**Bulk Import**

Below are the snapshots for the different pages during the journey of Import process.
The input set I have used is of 1000 records (spec/fixures/test_data_1000.csv) viz attached in the zip.

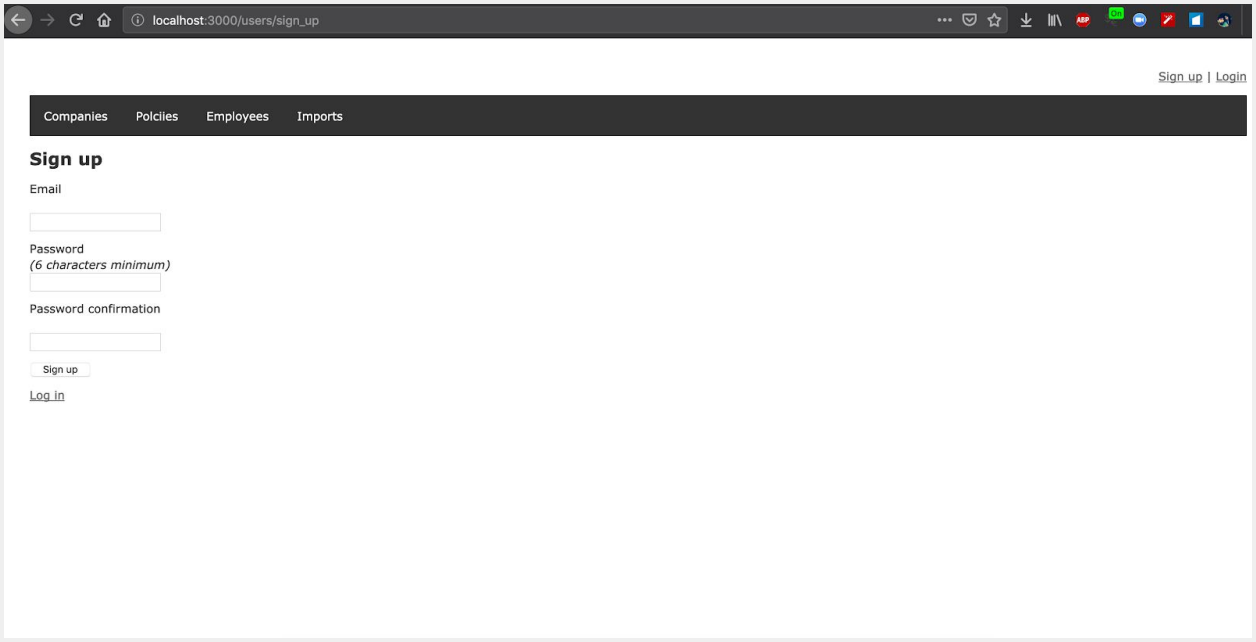
Assumptions:

- Email should be unique as it is a work email address so should be different across companies. It would work if a person is an alumni for a company and works in another.
- Policy with same name can exist for different companies. So, have changed the uniqueness level to name+company

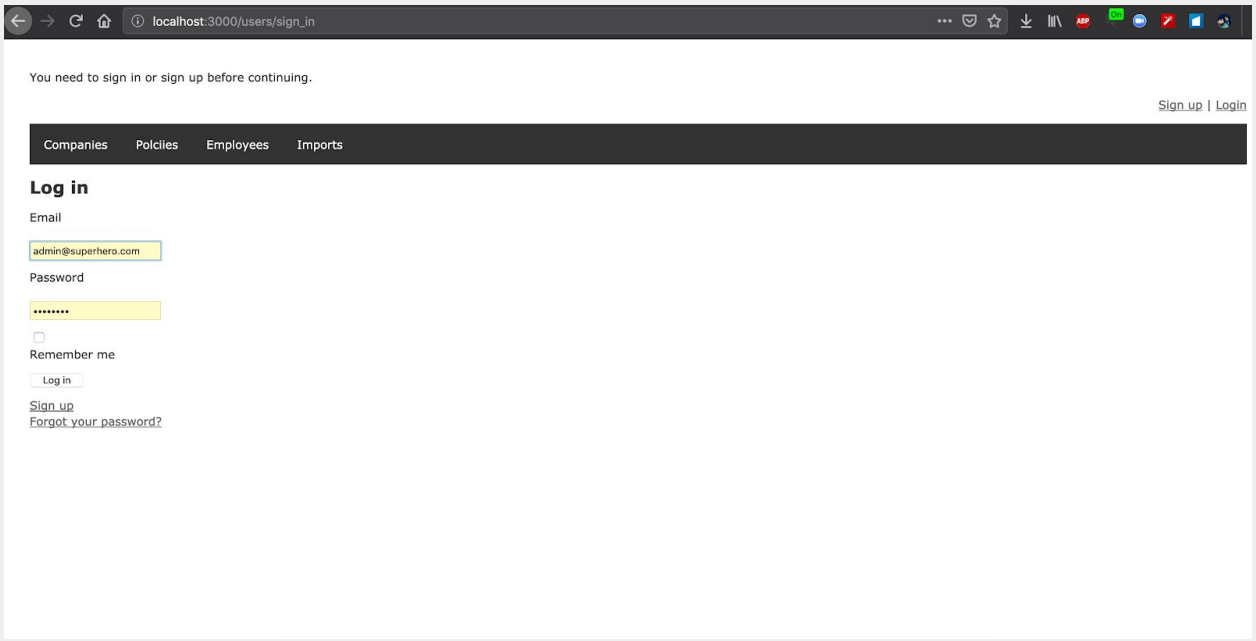
Notes:

- **Async Flow:** The CSV records are read and saves as import requests in the system and is executed in batches in the background. I have created the flow async so that the user is not blocked and statuses can be seen on the Import Request List page.
- **Retry Failure:** A retry mechanism is easier to build on this implementation since we will have to process the records which are not processed. It would be good to have feature, in case the job was killed due to failure in server or was restarted, the user can retry those records which are left in IN_PROGRESS or NOT_STARTED state out of non-data issue.
- **Performance:** Currently, its taking **~20 seconds for 1000 records** (20 ms per record). It can be improved further depending upon the nature of experience expected. Currently, I have not moved to speeding up the system using the DB sqls but if required we can take advantage of that. Currently, the Active Record based implementation makes it more readable and manageable.
- **Authorization** can be introduced so that only an admin or desired users are able to make the data changes while others can view the data.
- T**est suite** can be improved given more time. Along with the unit/integration tests, having BDD based tests (**cucumber**) makes the test suite like a document viz more readable even to a business user.

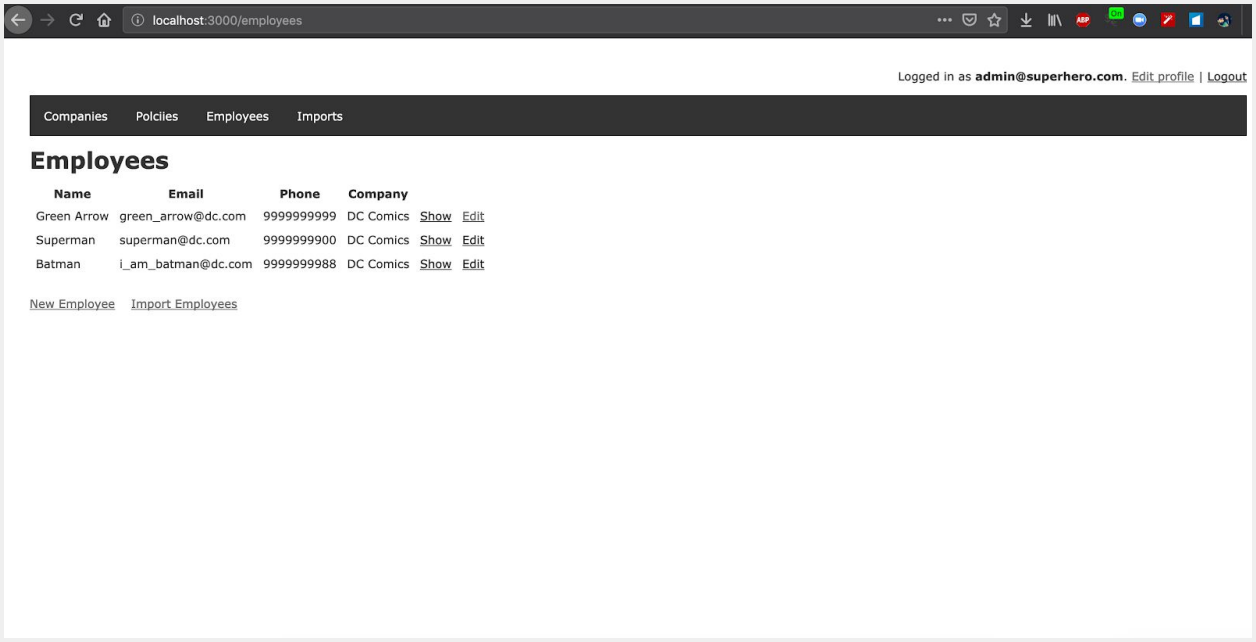
## Sign Up



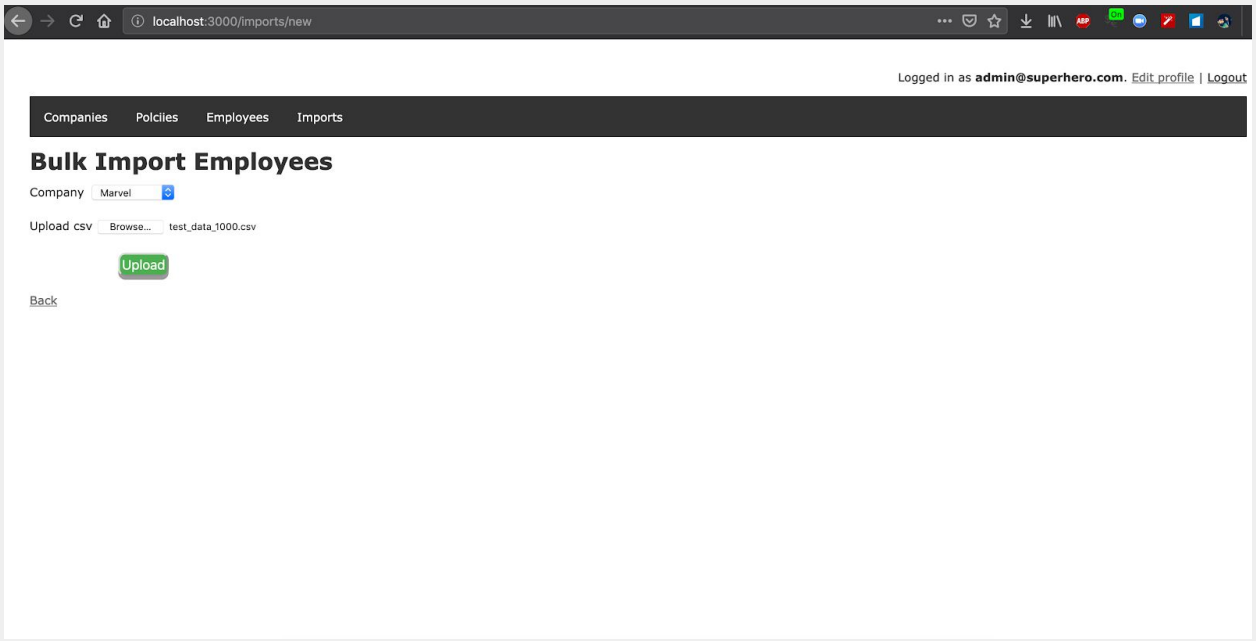

## Login



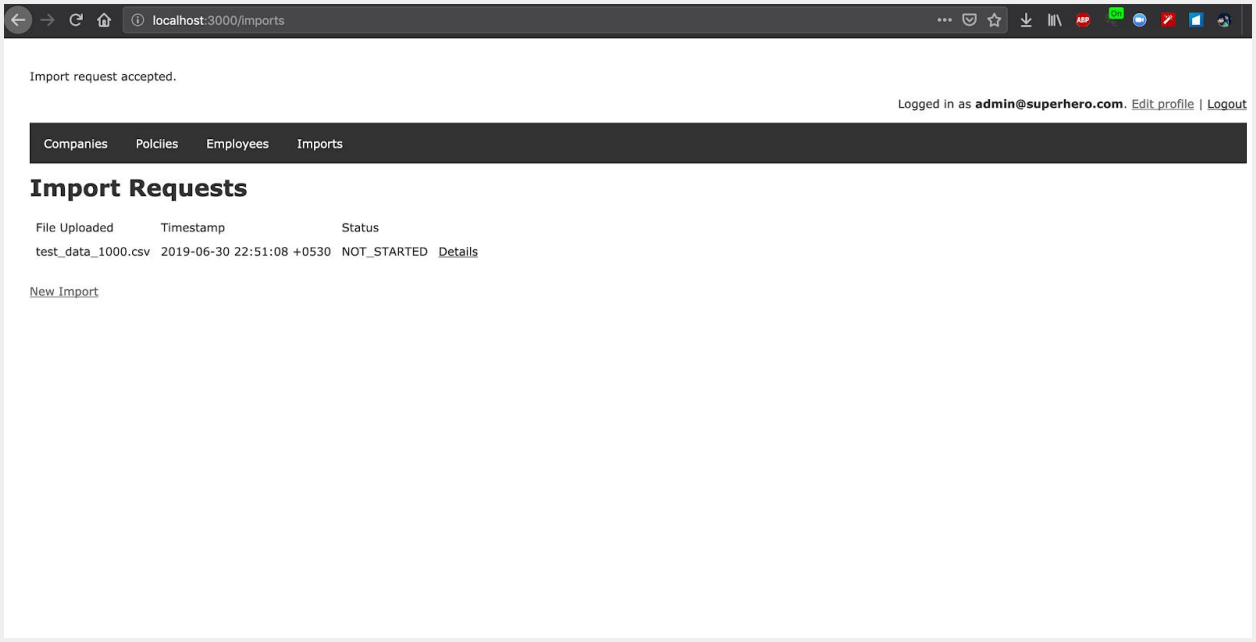
**Employees List -** Click Import Employee for Bulk Import



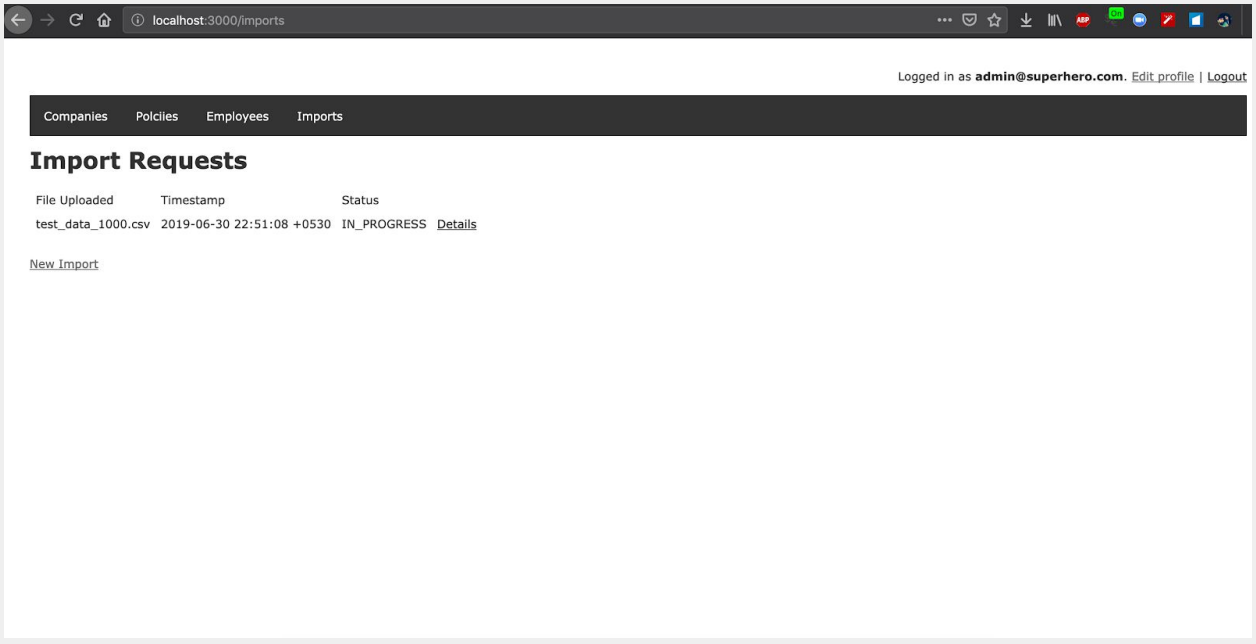

**Bulk Import -** Select Company and CSV File for upload



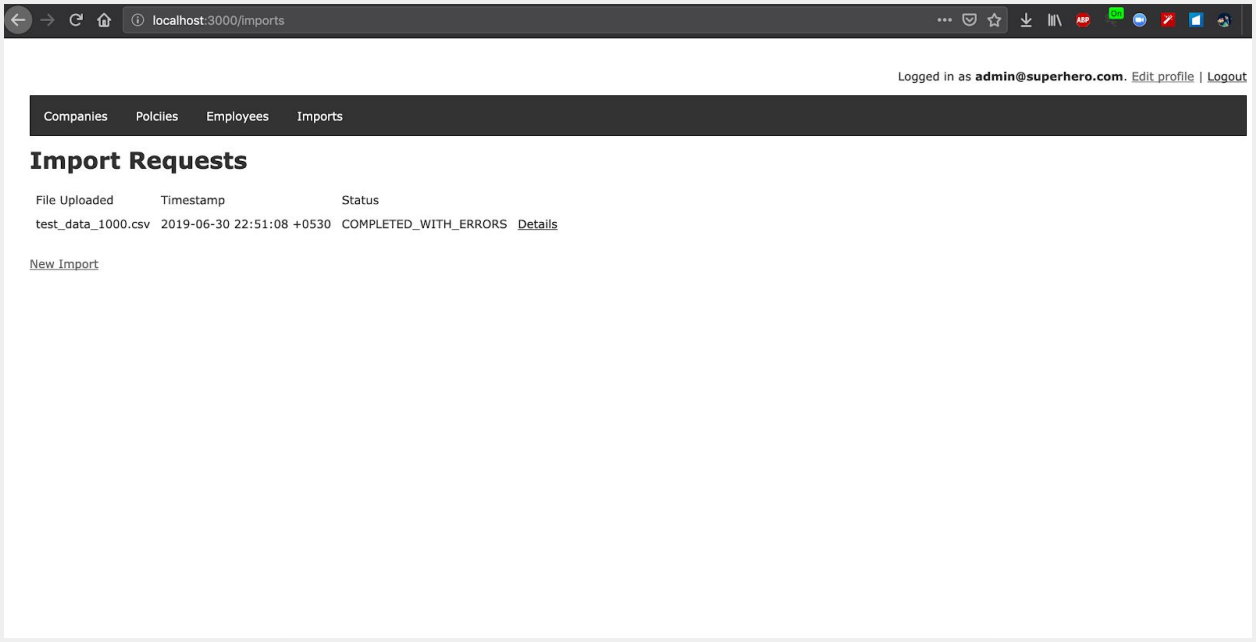
## Import Requests List - shows the request has been submitted & the status of the upload.



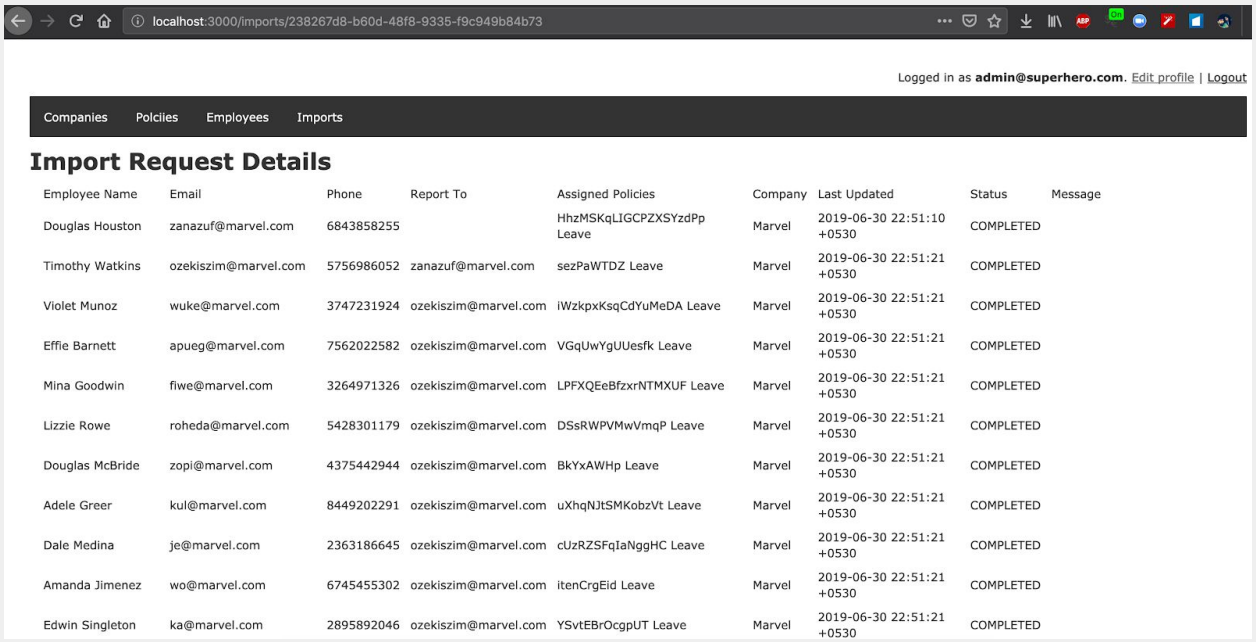

## Refresh Page - Now shows the import is In Progress



**Import Request Processed -** with status COMPLETED/ COMPLETED_WITH_ERRORS

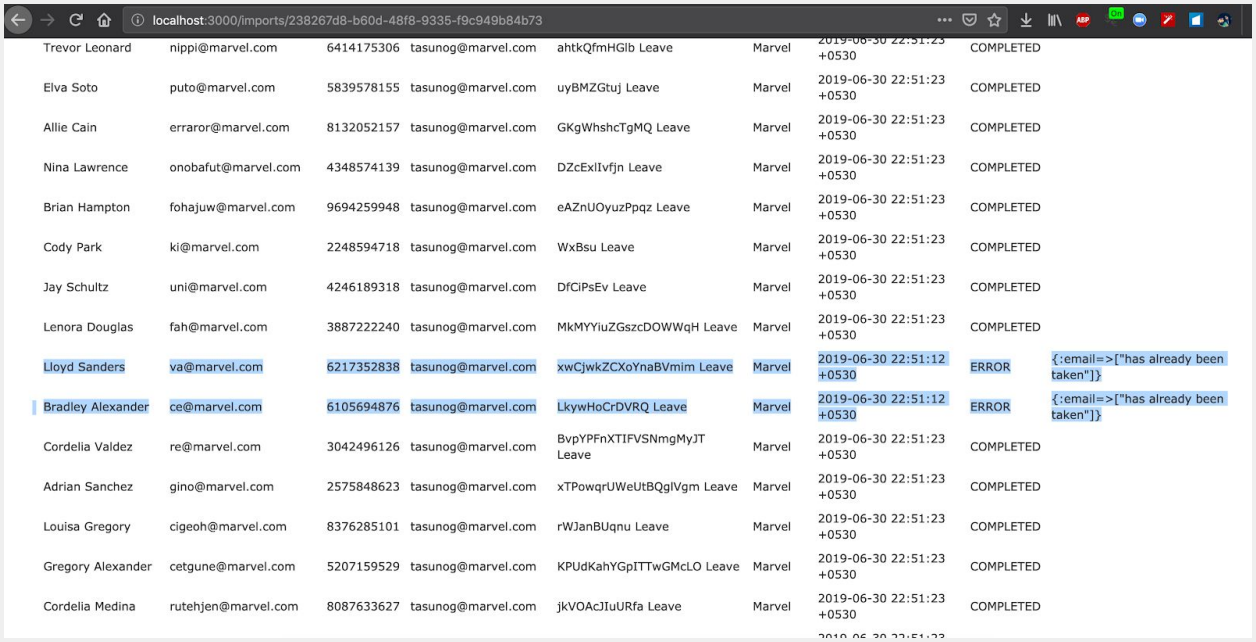



**View Import Request Details** - shows statuses against each record in the CSV



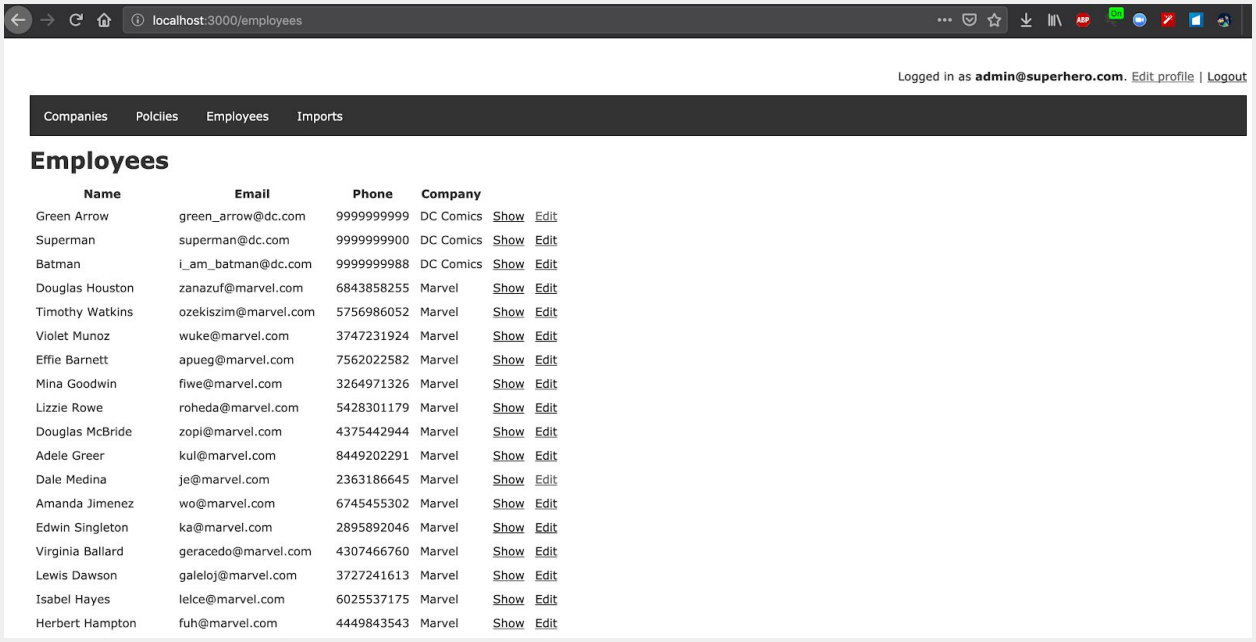

| Employee Name | Email | Phone | Report To | Assigned Policies | Company | Last Updated | Status | Message |
|---|---|---|---|---|---|---|---|---|
| Douglas Houston | zanazuf@marvel.com | 6843858255 | | HhzMSKqLIGCPZXSYzdPp Leave | Marvel | 2019-06-30 22:51:10 +0530 | COMPLETED | |
| Timothy Watkins | ozekiszim@marvel.com | 5756986052 | zanazuf@marvel.com | sezPaWTDZ Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Violet Munoz | wuke@marvel.com | 3747231924 | ozekiszim@marvel.com | iWzkpxKsqCdYuMeDA Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Effie Barnett | apueg@marvel.com | 7562022582 | ozekiszim@marvel.com | VGqUwYgUUesfk Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Mina Goodwin | fiwe@marvel.com | 3264971326 | ozekiszim@marvel.com | LPFXQEeBfzxrNTMXUF Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Lizzie Rowe | roheda@marvel.com | 5428301179 | ozekiszim@marvel.com | DSsRWPVMwVmqP Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Douglas McBride | zopi@marvel.com | 4375442944 | ozekiszim@marvel.com | BkYxAWHp Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Adele Greer | kul@marvel.com | 8449202291 | ozekiszim@marvel.com | uXhqNJtSMKobzVt Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Dale Medina | je@marvel.com | 2363186645 | ozekiszim@marvel.com | cUzRZSFqIaNggHC Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Amanda Jimenez | wo@marvel.com | 6745455302 | ozekiszim@marvel.com | itenCrgEid Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |
| Edwin Singleton | ka@marvel.com | 2895892046 | ozekiszim@marvel.com | YSvtEBrOcgpUT Leave | Marvel | 2019-06-30 22:51:21 +0530 | COMPLETED | |

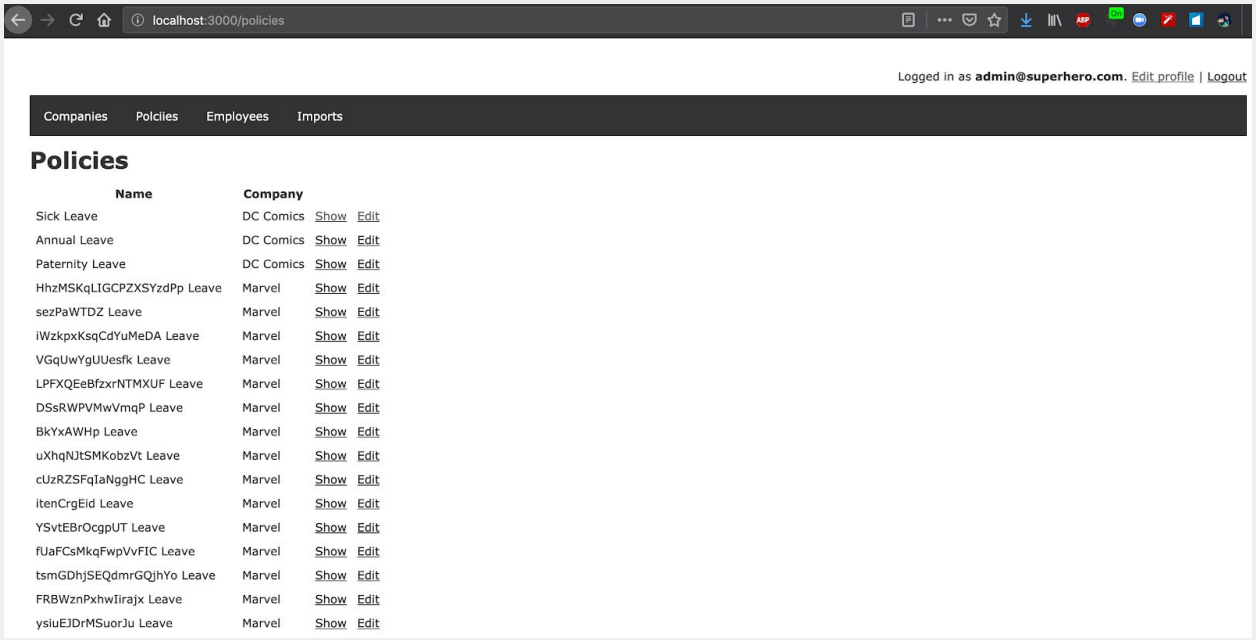
## **View Import Request Details** - shows errors for uploaded records




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Trevor Leonard | nippi@marvel.com | 6414175306 | tasunog@marvel.com | ahtkQfmHGlb Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Elva Soto | puto@marvel.com | 5839578155 | tasunog@marvel.com | uyBMZGtuj Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Allie Cain | erraror@marvel.com | 8132052157 | tasunog@marvel.com | GKgWhshcTgMQ Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Nina Lawrence | onobafut@marvel.com | 4348574139 | tasunog@marvel.com | DZcExlIvfjn Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Brian Hampton | fohajuw@marvel.com | 9694259948 | tasunog@marvel.com | eAZnUOyuzPpqz Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Cody Park | ki@marvel.com | 2248594718 | tasunog@marvel.com | WxBsu Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Jay Schultz | uni@marvel.com | 4246189318 | tasunog@marvel.com | DfCiPsEv Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Lenora Douglas | fah@marvel.com | 3887222240 | tasunog@marvel.com | MkMYYiuZGszcDOWWqH Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Lloyd Sanders | va@marvel.com | 6217352838 | tasunog@marvel.com | xwCjwkZCXoYnaBVmim Leave | Marvel | 2019-06-30 22:51:12 +0530 | ERROR | {:email=>["has already been taken"]} |
| Bradley Alexander | ce@marvel.com | 6105694876 | tasunog@marvel.com | LkywHoCrDVRQ Leave | Marvel | 2019-06-30 22:51:12 +0530 | ERROR | {:email=>["has already been taken"]} |
| Cordelia Valdez | re@marvel.com | 3042496126 | tasunog@marvel.com | BvpYPFnXTIFVSNmgMyJT Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Adrian Sanchez | gino@marvel.com | 2575848623 | tasunog@marvel.com | xTPowqrUWeUtBQglVgm Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Louisa Gregory | cigeoh@marvel.com | 8376285101 | tasunog@marvel.com | rWJanBUqnu Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Gregory Alexander | cetgune@marvel.com | 5207159529 | tasunog@marvel.com | KPUdKahYGpITTwGMcLO Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |
| Cordelia Medina | rutehjen@marvel.com | 8087633627 | tasunog@marvel.com | jkVOAcJIuURfa Leave | Marvel | 2019-06-30 22:51:23 +0530 | COMPLETED | |

## **Employee List** - after the import




| Name | Email | Phone | Company | | |
|---|---|---|---|---|---|
| Green Arrow | green_arrow@dc.com | 9999999999 | DC Comics | Show | Edit |
| Superman | superman@dc.com | 9999999900 | DC Comics | Show | Edit |
| Batman | i_am_batman@dc.com | 9999999988 | DC Comics | Show | Edit |
| Douglas Houston | zanazuf@marvel.com | 6843858255 | Marvel | Show | Edit |
| Timothy Watkins | ozekiszim@marvel.com | 5756986052 | Marvel | Show | Edit |
| Violet Munoz | wuke@marvel.com | 3747231924 | Marvel | Show | Edit |
| Effie Barnett | apueg@marvel.com | 7562022582 | Marvel | Show | Edit |
| Mina Goodwin | fiwe@marvel.com | 3264971326 | Marvel | Show | Edit |
| Lizzie Rowe | roheda@marvel.com | 5428301179 | Marvel | Show | Edit |
| Douglas McBride | zopi@marvel.com | 4375442944 | Marvel | Show | Edit |
| Adele Greer | kul@marvel.com | 8449202291 | Marvel | Show | Edit |
| Dale Medina | je@marvel.com | 2363186645 | Marvel | Show | Edit |
| Amanda Jimenez | wo@marvel.com | 6745455302 | Marvel | Show | Edit |
| Edwin Singleton | ka@marvel.com | 2895892046 | Marvel | Show | Edit |
| Virginia Ballard | geracedo@marvel.com | 4307466760 | Marvel | Show | Edit |
| Lewis Dawson | galeloj@marvel.com | 3727241613 | Marvel | Show | Edit |
| Isabel Hayes | lelce@marvel.com | 6025537175 | Marvel | Show | Edit |
| Herbert Hampton | fuh@marvel.com | 4449843543 | Marvel | Show | Edit |

## **Policies List -** after Import