

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/fixtures/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.
- **Test 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

localhost:3000/users/sign_up

Sign up | Login

Companies Policies Employees Imports

Sign up

Email

Password
(6 characters minimum)

Password confirmation

[Log in](#)

Login

localhost:3000/users/sign_in

Sign up | Login

You need to sign in or sign up before continuing.

Companies Policies Employees Imports

Log in

Email

Password

☐

Remember me

[Sign up](#)

[Forgot your password?](#)

Employees List - Click Import Employee for Bulk Import

← → ↻ 🏠 ⓘ localhost:3000/employees

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Companies

Polcies

Employees

Imports

Employees

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

[New Employee](#) [Import Employees](#)

Bulk Import - Select Company and CSV File for upload

← → ↻ 🏠 ⓘ localhost:3000/imports/new

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Companies

Polcies

Employees

Imports

Bulk Import Employees

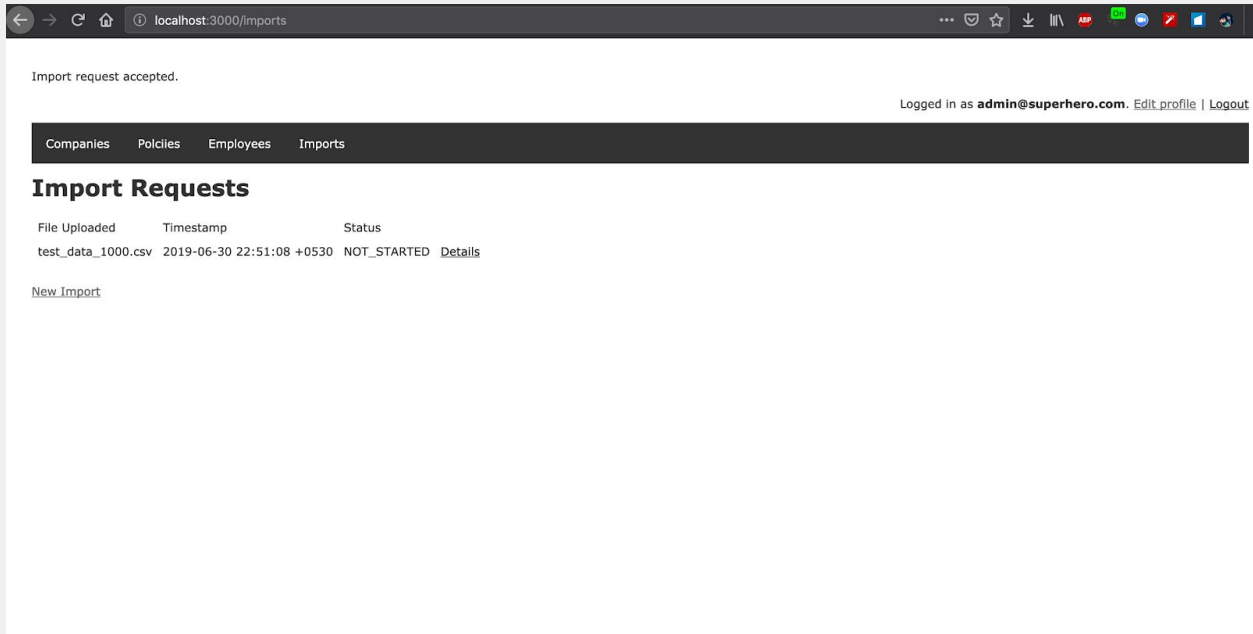
Company

Upload csv

[Upload](#)

[Back](#)

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

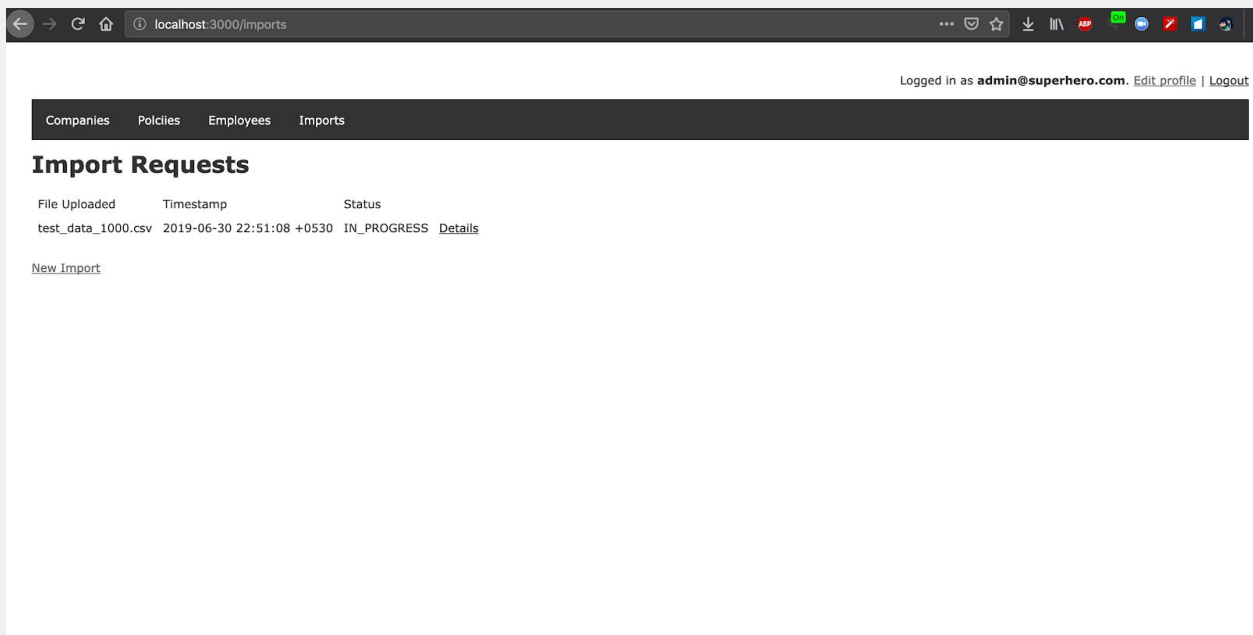


The screenshot shows a web browser at `localhost:3000/imports`. The page displays a message "Import request accepted." and a navigation bar with "Companies", "Policies", "Employees", and "Imports". The "Imports" section is active, showing a table with the following data:

File Uploaded	Timestamp	Status
test_data_1000.csv	2019-06-30 22:51:08 +0530	NOT_STARTED Details

Below the table is a link [New Import](#). The top right corner shows the user is logged in as `admin@superhero.com` with links for [Edit profile](#) and [Logout](#).

Refresh Page - Now shows the import is In Progress

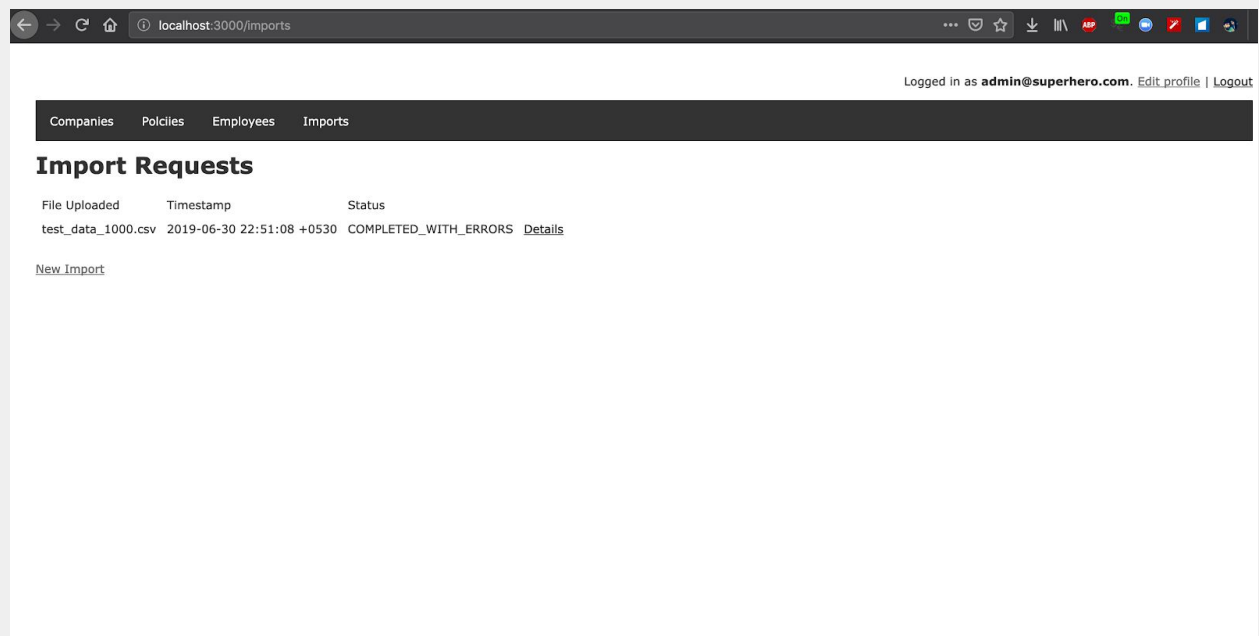


The screenshot shows the same web browser at `localhost:3000/imports`. The page displays the same navigation bar and table as the previous screenshot, but the status of the import has changed to "IN_PROGRESS".

File Uploaded	Timestamp	Status
test_data_1000.csv	2019-06-30 22:51:08 +0530	IN_PROGRESS Details

The link [New Import](#) remains at the bottom. The top right corner still shows the user is logged in as `admin@superhero.com` with links for [Edit profile](#) and [Logout](#).

Import Request Processed - with status COMPLETED/ COMPLETED_WITH_ERRORS



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

localhost:3000/imports/238267d8-b60d-48f8-9335-f9c949b84b73

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Companies Policies Employees Imports							
Import Request Details							
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	cUzRSZFqjANggHC Leave	Marvel	2019-06-30 22:51:21 +0530	COMPLETED
Amanda Jimenez	wo@marvel.com	6745455302	ozekiszim@marvel.com	ltenCrgEid Leave	Marvel	2019-06-30 22:51:21 +0530	COMPLETED
Edwin Singleton	ka@marvel.com	2895892046	ozekiszim@marvel.com	YSvtEBrOcgpJUT 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	DZcExIIVfn 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	jkVOAcJluURfa Leave	Marvel	2019-06-30 22:51:23 +0530	COMPLETED	

Employee List - after the import

Logged in as admin@superhero.com . Edit profile Logout									
Companies Policies Employees Imports									
Employees									
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

←→↻🏠📄localhost:3000/policies

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CompaniesPoliciesEmployeesImports

Policies

Name	Company		
Sick Leave	DC Comics	Show	Edit
Annual Leave	DC Comics	Show	Edit
Paternity Leave	DC Comics	Show	Edit
HhzMSKqLIGCPZXSyzdPp Leave	Marvel	Show	Edit
sezPaWTDZ Leave	Marvel	Show	Edit
lWzkpxKsqCdYuMeDA Leave	Marvel	Show	Edit
VGqUwYgUUesfk Leave	Marvel	Show	Edit
LPFXQeEbfxrNTMXUF Leave	Marvel	Show	Edit
DSsRWPVMwVmqP Leave	Marvel	Show	Edit
BkYxAWHp Leave	Marvel	Show	Edit
uXhqNtSMKobzVt Leave	Marvel	Show	Edit
cUzRZSFqIaNggHC Leave	Marvel	Show	Edit
itenCrgEid Leave	Marvel	Show	Edit
YSvtEBrOcgpuT Leave	Marvel	Show	Edit
fUaFCsMkqFwpVvFIC Leave	Marvel	Show	Edit
tsmGDhjSEQdmrGQjhYo Leave	Marvel	Show	Edit
FRBWznPxhwIirajx Leave	Marvel	Show	Edit
ysiuEJDrMSuorJu Leave	Marvel	Show	Edit