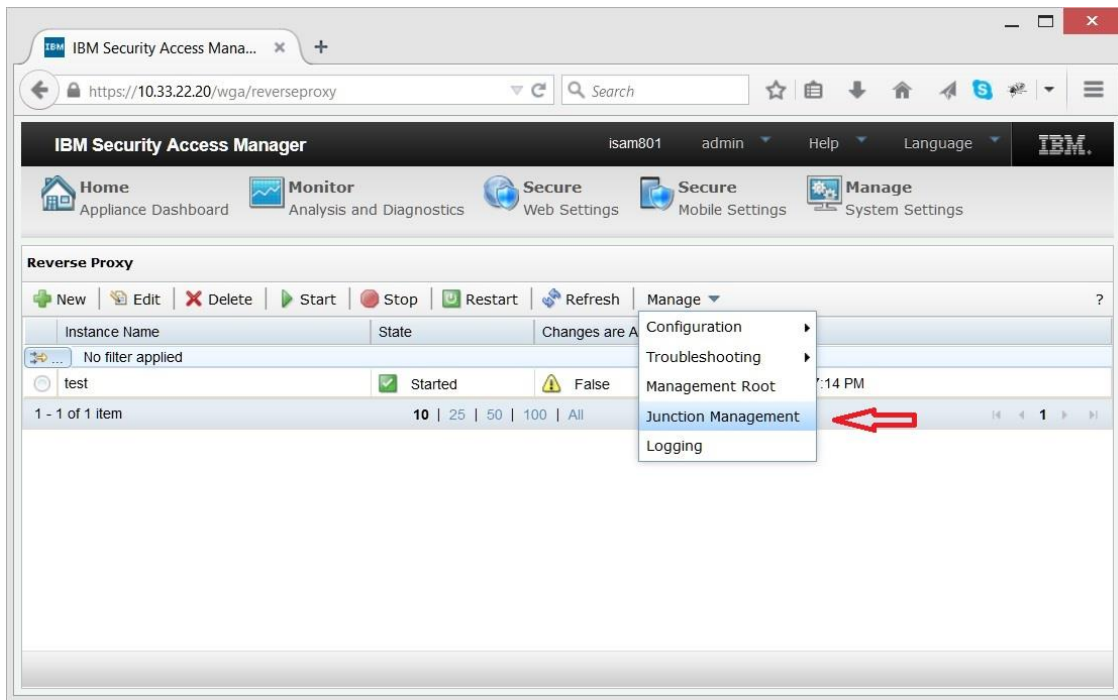
Select **Secure Web Settings** / Reverse Proxy



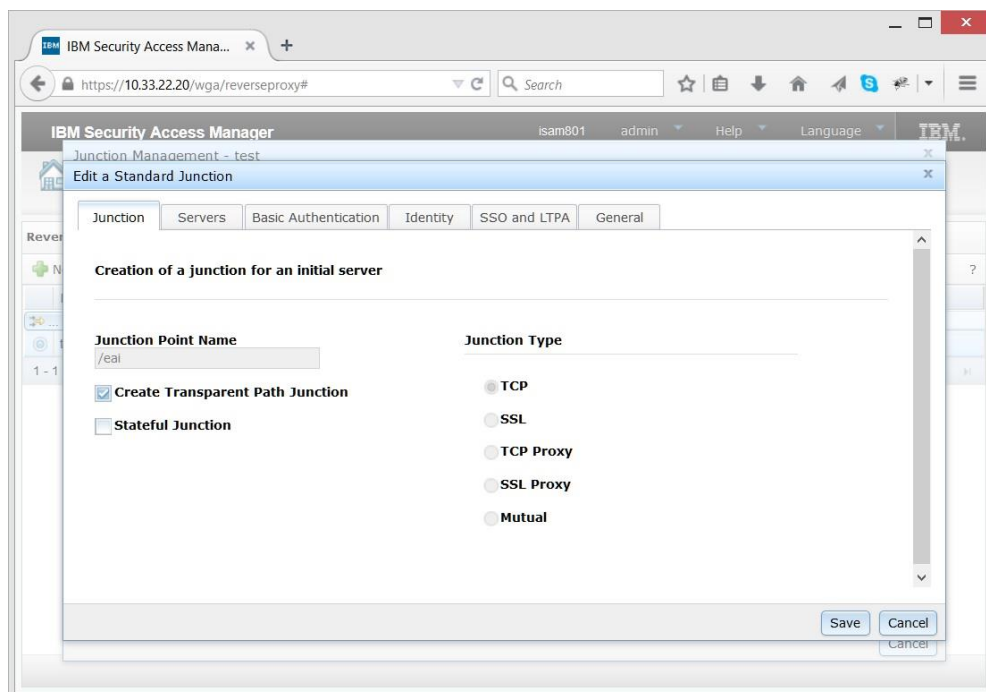
2. Create External Authenticator junction

Now we are about to configure "proxy junctions"

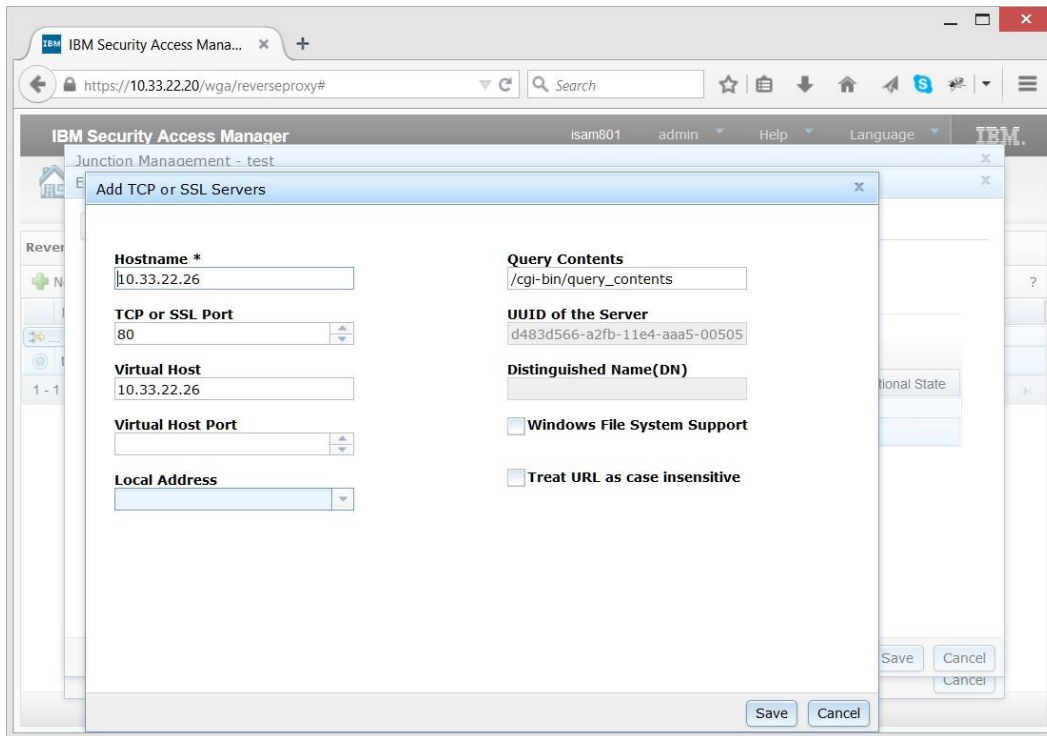
In the proxy list, choose particular proxy and in the drop-down **Manage** menu select **Junction Management**



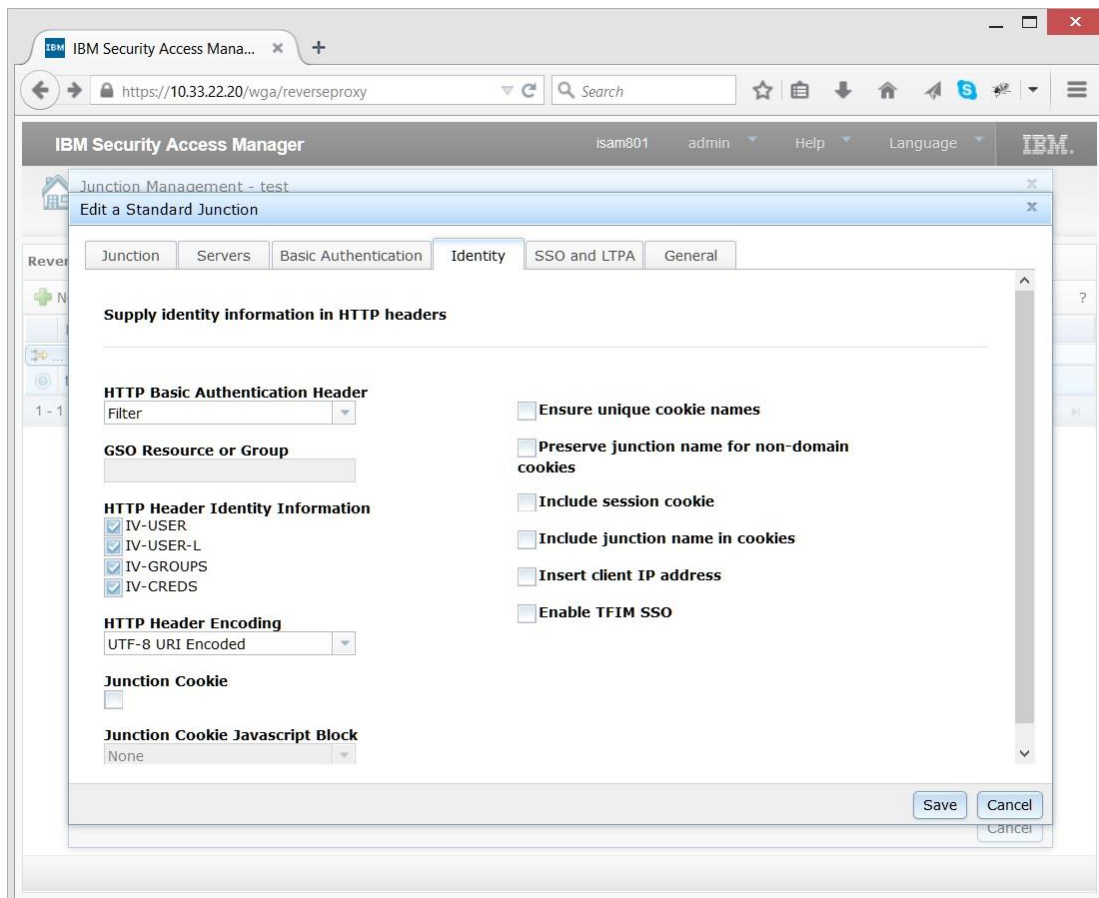
Select **New / Standard Junction**. Name the junction - say `/eai`, check **Create transparent path junction** and set **TCP Junction type**:



Now on the **Servers** tab, select 'New' and specify WWPass External Authenticator Server IP address and port



On the "Identity" tab set **HTTP Basic Authentication Headers** to **Filter** and select all check boxes in **HTTP Header Identity Information**:

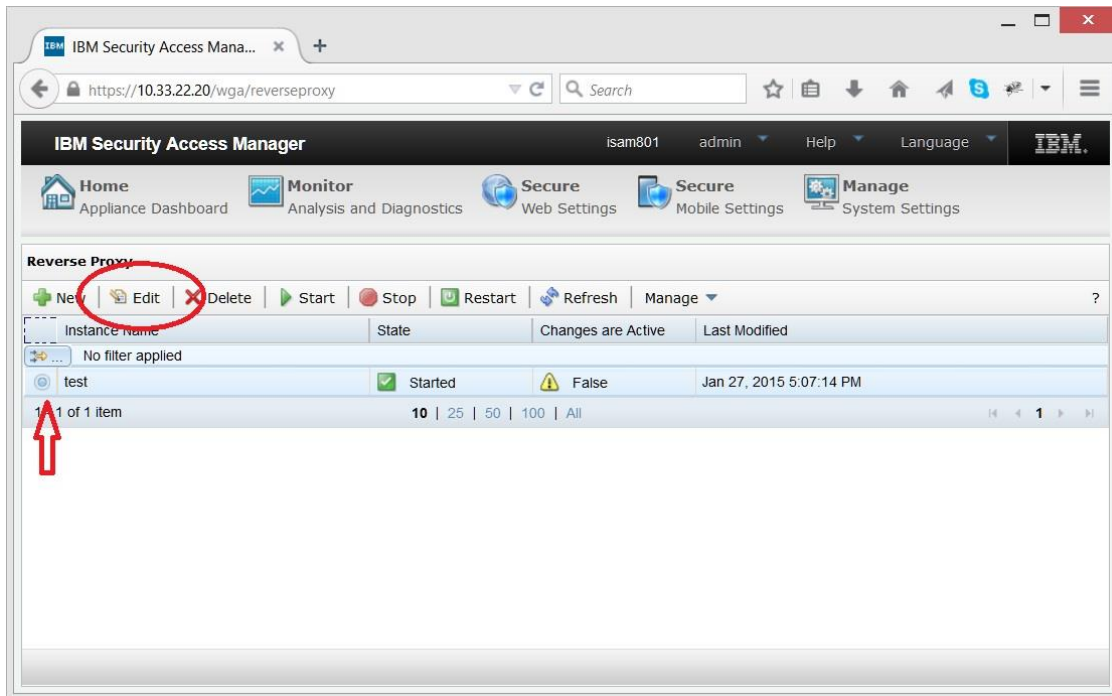


Leave all the other tabs (**Basic Authentication**, **SSO and LTPA** and **General**) blank

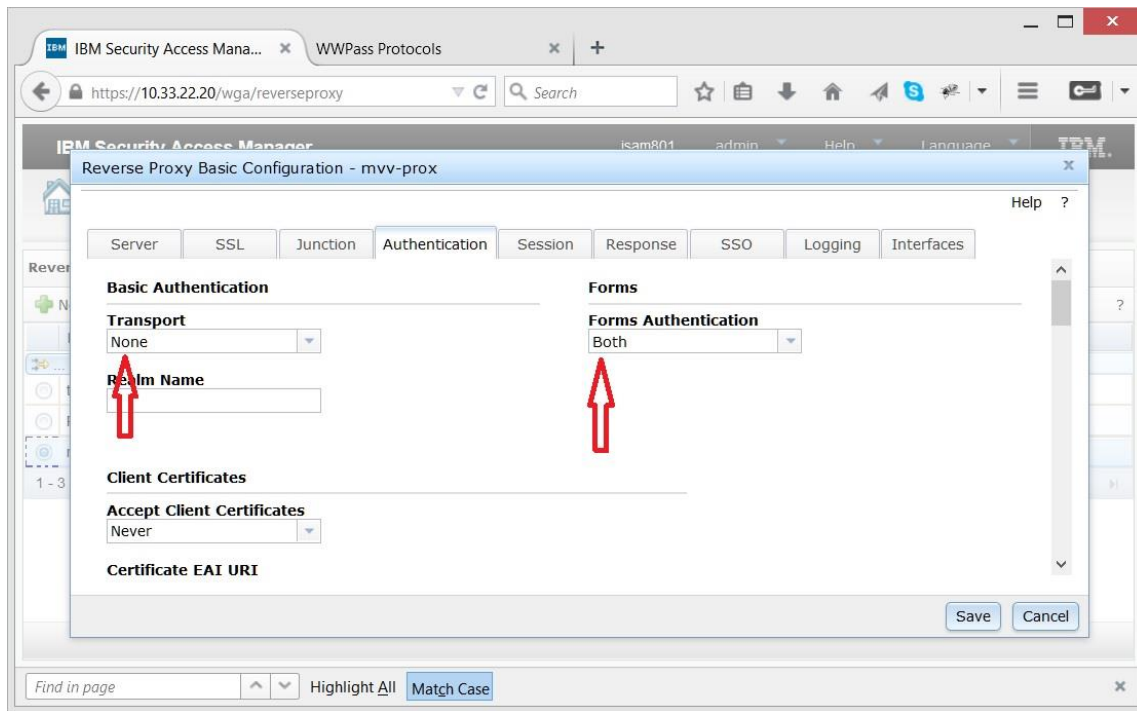
If it is first installation of ISAM, chances are there is still no protected resource configured yet. You have to create junctions for you services.

3. Modify authentication rules

Return to **Reverse Proxy** page and press **Edit** button.



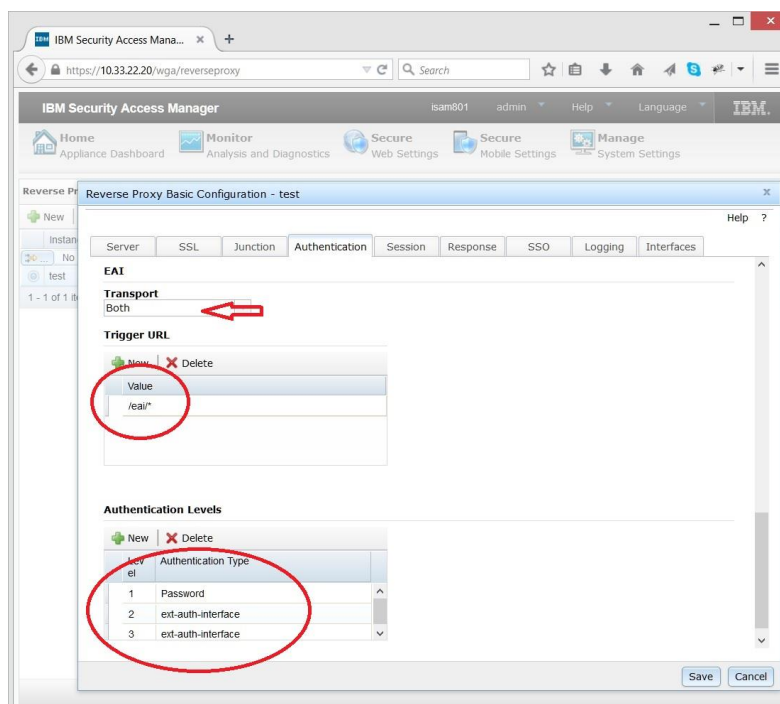
In the **Reverse Proxy Basic Configuration** dialog select **Authentication** tab. Be sure that Basic authentication transport is set to **None** while Forms set to **Both**



Now scroll the dialog down to **EAI** section.

- set transport to **Both**
- In the **Trigger URL** add `/eai/*`;
- add `ext-auth-interface` to the **Authentication Levels**

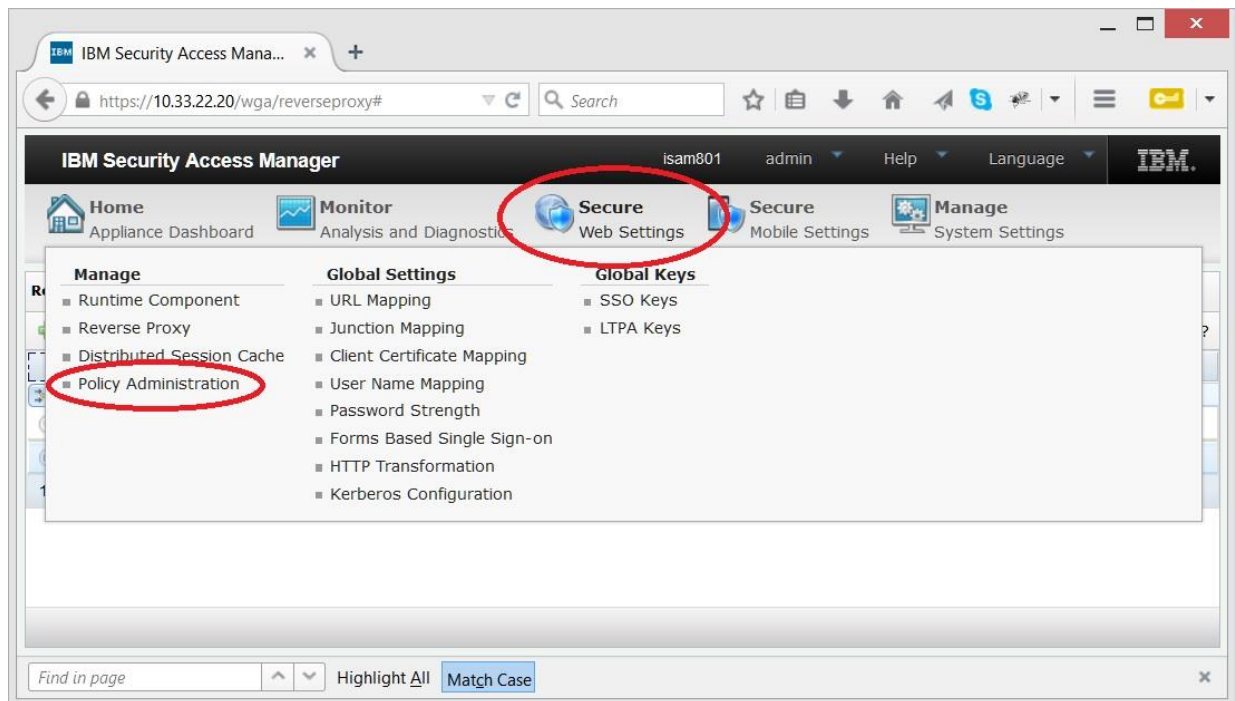
In case you implement different authentication levels (with and without WWPass Access Code), add another one (third) authentication level. Set it to `ext-auth-interface`.



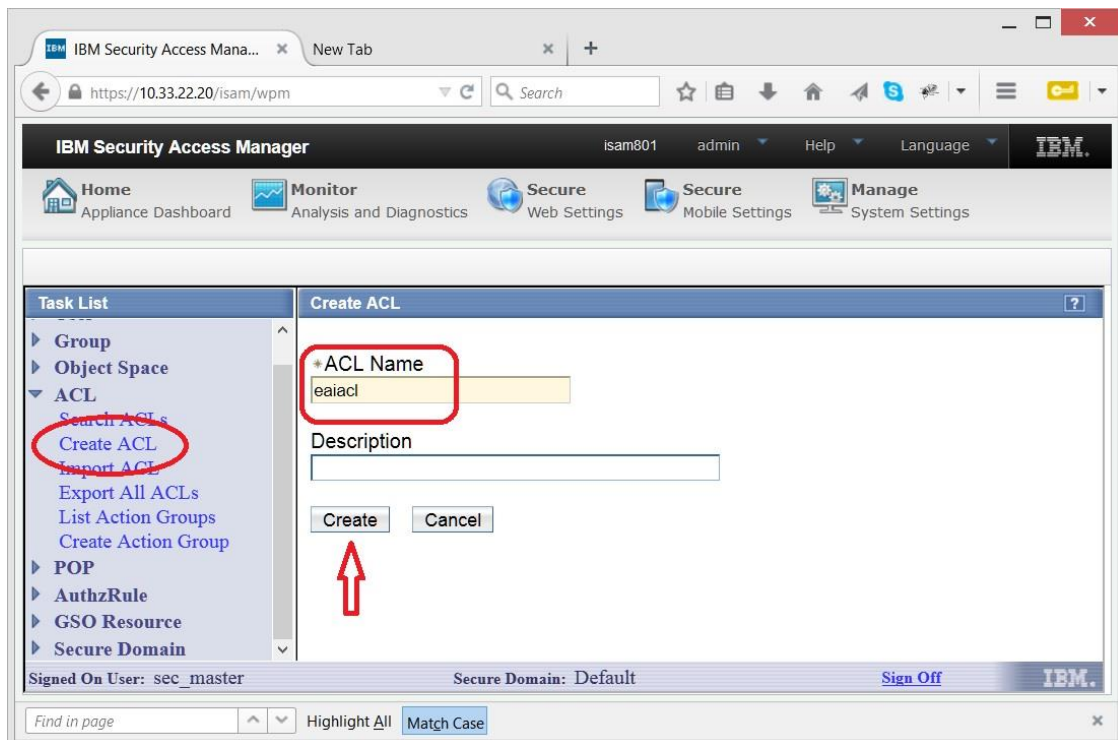
Setting up ACL

4. Go to Secure Web Settings / Policy Administration.

NOTE: Authentication as a sec_master may be required.

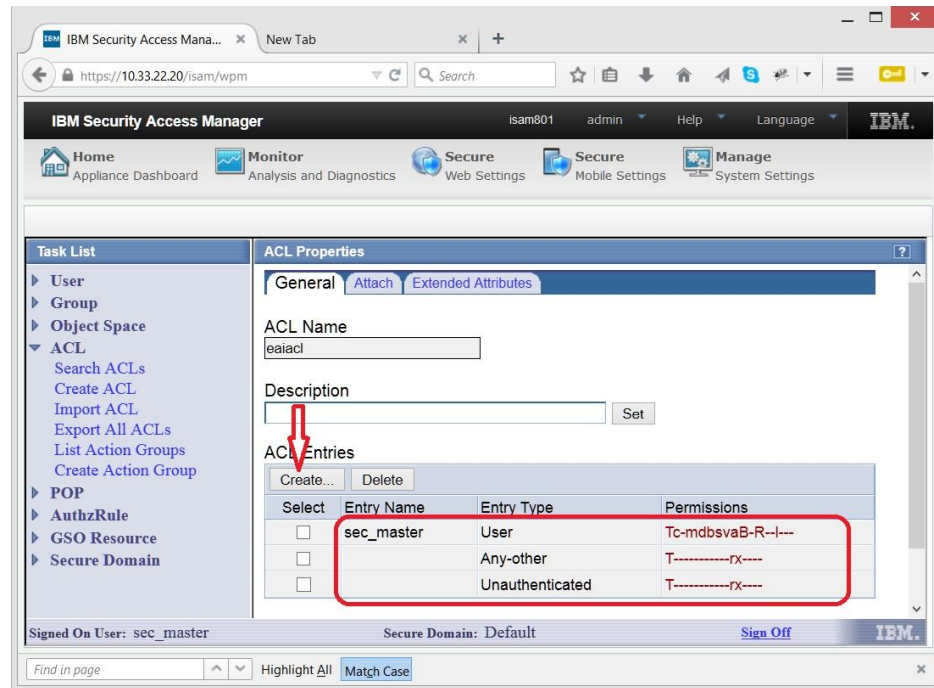


Select **Create ACL** option. Set new ACL name to e.g. eaiac1



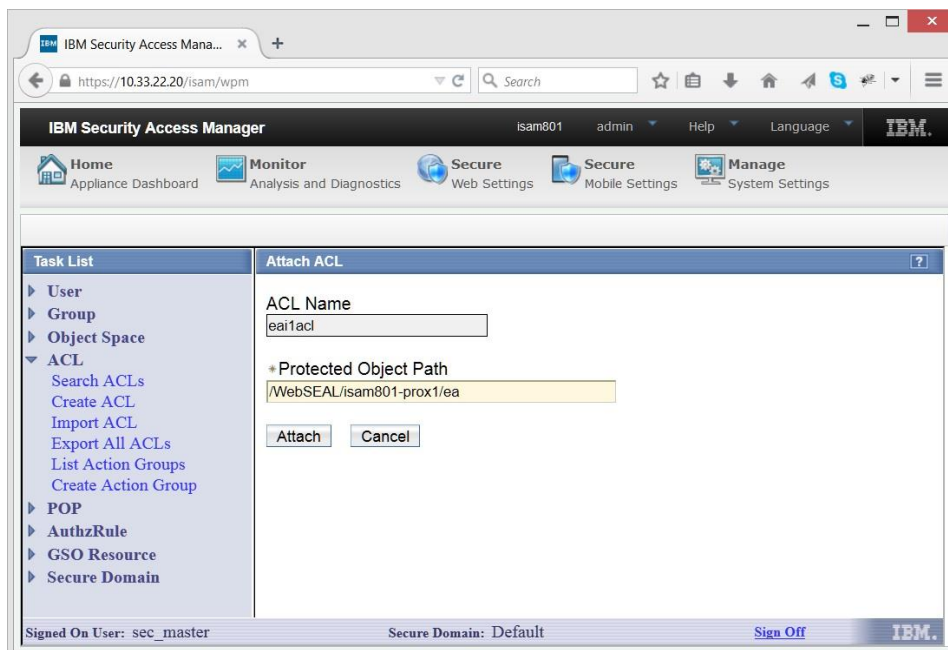
Now select "**Search ACL**" option. Enter `eaiac1` in the search field and get **ACL Properties** dialog

- Set (or check) `sec_master` entry to `TcmdbsvaBRI`
- Add entry with "Any-other" type, set permissions to `Trx`
- Add entry with "Unauthenticated" type, set permissions to `Trx`



Select "Attach" tab of the `eai` ACL.

Provided your reverse proxy name is **prox1**, add `/WebSEAL/isam801-prox1/eai` object to the ACL



5. Setting up Protected Object Policy (POP)

WWPass External Authenticator Service reports the information on whether the user provided WWPass Access Code or not. This is in compliance with ISAM definition of authentication levels. This way ISAM may be configured to request WWPass hardware authentication for user to get to selected resources. These resources will not be accessible with login/password authentication. User may be requested to provide WWPass Access Code in addition to hardware token.

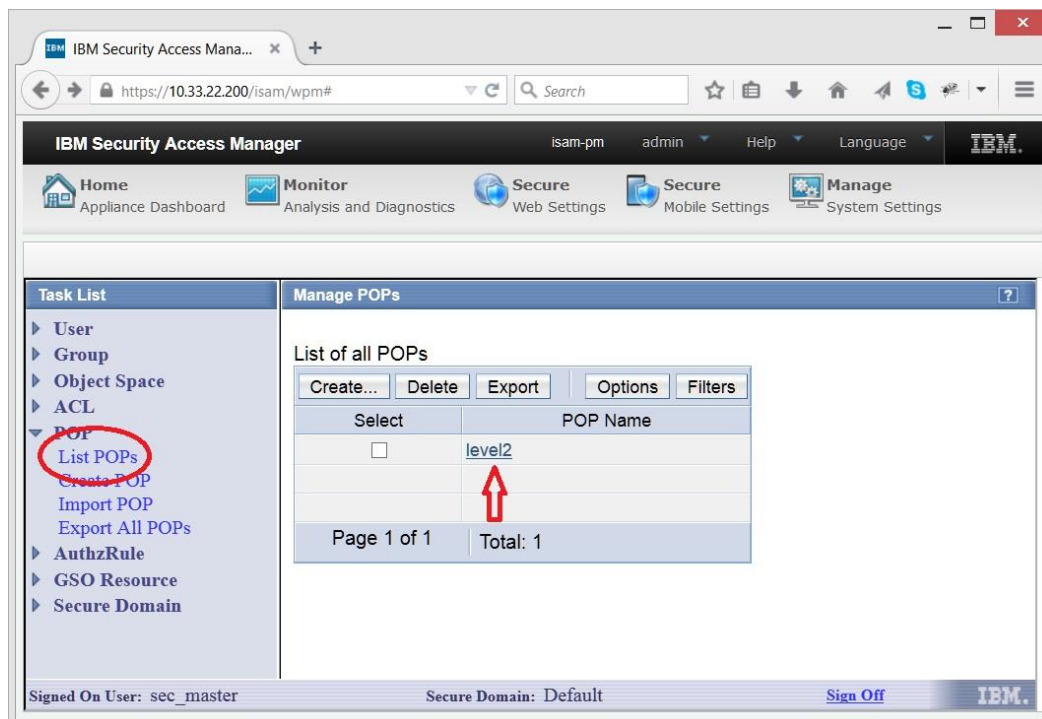
To set authentication requirements for particular resource, go to the same **Secure Web Settings / Policy Administration** page where ACL was set. Now click on **Create POP** link. Set arbitrary name for the new POP - "level2" in our case and press "Create" button.

The screenshot displays the IBM Security Access Manager (ISAM) web interface. The browser address bar shows the URL `https://10.33.22.200/isam/wpm#`. The page title is "IBM Security Access Manager". The navigation bar includes links for Home, Monitor, Secure (selected), and Manage. The "Secure" tab is active, showing "Web Settings". In the left sidebar, the "POP" section is expanded, and the "Create POP" link is highlighted. The main content area is titled "Create POP". It contains the following fields and options:

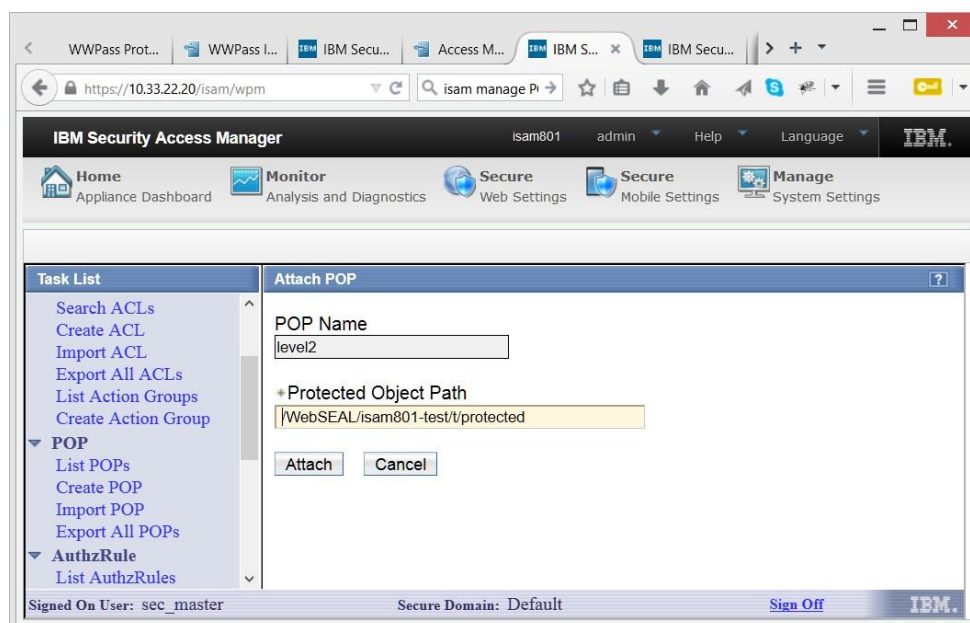
- POP Name:** A text field containing "level2".
- Description:** An empty text field.
- Audit Level:** A section with four checkboxes: Permit, Deny, Error, and Admin.
- Warn Only On Policy Violation:** A checkbox that is currently unchecked.
- Quality of Protection:** A dropdown menu set to "None".
- Time of Day Access:** A section with checkboxes for Sunday through Saturday, all of which are checked. It also includes radio buttons for "All Day", "Between hours of" (with start and end time pickers), "Local Time", and "UTC Time".

At the bottom of the form, there are "Create" and "Cancel" buttons. The "Create" button is circled in red. The footer of the page shows "Signed On User: sec_master", "Secure Domain: Default", and a "Sign Off" link.

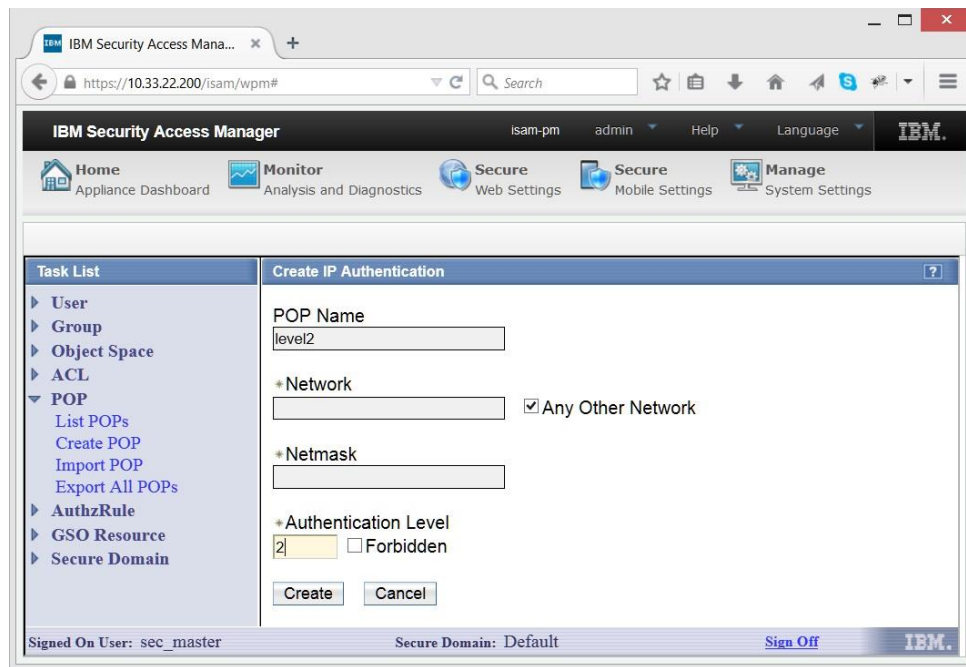
Now click on "List POPs" on the left and select newly created "level2" link



In the POP configuration dialog select "Attach" tab and press on the "Attach" button. Provide the path of protected resource which requires this level of authentication. Obviously the path of the resource is composed of the ISAM appliance name, reverse proxy name and the name of the junction to be protected. Press "Attach" button.



Finally go to "IP Auth" tab, press on "Create" button, set Authentication Level to "2" and check "Any other network" box.



You can define "level3" POP in the same way with path to "super protected" resource and Authentication level set to 3. Now ISAM will need WWPass authentication with Access Code (two-factor).

Now when user authenticates with login/password pair, ISAM redirects to "stepuplogin" page with WWPass login buttons.

6. Setup WWPass External Authenticator Software

Download the WWPass External Authenticator distribution called wwpass_isam.zip available at <https://developers.wwpass.com/downloads/wwisam>

The software distribution consists of three parts:

- php code for WWPass External Authentication Server (eaidirectory)
- updates for ISAM appliance (isam directory)
- example of optional modifications in protected app (app directory)

Deploying WWPass External Authenticator

The WWPass External Authenticator uses WWPass technology and plays a role of WWPass Service Provider. To learn more, read documentation on docs.wwpass.com

The WWPass solution may be deployed on any standard *LAMP* (Linux-Apache-MySQL-PHP) server. This server is located in internal corporate network and is accessible from ISAM appliance.

Prerequisites

- Standard LAMP server
- `php5-curl` package

Now follow the steps:

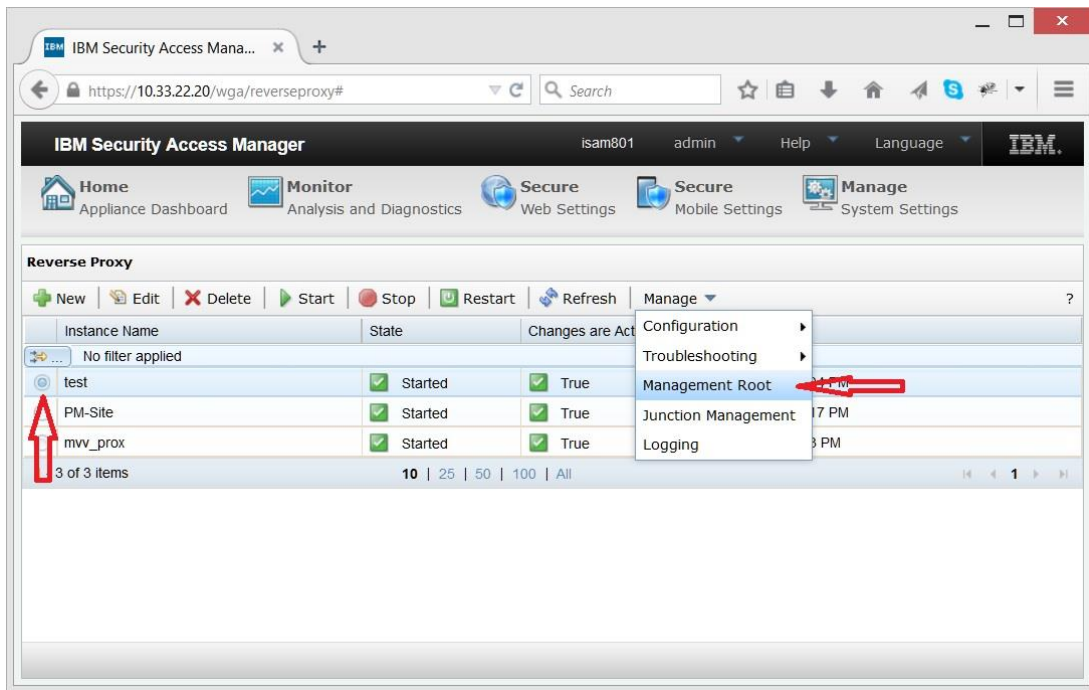
1. Unzip the <https://developers.wwpass.com/downloads/wwisam> package and copy `/eai/` directory to a location, accessible by Apache Web server, e.g. `/var/www/html/eai`
2. Use the file `eai/wwpass.sql` to create MySQL database. The file creates a `wwpass_isam` database and a user with the same name - `wwpass_isam`. This database stores the mapping between WWPass keys and LDAP user names. It is highly recommended to change the user and password of the database.
3. Edit `eai/config.php` file to specify particular parameters of your installation, namely database user and password as well as WWPass credentials - service provider's certificate and key files. For more details on WWPass Service Provider registration, go to developers.wwpass.com

NOTE: directory indexes (directory listings) should be disabled in the `/eai` directory. If your Apache configuration allows indexes, rely on the included `.htaccess` file.

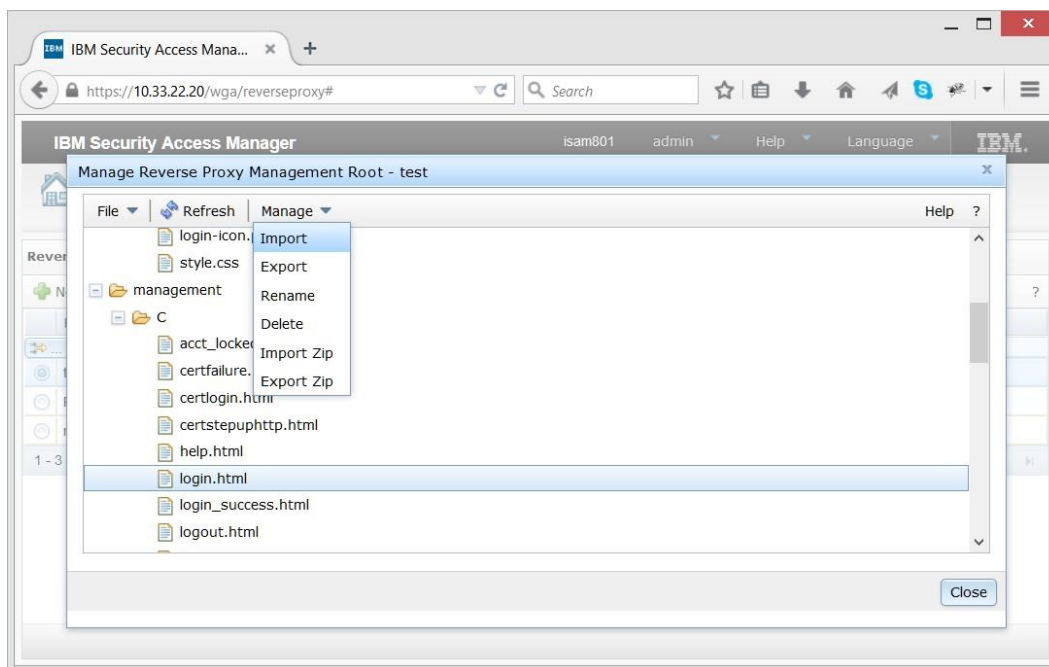
7. Modify Web pages of the reverse proxy

Four HTML files are to be updated on the ISAM appliance. Select particular reverse proxy you are about to protect with WWPass (Secure Web Settings -> reverse Proxy).

In the **Manage** menu chose **Management Root** item.



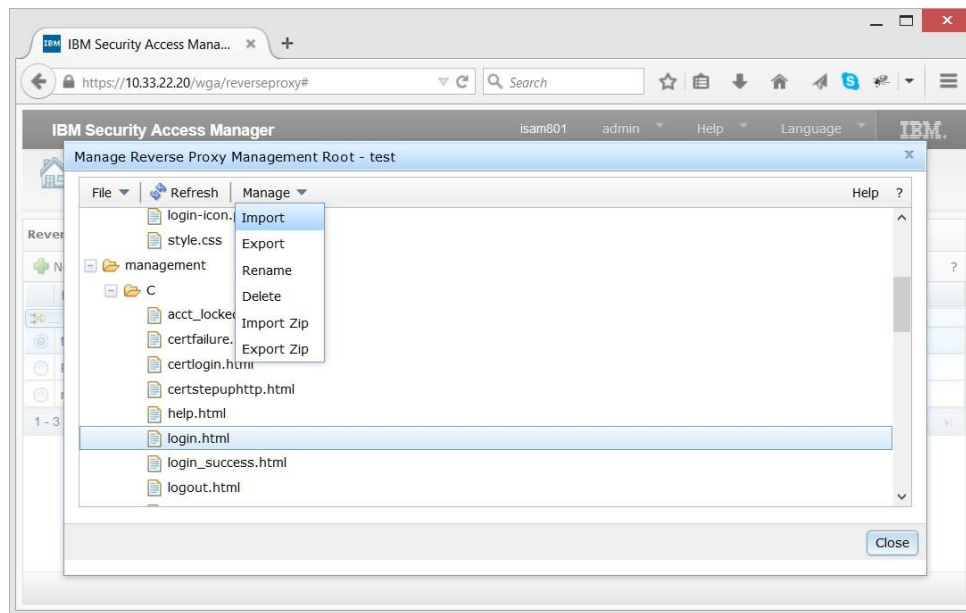
Locate /management/C/ directory and import (upload) login.html, logout.html and stepuplogin.html from WWPass distribution isam/management/C/ directory.



NOTE: To import particular file, select it with a mouse and select **Import** command in the **Manage** menu.

Now go to /junction-root/ directory and import isam/junction-root/index.html file. The file actually redirects users to your (default) protected application. Edit the file to point to actual URL in the following line

```
<meta http-equiv="refresh" content="0; url=/my_protected_site">
```



NOTE: If your WWPass EAI junction name is not `/eai`, change links to `/eai/login.php` in `login.html` and `stepuplogin.html` appropriately.

Protected pages modification

As soon as ISAM, not a protected application, actually logs the user in, and then switches the user transparently to the protected application, it is reasonable to provide Logout link in the application itself. It also worth to add another two links for key management - "Attach" and "Detach" Passkey.

Here are the required URLs:

```
<a href="/eai/attach.php">Attach a Passkey </a>
<a href="/eai/detach.php">Detach a Passkey </a>
<a href="/pkmslogout">Logout</a>
```

You will find an example page with these links in the `/app/index.php` file of the distribution as well as the way to get user name and other credentials