

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“JNANA SANGAMA”, BELAGAVI-590018



INTERNSHIP \ PROFESSIONAL PRACTICE REPORT

Submitted in Partial Fulfilment for the Award of Degree of

Bachelor of Engineering

in

COMPUTER SCIENCE ENGINEERING

Submitted by

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(2KL15CS005)

Internship Carried Out at

INFICLOUD PVT.LTD

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INFICLOUD Private Limited



DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

KLE Dr.M. S. SHESHGIRI COLLEGE OF ENGINEERING AND

TECHNOLOGY, BELAGAVI-590008

2018-19

**KLE Dr.M. S. SHESHGIRI COLLEGE OF ENGINEERING AND
TECHNOLOGY, BELAGAVI-590008**



**DEPARTMENT OF COMPUTER SCIENCE ENGINEERING
CERTIFICATE**

This is to certify that the “**Internship / Professional Practice Report**” submitted by **Mr. Ajaykumar Majukar (2KL15CS005)**, a bonafide student of **KLE Dr.MSSCET, Belagavi**, in partial fulfilment for the award of Bachelor of Engineering in **Computer Science Engineering** of the **Visvesvaraya Technological University, Belagavi**, during the academic year **2018-19**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report. The report of the Internship / Professional Practice has been approved as it satisfies the academic requirements in respect of Internship / Professional Practice prescribed for the said Degree.

Signature of the Internal Guide

Prof. Savita Bakare

Professor

Signature of the Head of Department

Prof. B.A. PATIL

Head of the Department

EXTERNAL VIVA

Name of the Examiner

Signature with Date

1.

2.

ACKNOWLEDGEMENT

Special regards to the INFICLOUD Private Limited and more particularly to Mr. Shankar Batlad for giving me an opportunity to do an internship training with the Machine Learning technology department. For without their approval, this could have just been a wish.

I would like to applaud to all the employees of INFICLOUD for their friendly and hospitable efforts in creating an enjoyable working environment. Without such convenience, learning wouldn't have been at ease.

I would also like to register my thanks to the Department of computer science for the constant encouragement and supporting us during this internship. Finally, many thanks to friends for giving me the support, moral and courage that I needed most throughout this carrier training.

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CHAPTER 1

ABOUT COMPANY:

INFICLOUD PRIVATE LIMITED is an IT Based company in Belagavi, Karnataka was started as a small private firm in the year 2014 which is recognized by government of India and their main motto is to provide customized software solutions, Training and services. **The problem our business solves** includes product like Clever Labs in which we students can make use of low-cost devices like chrome-book, cloud-book and android devices to access labs, Multi-Cloud is one where deployment guarantee of data confidentiality by dividing data into unrecognizable chunks, Learning Home Gateway is equipped with capabilities of internet router, backup storage device, smart home controller. When it comes to Company policies as a small business owner, especially as we begin to work with more clients and hire employees the business deals with certain amount of liability each day, we can reduce of that liability by having policies clearly outlined in writing. Students will be provided with dedicated storage which they can access it from any labs. Student's assignments and data will be backed up regularly. Implementation of private cloud will upgrade networking infrastructure without extra cost, providing faster data access inside campus. With so much to do, maintaining an extensive policies and procedures manual can be tricky. Especially if your policies are internal, you can refine the templates for your specific needs and update them for business growth.

CHAPTER 2

ABOUT DEPARTMENT:

In order to improve efficiency and stay competitive in today's dynamic market, it is imperative to have web applications that are easy to use and personally tailored to each business needs. And is equipped with new techniques Website Development broadly refers to the tasks associated with developing websites for hosting via intranet or internet. The web development process includes web design, web content development, client-side/server-side scripting and network security configuration, among other tasks.

In order to improve efficiency and stay competitive in today's dynamic market, it is imperative to have web applications that are easy to use and personally tailored to each business needs. INFICLOUD's high-quality web application development team has the knowledge and skills that can create anything from the simplest web application to a complex web system with carried and dynamic components.

One of the prominent advantages is that we provide one of the most cost-effective solutions in the entire industry in and around Belgaum. Our passionate team of web developers, designers, and content writers ensure that the quality of our work is unsurpassed. Our superior customer service means that the entire process will be pleasant and perfect for your business. And our continued dedication to using the latest technology and techniques available means that your web applications will always run at peak performance, and never fall out of date.

CHAPTER 3

LEARNING OBJECTIVES:

Internship experience plays a vital role for every student to implement their theoretical knowledge and get a practical knowledge from any organization. A student can implement this internship experience in his future work area.

1. Design and develop software systems for social requirements.
2. To know about the problems faced in the software industry
3. Design and develop software systems for emerging technologies.
4. Design and implement communication systems.
5. Design storage systems and performance analysis.

CHAPTER 4

ACTIVITIES PERFORMED:

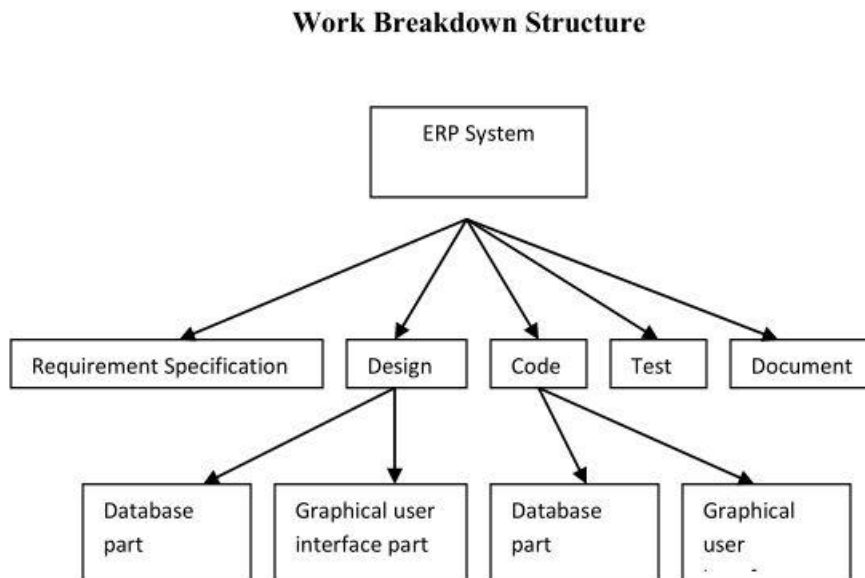


Figure 2 Work breakdown structure of ERP System

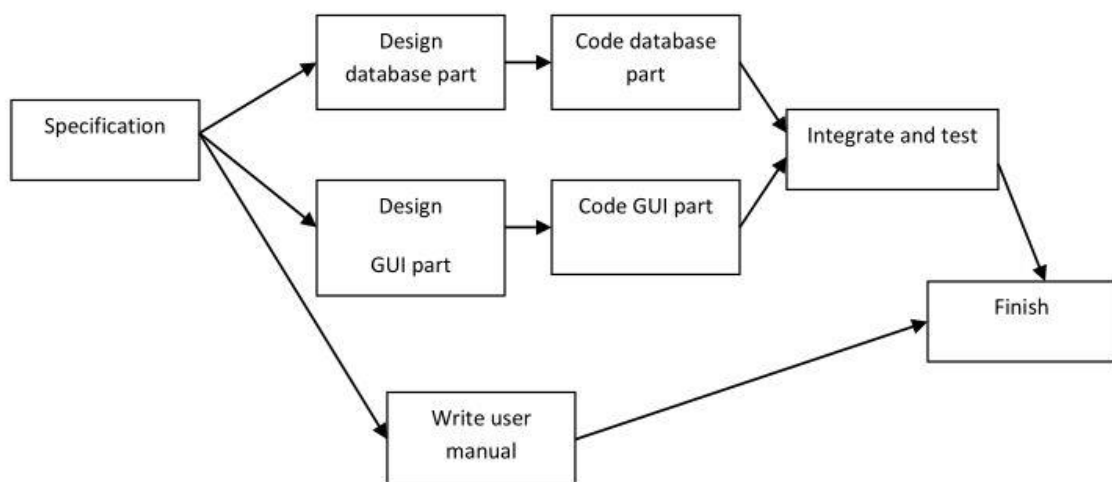


Figure 3 Activity Network representation of ERP System

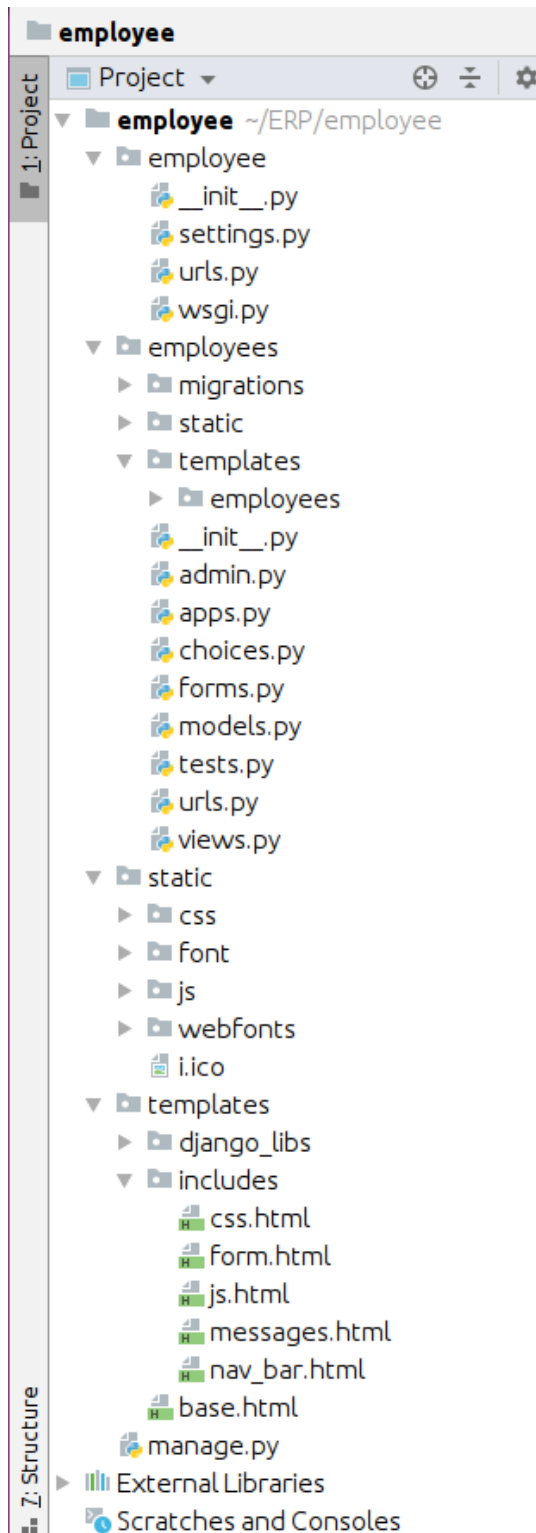
TABLE 4.1(a)

Module	Functions	Sub Functions	Time Required		Total
			Design	Code	
Employee Module			Hrs	Hrs	Hrs
	Add Employee	Official Details	4	4	8
		Documents	4	4	8
		Leaves	3	3	6
		Salary	3	3	6
		Personal	3	3	6
		Contact	4	4	8
		Skills	3	3	6
		Experience	3	3	6
		Education	3	3	6
		Family Details	4	4	8
	Employee List (View, Edit, Delete)				
		Official Details	4	4	8
		Documents	4	4	8
		Leaves	3	3	6
		Salary	3	3	6
		Personal	3	3	6
		Contact	4	4	8
		Skills	3	3	6
		Experience	3	3	6
		Education	3	3	6
		Family Details	4	4	8
	Employee Full Details		12	12	24
Allowances					
	Add Allowances		4	4	8
	Allowance List		4	4	8
Arrears					
	Add Arrears		4	4	8
	Arrears List		4	4	8
Monthly Attendance			8	24	32
Daily Attendance			8	16	24
Create Salary Slip			12	24	36
Payroll Excel Format			12	12	24
Payroll PDF Format			12	12	24
			Total Hrs		332

System Requirements

TABLE 4.1(b)

Operating System	Ubuntu 16.04
IDE	PyCharm Community Edition
Framework	Django 2.1.5
Database	MYSQL Workbench Community Edition



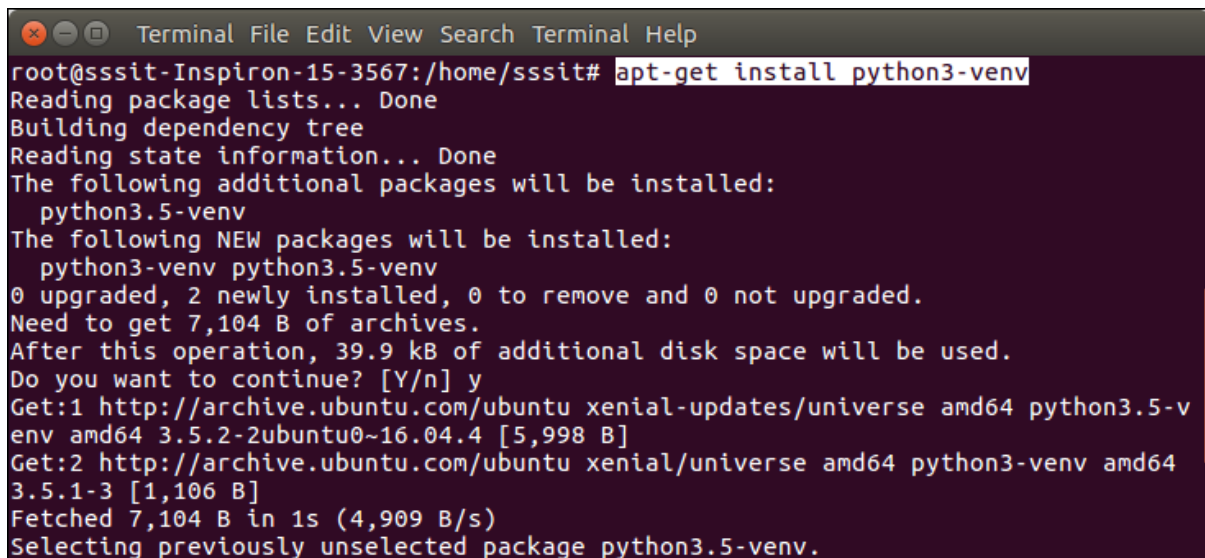
Project Structure

The Fig 4.2.1 show us the structure of our project developed so far. We will now briefly go through each step necessary to create a Project in Django environment.

Fig 4.2.1

Django Virtual Environment Setup

The virtual environment is an environment which is used by Django to execute an application. It is recommended to create and execute a Django application in a separate environment. Python provides a tool `virtualenv` to create an isolated Python environment.

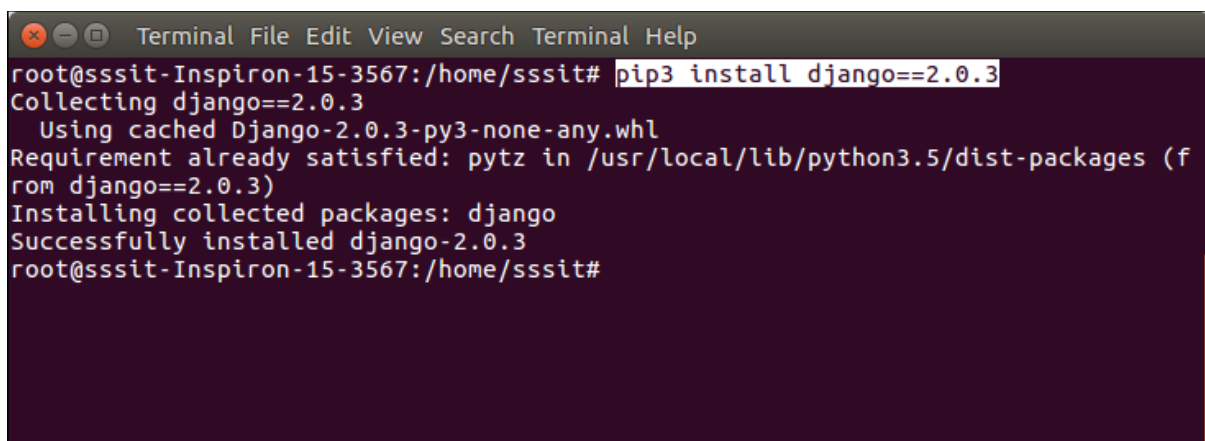


```
Terminal File Edit View Search Terminal Help
root@sssit-Inspiron-15-3567:/home/sssit# apt-get install python3-venv
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  python3.5-venv
The following NEW packages will be installed:
  python3-venv python3.5-venv
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 7,104 B of archives.
After this operation, 39.9 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 python3.5-venv amd64 3.5.2-2ubuntu0~16.04.4 [5,998 B]
Get:2 http://archive.ubuntu.com/ubuntu xenial/universe amd64 python3-venv amd64 3.5.1-3 [1,106 B]
Fetched 7,104 B in 1s (4,909 B/s)
Selecting previously unselected package python3.5-venv.
```

Fig 4.2.2

Django Installation

Django requires pip to start installation. Pip is a package manager system which is used to install and manage packages written in python. For Python 3.4 and higher versions pip3 is used to manage packages.



```
Terminal File Edit View Search Terminal Help
root@sssit-Inspiron-15-3567:/home/sssit# pip3 install django==2.0.3
Collecting django==2.0.3
  Using cached Django-2.0.3-py3-none-any.whl
Requirement already satisfied: pytz in /usr/local/lib/python3.5/dist-packages (from django==2.0.3)
Installing collected packages: django
Successfully installed django-2.0.3
root@sssit-Inspiron-15-3567:/home/sssit#
```

Fig 4.2.3

Database Setup

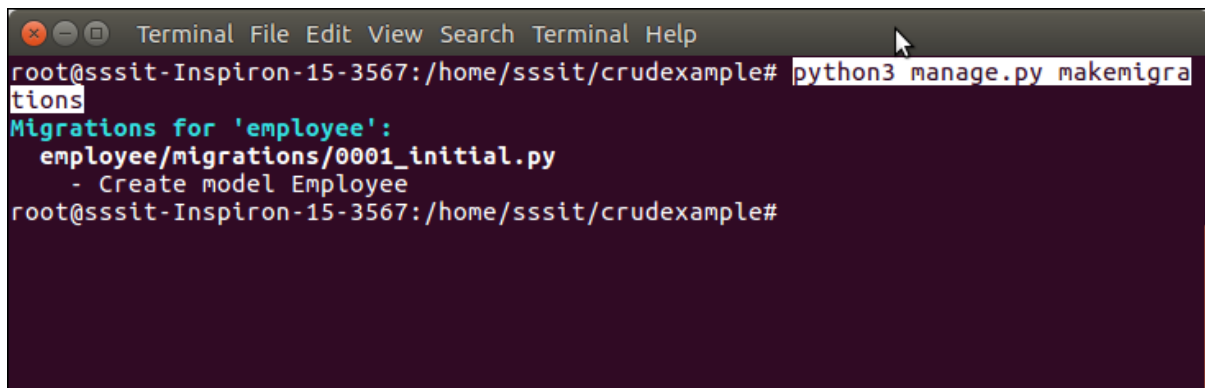
Create a database djangodb in mysql, and configure into the settings.py file of django project.

```
DATABASES = {  
    'default': {  
        'ENGINE': 'django.db.backends.mysql',  
        'NAME': 'djangodb',  
        'USER': 'root',  
        'PASSWORD': 'mysql',  
        'HOST': 'localhost',  
        'PORT': '3306'  
    }  
}
```

Fig 4.2.4

Create Migrations

Create migrations for the created model employee



```
Terminal File Edit View Search Terminal Help  
root@ssst-Inspiron-15-3567:/home/ssst/crudexample# python3 manage.py makemigrations  
Migrations for 'employee':  
  employee/migrations/0001_initial.py  
    - Create model Employee  
root@ssst-Inspiron-15-3567:/home/ssst/crudexample#
```

Fig 4.2.5

Provide Routing

Provide URL patterns to map with views function.

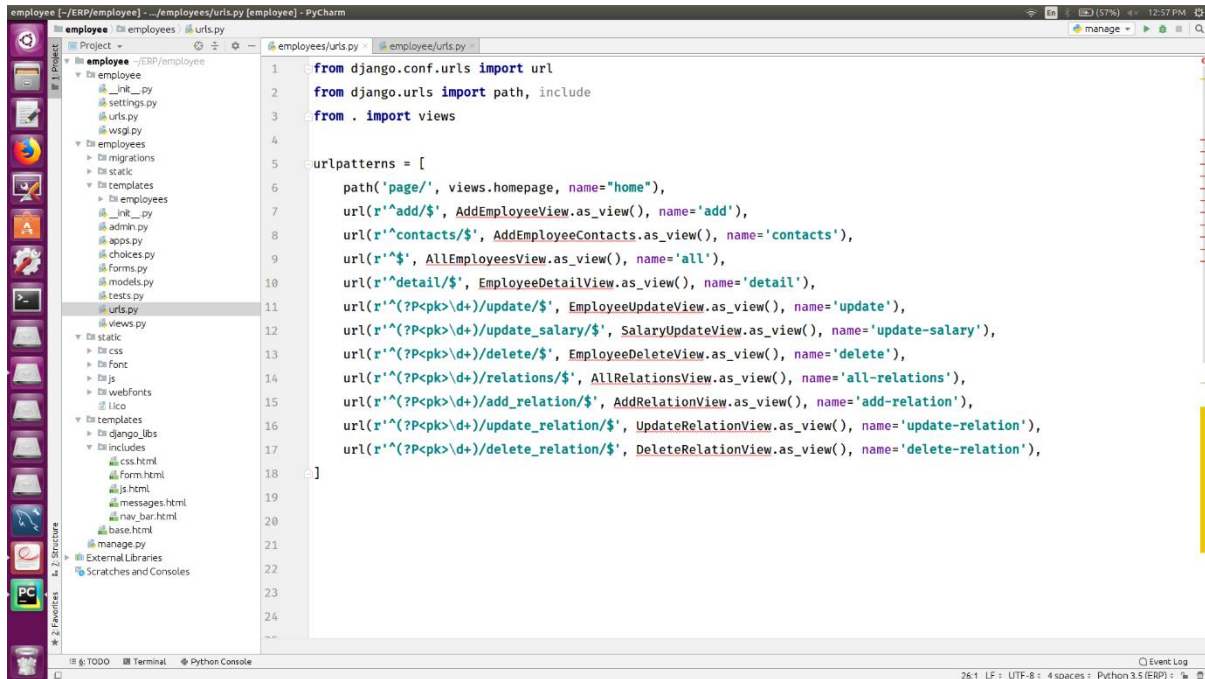


Fig 4.2.6

Create a Model

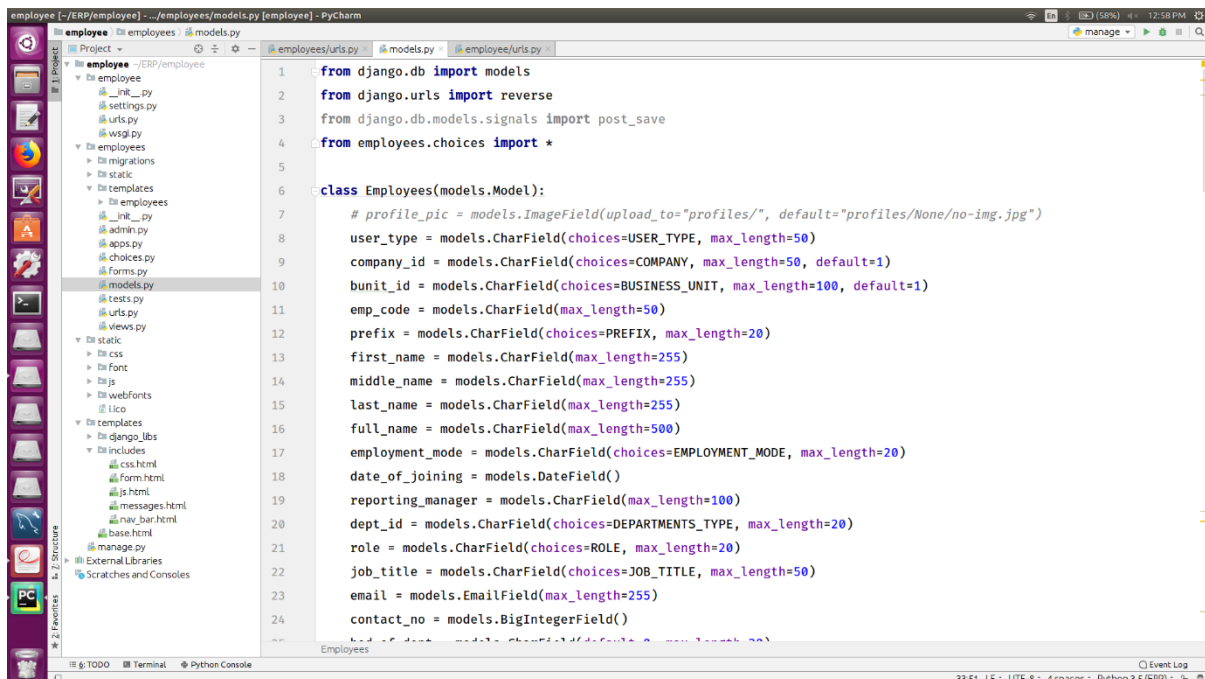


Fig 4.2.7

Create a ModelForm

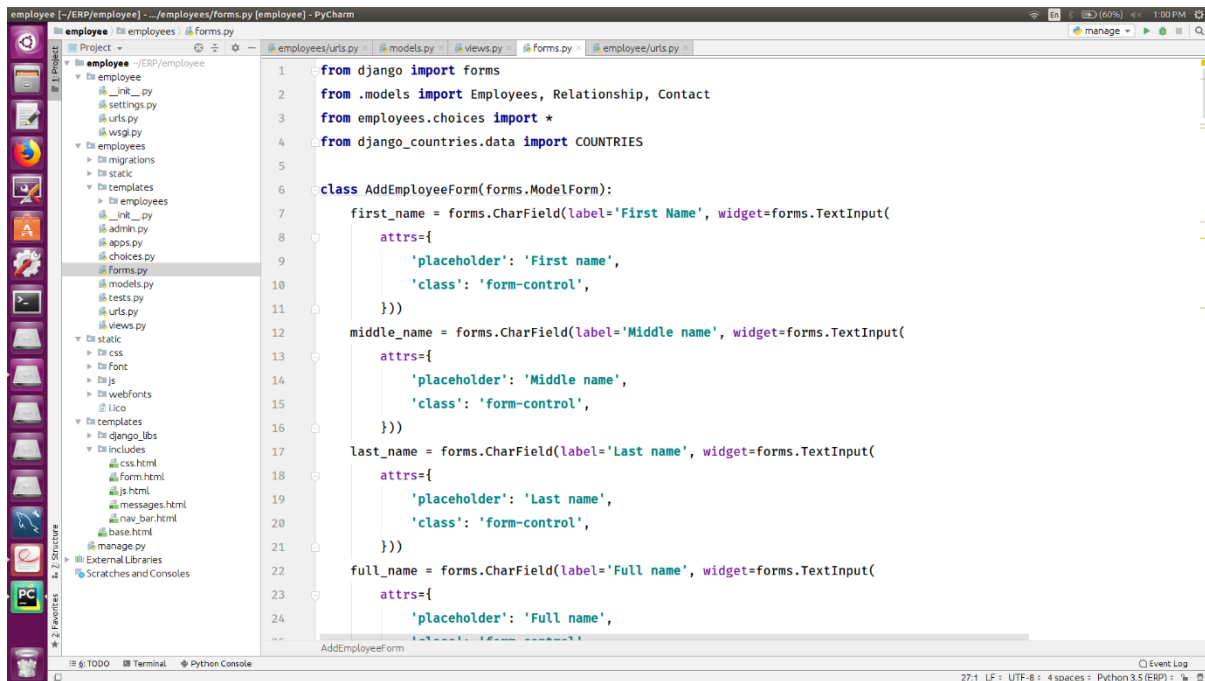


Fig 4.2.8

Create View Functions

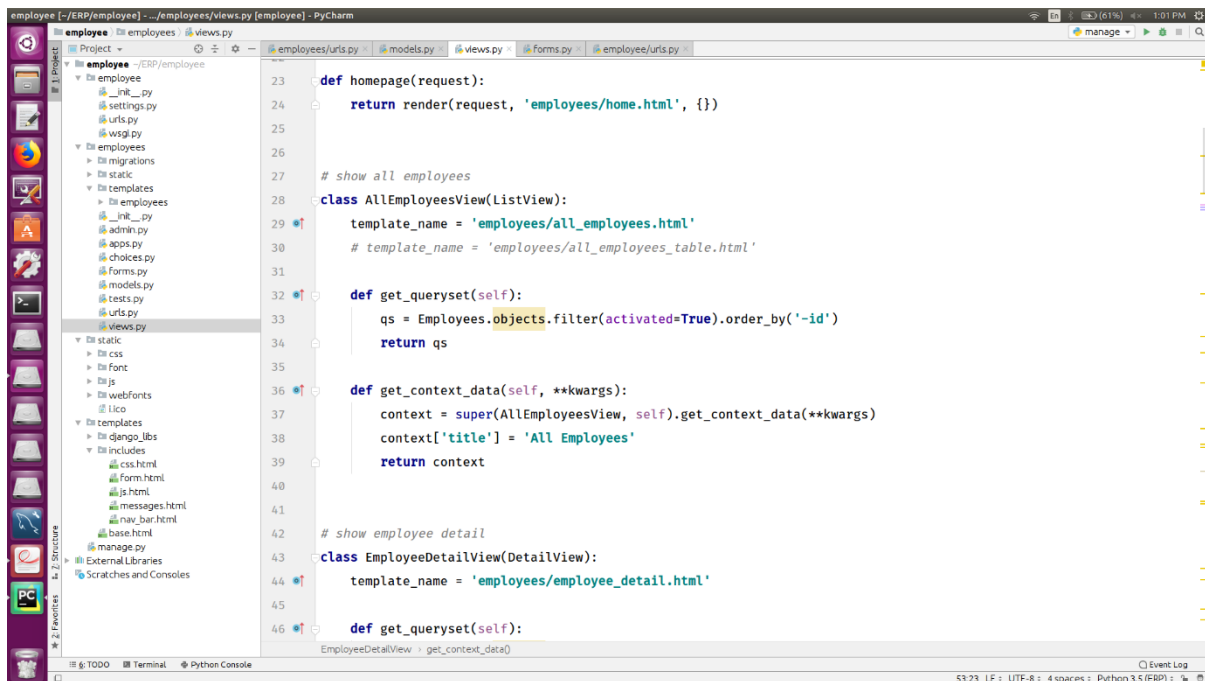


Fig 4.2.9

base.html

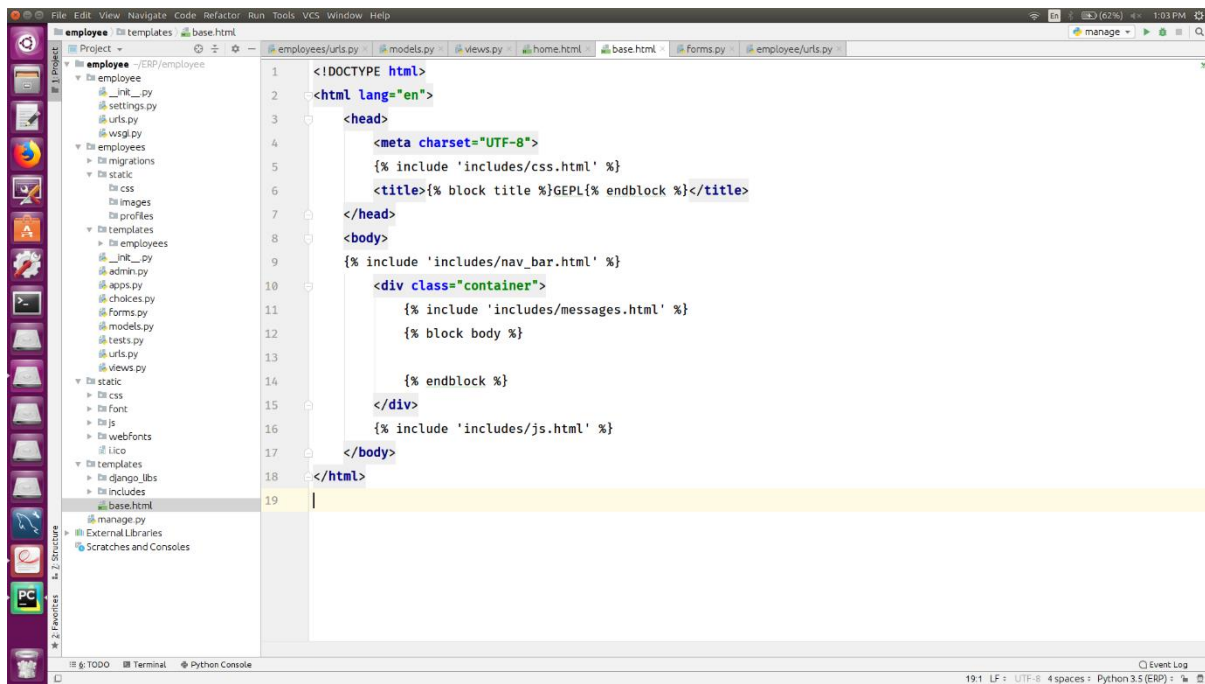


Fig 4.2.10

add_employee_contact.html

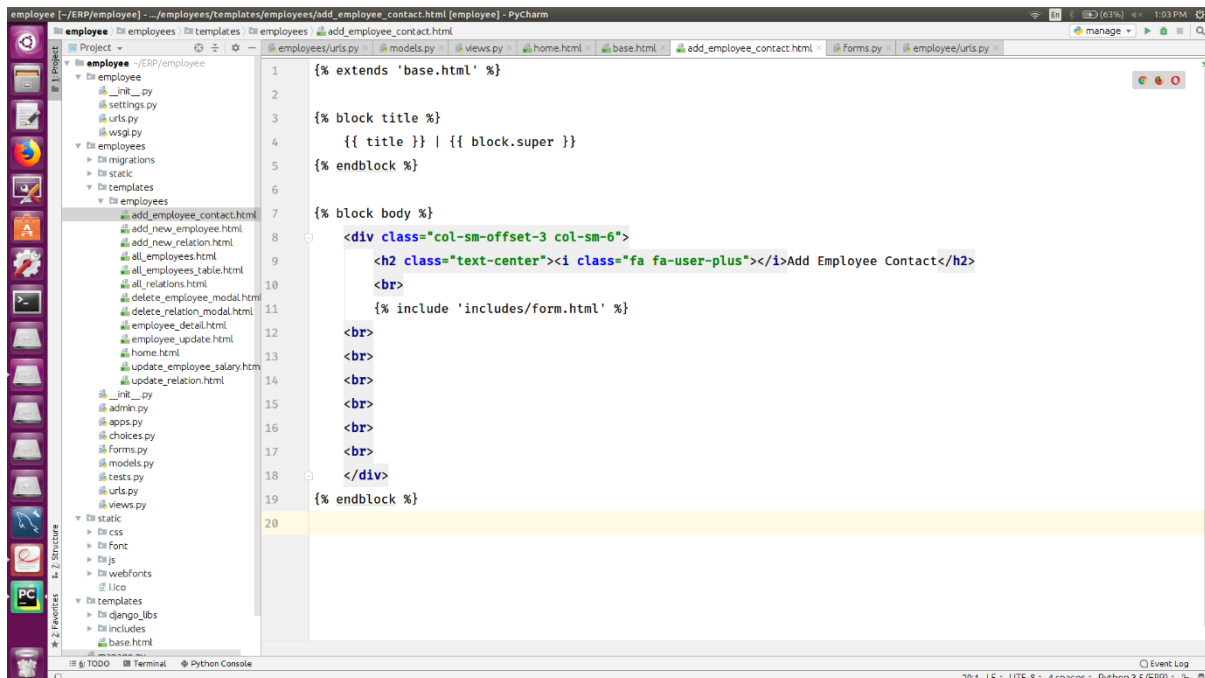


Fig 4.2.11

Database Structure

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Management Schemas

SCHEMAS

filter objects

employee

Tables

auth_group

auth_group_permissions

auth_permission

auth_user

auth_user_groups

auth_user_permissions

django_admin_log

django_content_type

django_migrations

django_session

django_site

employees_contact

employees_employees

employees_relationship

payisip_company

payisip_company_extra_fields

payisip_employee

payisip_employee_extra_fields

payisip_employee

payisip_extrafieldtype

payisip_extrafield

payisip_extrafieldtype

payisip_payment

payisip_payment_extra_fields

payisip_paymenttype

Views

Stored Procedures

Functions

Object Info Session

Schema: employee

new connection

auth_user

employee

Info

Tables

Columns

Indexes

Triggers

Views

Stored Procedures

Functions

Grants

Events

Name	Engine	Version	Row Format	Rows	Avg Row Length	Data Length	Max Data Length	Index Length	Data Free	Auto Increment	Create Time	Update Time	Check Time	Collation	Check
auth_group	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	1	2019-03-26 01:03:09			latin1_swedish_ci	
auth_group_permissions	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	1	2019-03-26 01:03:15			latin1_swedish_ci	
auth_permission	InnoDB	10	Dynamic	60	273	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	65	2019-03-26 01:03:25			latin1_swedish_ci	
auth_user	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	3	2019-03-26 01:03:26	2019-04-24 11:30:50		latin1_swedish_ci	
auth_user_groups	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	1	2019-03-26 01:03:18			latin1_swedish_ci	
auth_user_permissions	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	1	2019-03-26 01:03:20			latin1_swedish_ci	
django_admin_log	InnoDB	10	Dynamic	10	1638	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	12	2019-03-26 01:03:23	2019-04-24 12:40:29		latin1_swedish_ci	
django_content_type	InnoDB	10	Dynamic	15	1092	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	17	2019-03-26 01:03:24			latin1_swedish_ci	
django_migrations	InnoDB	10	Dynamic	24	682	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	30	2019-03-26 01:03:07			latin1_swedish_ci	
django_session	InnoDB	10	Dynamic	1	16384	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	0	2019-03-26 01:03:56	2019-04-24 12:46:02		latin1_swedish_ci	
django_site	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	2	2019-03-26 01:19:04			latin1_swedish_ci	
employees_contact	InnoDB	10	Dynamic	3	5461	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	5	2019-03-26 01:03:30			latin1_swedish_ci	
employees_employees	InnoDB	10	Dynamic	9	1820	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	11	2019-03-26 08:57:18	2019-04-24 12:40:29		latin1_swedish_ci	
employees_relationship	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	1	2019-03-26 01:03:29			latin1_swedish_ci	
payisip_company	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	2	2019-03-26 01:03:30			latin1_swedish_ci	
payisip_company_extra_fields	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	2	2019-03-26 01:03:50			latin1_swedish_ci	
payisip_employee	InnoDB	10	Dynamic	2	8192	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	3	2019-03-26 01:03:45			latin1_swedish_ci	
payisip_employee_extra_fields	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	1	2019-03-26 01:03:52			latin1_swedish_ci	
payisip_employee	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	16.0 KiB	0.0 bytes	2	2019-03-26 01:03:41			latin1_swedish_ci	
payisip_extrafieldtype	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	2	2019-03-26 01:03:31			latin1_swedish_ci	
payisip_extrafield	InnoDB	10	Dynamic	2	8192	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	3	2019-03-26 01:03:40			latin1_swedish_ci	
payisip_extrafieldtype	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	32.0 KiB	0.0 bytes	1	2019-03-26 01:03:55			latin1_swedish_ci	
payisip_payment	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	3	2019-03-26 01:03:32			latin1_swedish_ci	

Count: 23

Maintenance >

Inspect Table

Refresh

Action Output

Time

Action

Message

Duration / Fetch

11:30:32

SELECT * FROM employee.auth_user LIMIT 0, 1000

2 row(s) returned

0.00035 sec / 0.000...

Fig 4.2.12

Packages Used

PyCharm Community Edition

Settings

Project: employee | Project Interpreter | For current project

Project Interpreter: Python 3.5 (ERP) -ERP\bin\python

Package	Version	Latest version
CairoSVG	2.2.1	▲ 2.4.0
Django	2.1.5	▲ 2.2.1
Pillow	5.4.1	▲ 6.0.0
Pyphen	0.9.5	▲ 0.9.5
WeasyPrint	44	▲ 47
cairocffi	0.9.0	▲ 1.0.2
cffi	1.11.5	▲ 1.12.3
confusable-homoglyphs	3.2.0	
cssselect2	0.2.1	0.2.1
defusedxml	0.5.0	▲ 0.6.0
django-countries	5.3.3	5.3.3
django-crispy-forms	1.7.2	1.7.2
django-crispy-forms-registration	0.1.3	
django-lb	2.0.2	2.0.2
django-mathfilters	0.4.0	0.4.0
django-payslip	0.3.2	0.3.2
django-registration	2.4.1	▲ 3.0.1
django-render-partial	0.4	0.4
html5lib	1.0.1	1.0.1
mysqlclient	1.3.14	▲ 1.4.2.post1
pip	19.0.3	▲ 19.1.1
pycparser	2.19	2.19
python-dateutil	2.8.0	2.8.0
pytz	2018.9	▲ 2019.1
setuptools	40.8.0	▲ 41.0.1
six	1.12.0	1.12.0
sqlparse	0.3.0	0.3.0
tinycss2	0.6.1	▲ 1.0.2
webencodings	0.5.1	0.5.1
wheel	0.32.3	▲ 0.33.4

OK Cancel Apply Help

Fig 4.2.13

ERP Homepage

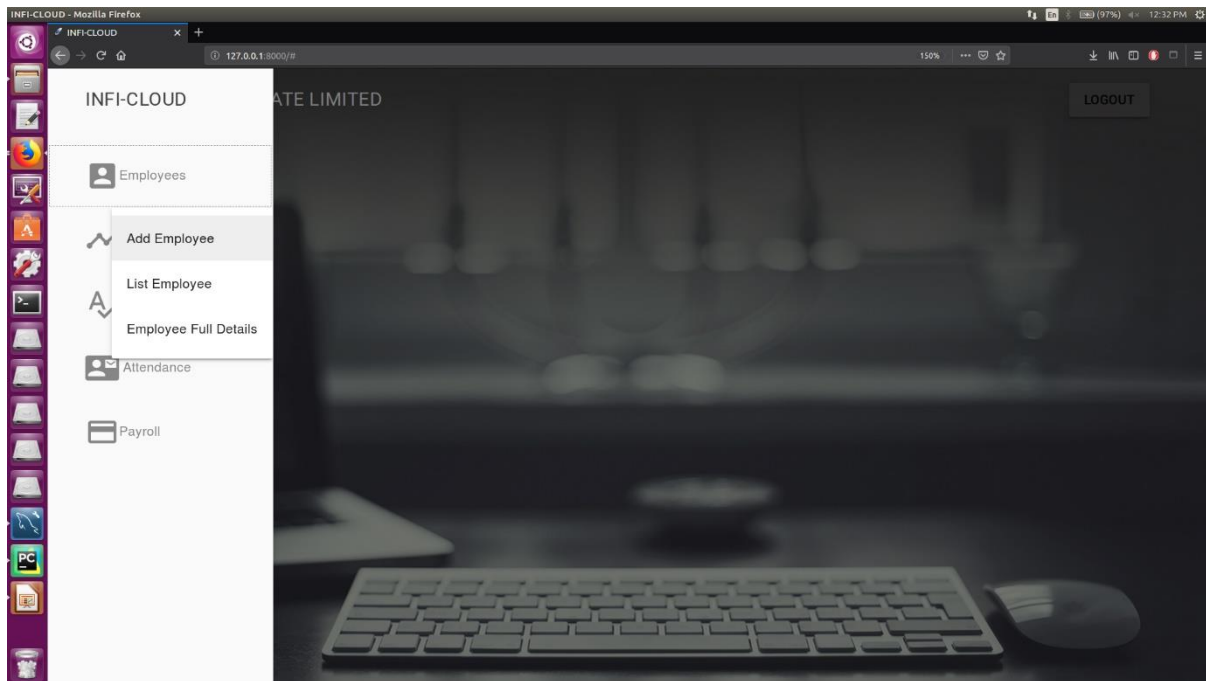


Fig 4.2.14

Admin Dashboard

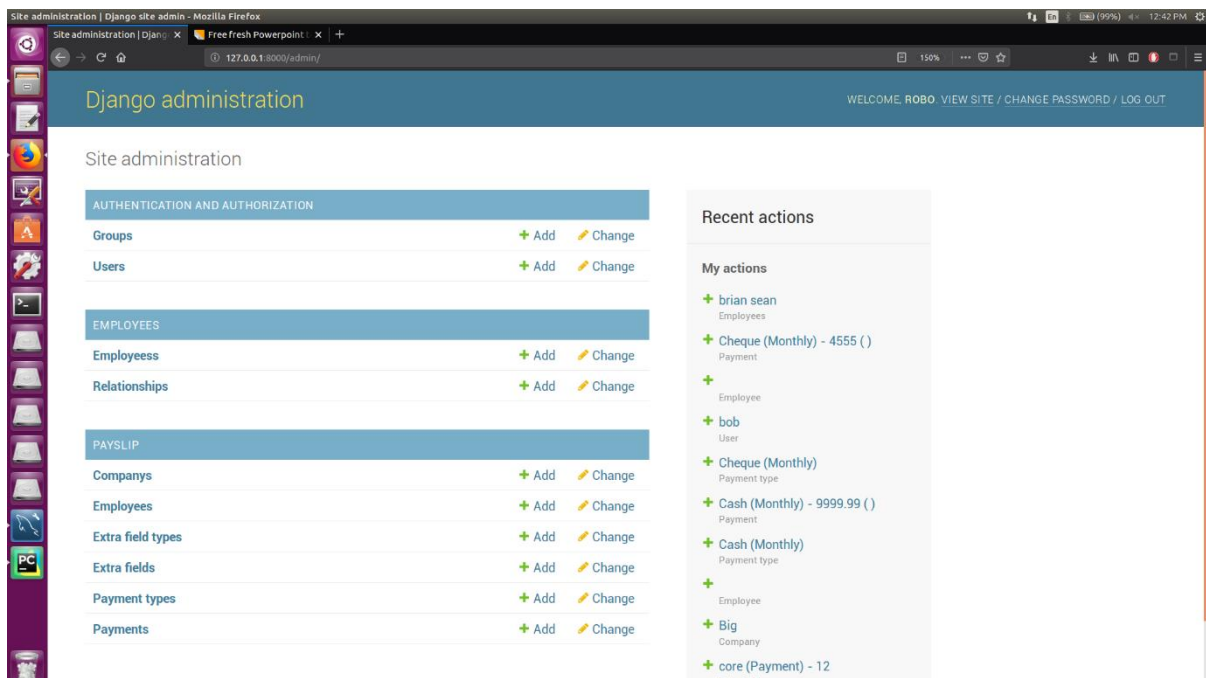


Fig 4.2.15

Employee User Tab

Add Employee | GEPL - Mozilla Firefox

127.0.0.1:8000/employees/add/

Infi Cloud Pvt Ltd

OFFICIAL DETAILS DOCUMENTS LEAVES SALARY PERSONAL CONTACT SKILLS EXPERIENCE EDUCA

User type:
General Manager

Company id:
Infi Clous Pvt Ltd

Business Unit:
INFI-CLOUD ANGOL

Emp code:

Prefix:
Mr.

First Name:
First name

Fig 4.2.16

Employee Admin Tab

Change employees | Django site admin - Mozilla Firefox

127.0.0.1:8000/admin/employees/employees/10/change/

Updated by: 3

Age: 20

Gender: Male

Position: Manager

Nationality: Indian

Marital status: Single

Salary: 123

Deduction: 9

Earning: 2

Deduction description: Dod

Earning description: lol

☒ Activated
☐ Frozen

Delete Save and add another Save and continue editing SAVE

Fig 4.2.17

Payslip Tab

Companies
Host multiple companies or divisions.

Name	Action
Big	Update Delete

[Create new company](#)

Employees
Add personal data of the employees.

Name	Company	Action
	Big	Update Delete
	Big	Update Delete

[Create new employee](#)

Payment types
Define single or recurring payment types.

Name	Action
Cash (Monthly)	Update Delete
Cheque (Monthly)	Update Delete

[Create new payment type](#)

Payments
Add payments to an employee.

Type	Employee	Amount	Date	End	Action
Cheque (Monthly)		4555.00	March 26, 2019		Update Delete
Cash (Monthly)		9999.99	March 26, 2019		Update Delete

[Create new payment](#)

Fig 4.2.18

Payroll Admin Tab

Change payment

Payment type: [Cheque \(Monthly\)](#)

Employee: [\[Select\]](#)

Amount:

Date: Today

Time: Now

Note: You are 3.5 hours ahead of server time.

End of recurring period: Date: Today

Time: Now

Note: You are 3.5 hours ahead of server time.

This field is only considered, if the payment type has a recurring rule.

Extra fields: [core \(Payment\) - 12](#)

Description:

[Delete](#) [Save and add another](#) [Save and continue editing](#) [SAVE](#)

Fig 4.2.19

CHAPTER 5

REFLECTION NOTES:

Technical Outcomes:

- Gained knowledge about Django, which is high-level Python Web framework.
- Learned various software's and framework for front end development such as MDL-Lite, Bootstrap and Pencil.
- Gained technical knowledge related to back end development of Enterprise Website.
- Hands on experience with ERP Project.

Non-Technical Outcomes:

- An ability to function effectively on teams to accomplish a common goal.
- Gained experience to work as an employee for 8 hours per day.
- Experience of working with industrial experts.

CHAPTER 6

CONCLUSION:

No project can be termed as '**perfect**' in real sense and there always remains scope for future improvement and so that helps to develop a new version of the software. We are always eager to know some new points and validation related to projects which give us more knowledge and help us to create new version.

The "ERP" system is being developed by our team and also done enhancement in application through applying our knowledge gained in class room, referring to certain books, browsing some sites and through the help of external and internal faculties and using our knowledge related to subject it.

I am very thankful to the project guide and organization staffs that extended all their support and helped us complete this project successfully.