Assignment 1 (Odoo Setup and Installation)

Software Construction and Development (SE-3001)

Course Instructor:

Mam. Laiba Imran

Submitted by:

Syed Burhan Haider (22I-2730)

Section:

BS-SE (A)

Date:
19th September, 2025

Fall 2025

Department of Software Engineering

FAST – National University of Computer & Emerging Sciences

Islamabad Campus

Table of Contents

Part 1: Installation of Odoo 1
Installation guide: 1
Step 1: Research Hardware & Software Requirements 1
Step 2: Prepare Ubuntu Server 2
Step 3: Install PostgreSQL 2
Step 4: Install Odoo from Source 3
Step 5: Configure Odoo 3
Step 6: Creating a systemd service file for Odoo 4
Step 6: Start Odoo 5
Browser view: 6
Problems and Troubleshooting: 7
(i). VirtualBox Issues 7
(ii). Odoo Issues 7
Part 2: Initial Configuration of Odoo 9
2.1 Logging in and changing default user: 9
2.2 Creating a new user with administrative privileges: 10
2.3 Exploring the Odoo dashboard: 10
2.4 Configuring basic settings (company information, currency, language, and timezone): 10
2.5 Install additional modules or apps: 12
Installing Restaurant module (Extension of Point of Sale): 12
3. Advanced Configuration and Customization: 13
3.1 Exploring the configuration options: 13
Opening the Cash Control: 13
Adding demo data to the session: 13
Payment method: 14
Payment Successful: 14
Table Management: 15
Order Management: 15
3.2,3.3 Customizing the module and Documentation and Integration: 15
Adding custom fields: 15
Modifying workflow: 17
Creating reports: 19
Restarting after all steps: 23

3.4 Testing the configured module: 23
Custom field while creating a new product: 23
Application of discount on the set amount: 24
Generating a report: 24
Challenges and Solutions: 25
Challenge 1: "Technical" Menu Not Visible in Settings 25
Challenge 2: QWeb Report Error - "Opening and ending tag mismatch" 25
Challenge 3: Workflow Automation Not Available 25

Part 1: Installation of Odoo

Installation guide:

Step 1: Research Hardware & Software Requirements

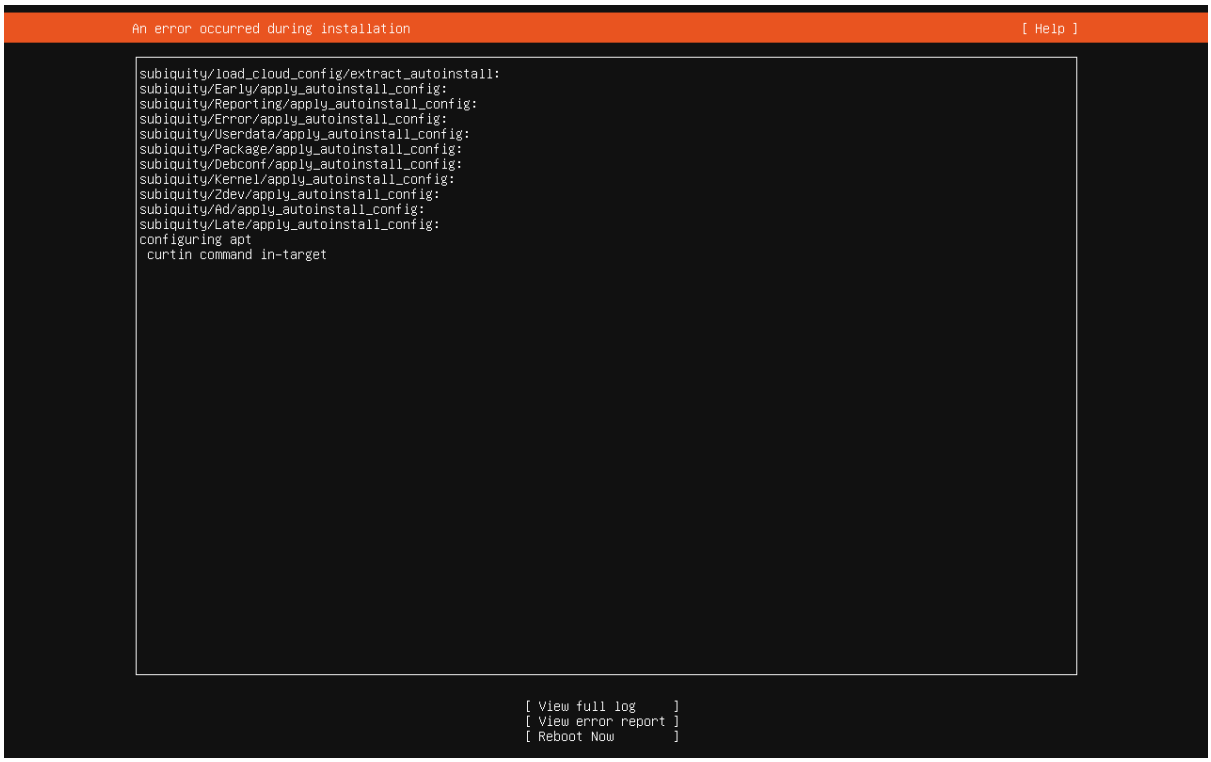
Before installing Odoo, document the following requirements:

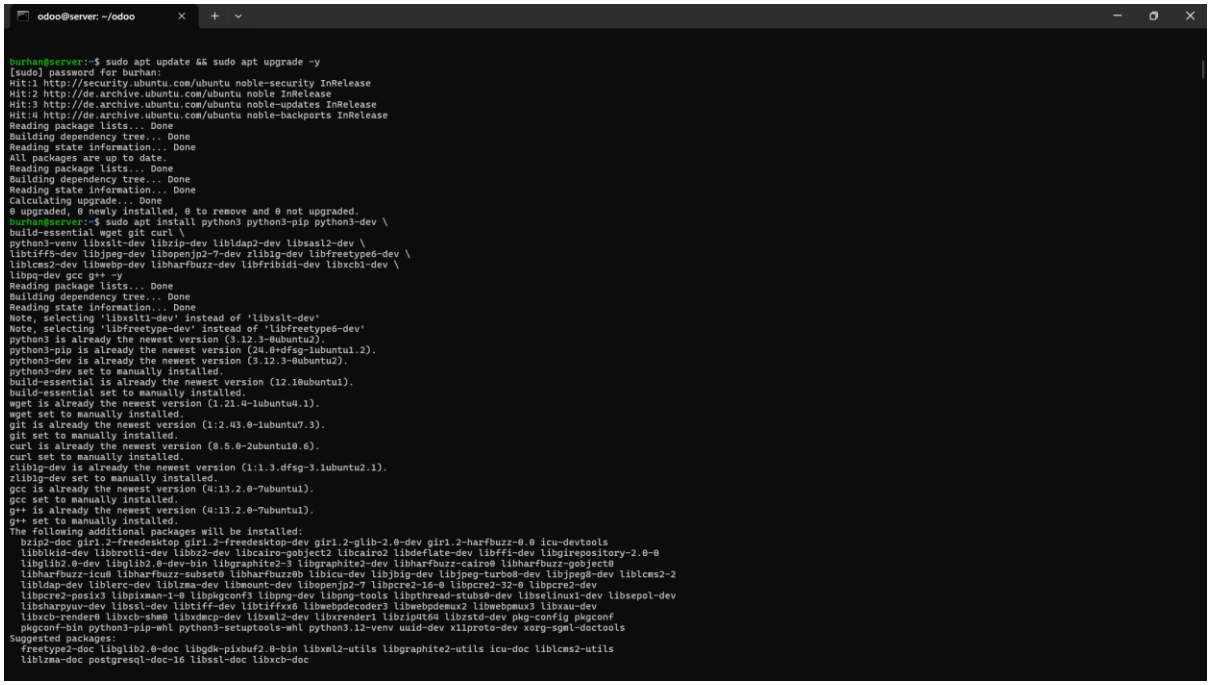
Hardware Requirements

- **CPU:** Minimum 2-core processor (4-core recommended)
- **RAM:** 2GB minimum (4GB+ recommended)
- **Storage:** At least 20GB of free disk space
- **Network:** Internet connection for downloading dependencies

Software Requirements

- **Operating System:** Ubuntu Server 20.04 or later
- **Dependencies:** Python 3, PostgreSQL, Node.js, wkhtmltopdf, and other required libraries.





Step 2: Prepare Ubuntu Server

Update the system packages:

sudo apt update && sudo apt upgrade -y

Install essential dependencies:

sudo apt install git python3 python3-pip python3-venv libpq-dev libxml2-dev libxslt1-dev zlib1g-dev libsasl2-dev libldap2-dev build-essential libssl-dev libffi-dev libjpeg-dev libpng-dev xfonts-75dpi xfonts-base -y

Step 3: Install PostgreSQL

Odoo requires PostgreSQL as the database.

Install PostgreSQL:

sudo apt install postgresql -y

Start and enable PostgreSQL:

sudo systemctl enable postgresql
sudo systemctl start postgresql

Create a PostgreSQL user for Odoo:

createuser --createdb --username postgres --no-createrole --superuser --pwprompt odoo18

Step 4: Install Odoo from Source

Create a new Odoo user:

sudo useradd -m -d /opt/odoo -U -r -s /bin/bash odoo

Switch to the Odoo user:

sudo su – odoo

Clone the Odoo source code (version 17.0):

sudo apt-get install –y git (if not installed already)
git clone https://www.github.com/odoo/odoo --depth 1 --branch 17.0 --single-branch .

Create and activate a virtual environment:

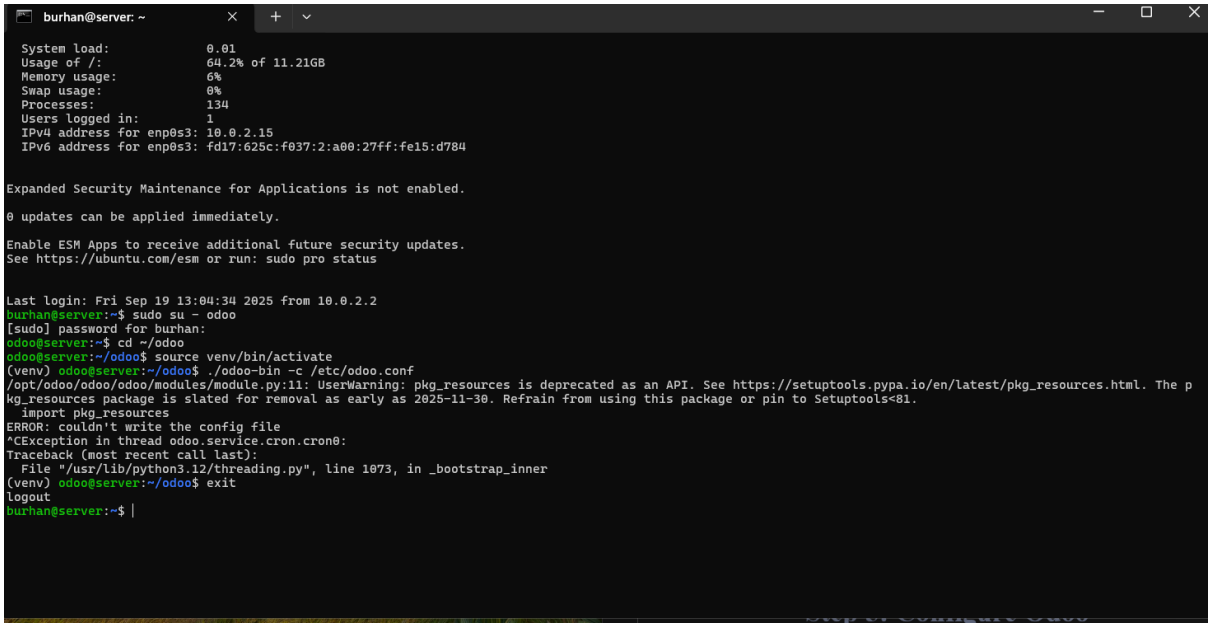
python3 -m venv odoo-venv
source odoo-venv/bin/activate

Install Python dependencies:

pip install -r requirements.txt

Exit the Odoo user:

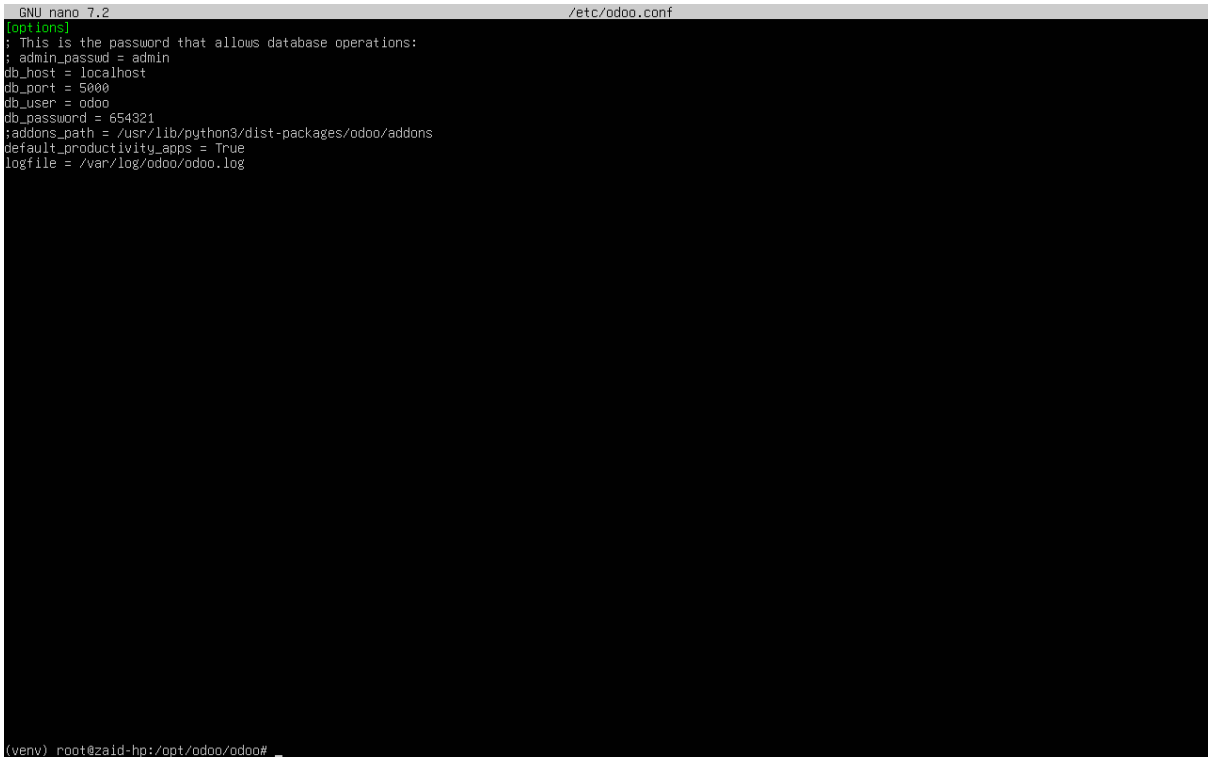
deactivate
exit



Step 5: Configure Odoo

1. Create the configuration file:
2. `sudo nano /etc/odoo.conf`

Add the following:



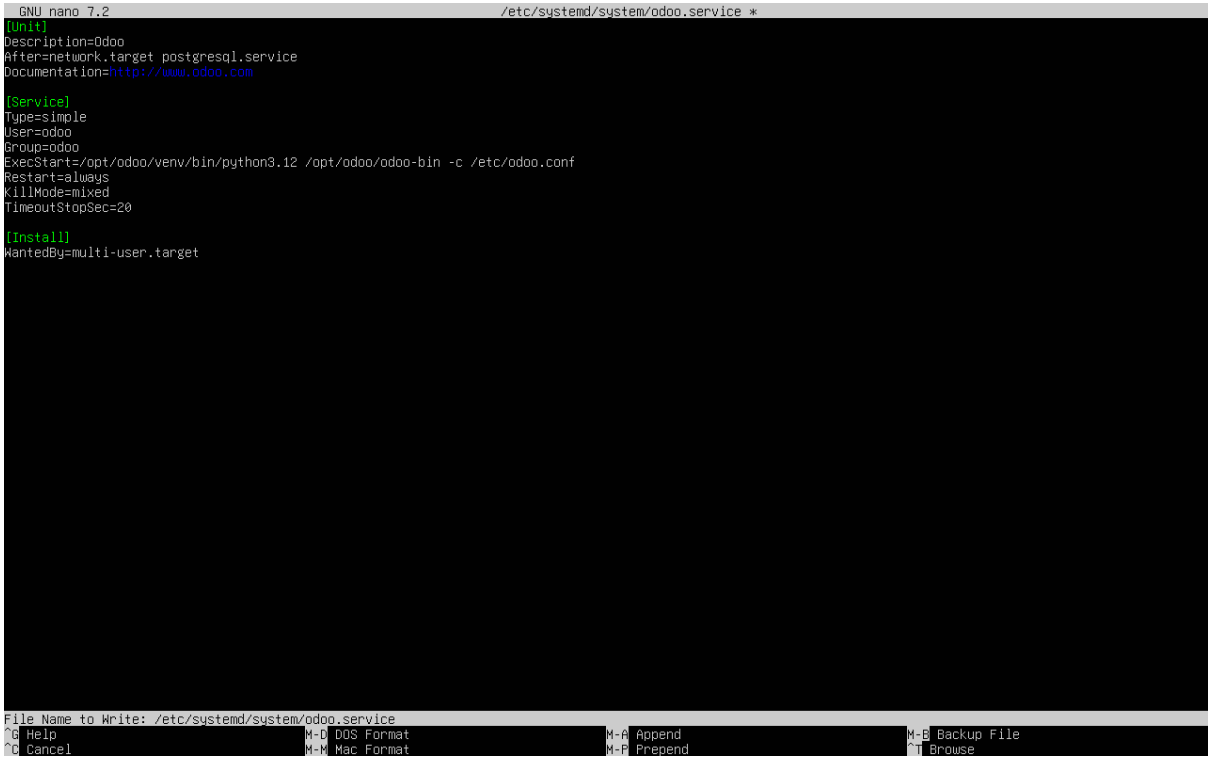
og

3. **Create log directory and set permissions:**
4. `sudo mkdir /var/log/odoo`
5. `sudo chown odoo:odoo /var/log/odoo`

Step 6: Creating a systemd service file for Odoo

sudo nano /etc/systemd/system/odoo18.service

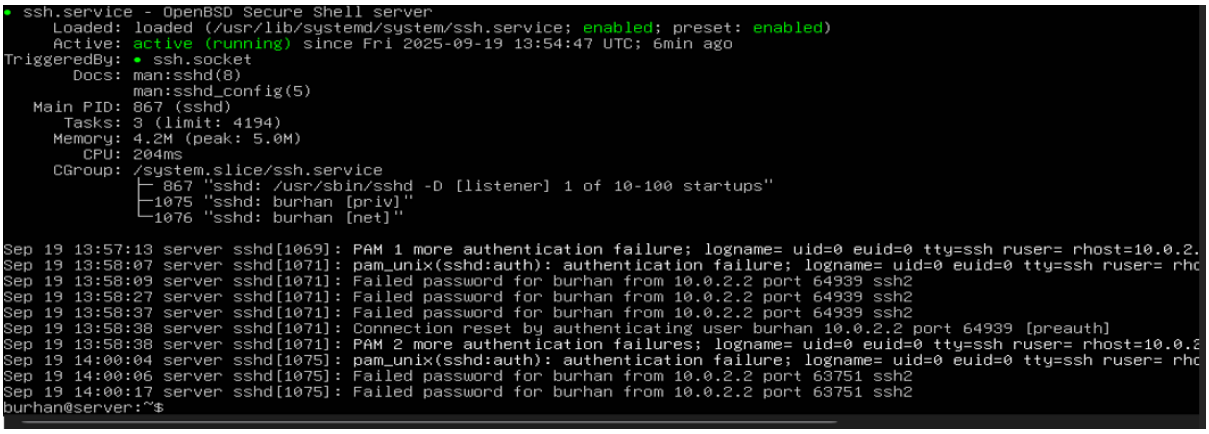
Write the following:



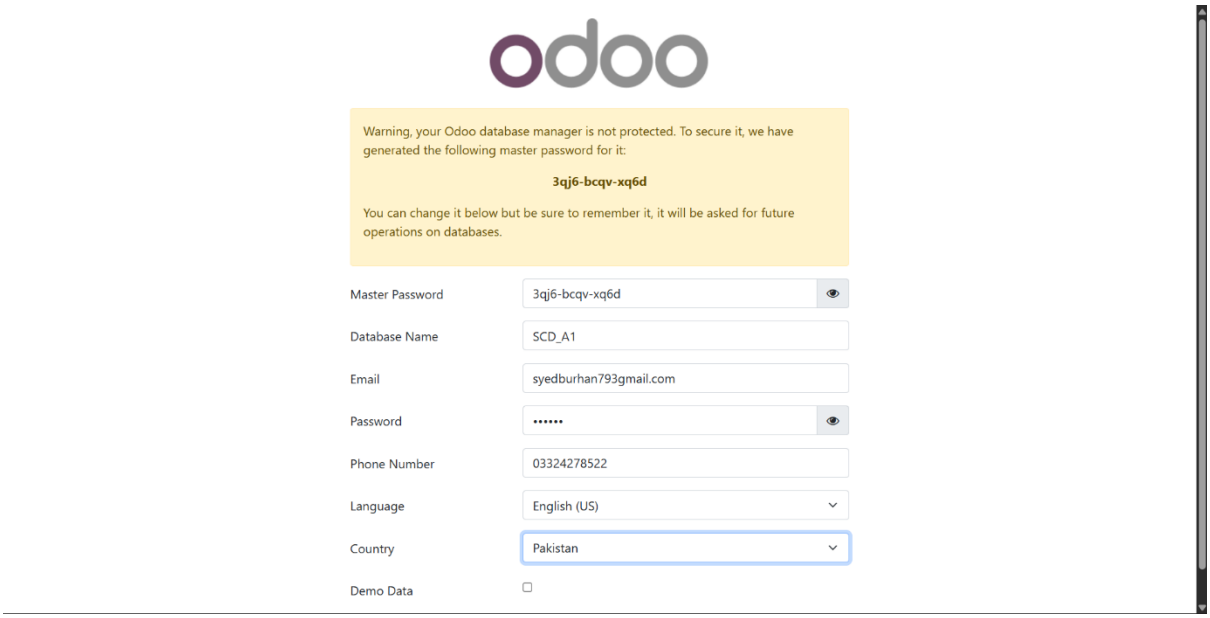
Step 6: Start Odoo

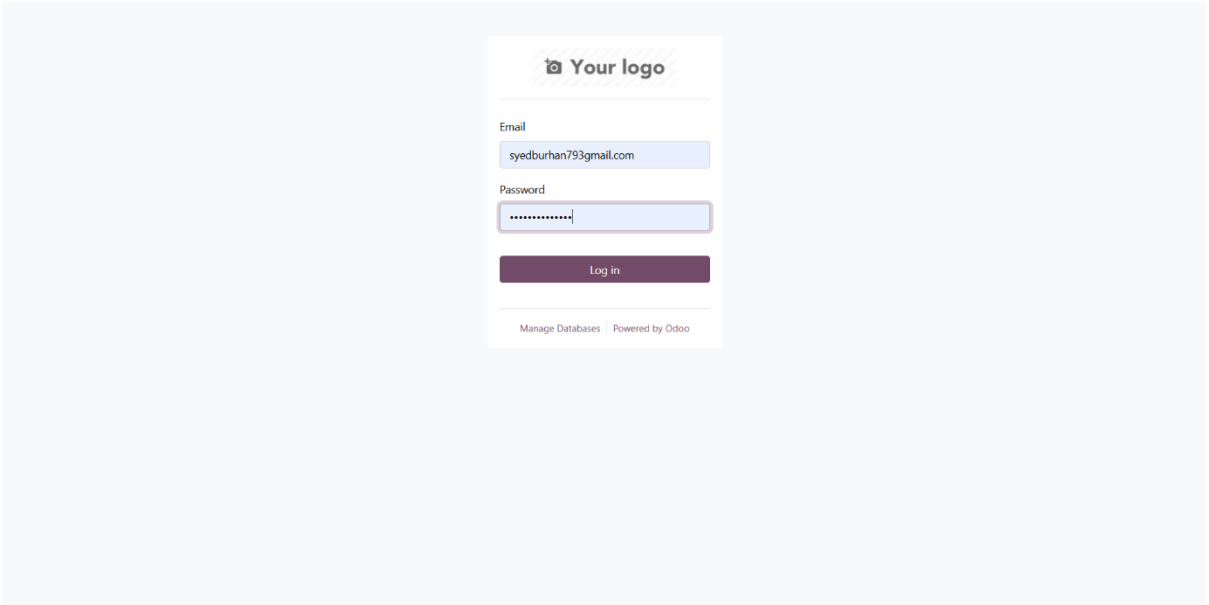
1. Start Odoo manually:
2. `sudo -u odoo /opt/odoo/odoo-bin -c /etc/odoo.conf`
3. Open a web browser and go to:
4. `http://localhost:8069`

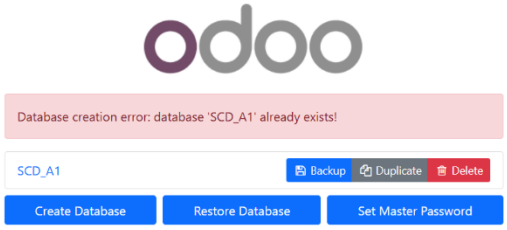
If Odoo opens, the installation is successful.



Browser view:







Problems and Troubleshooting:

(i). VirtualBox Issues

- Black screen during Ubuntu installation
  - Restart the VM and try disabling 3D acceleration in the VM settings
  - Try with or without EFI boot enabled
- Installation failure of Ubuntu
  - Changing the mirror to include “in” instead of “pk”
- Network connectivity issues
  - Ensure your host has internet connectivity
  - Try switching between NAT and Bridged adapter in network settings
- "This kernel requires an x86-64 CPU" error
  - Ensure you've selected the 64-bit version of Ubuntu
  - Verify that hardware virtualization is enabled in your BIOS/UEFI
- Slow performance
  - Allocate more RAM and CPU cores to the VM if available
  - Ensure you're not running too many applications on the host simultaneously
- VirtualBox Guest Additions installation fails
  - Ensure you have the required packages: `sudo apt install -y build-essential dkms linux-headers-$(uname -r)`
  - Try rebooting before installation

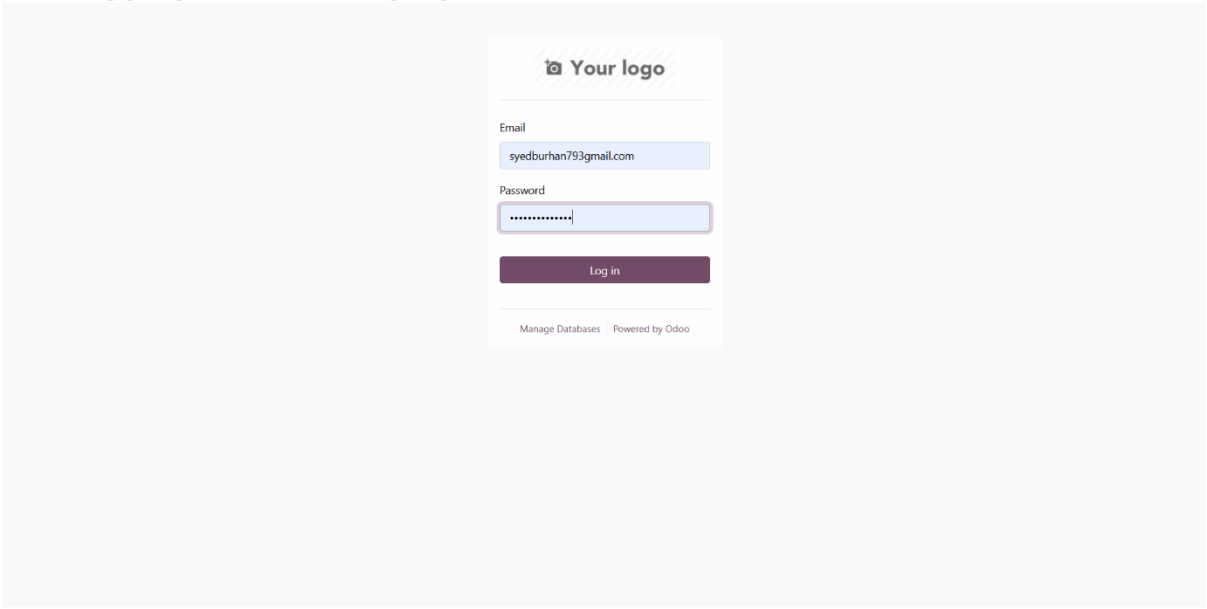
(ii). Odoo Issues

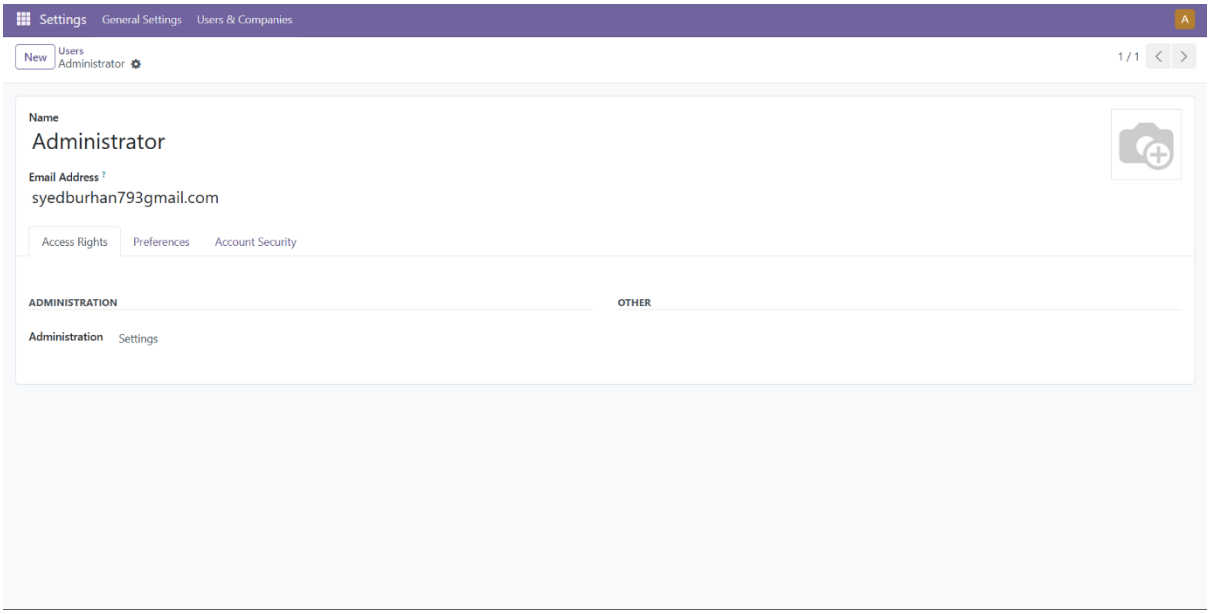
- Service Won't Start
  - Check the Odoo log file:
  - sudo tail -f /var/log/odoo18/odoo18.log
- Database Connection Issues
  - Verify PostgreSQL is running:
  - sudo systemctl status postgresql
  - Ensure the odoo18 database user exists:
  - sudo -u postgres psql -c "\du"
- Permission Issues
  - Check ownership of directories:
  - ls -la /opt/odoo18/

    - ls -la /var/log/odoo18/
- Fix permissions if needed:
    - sudo chown -R odoo18:odoo18 /opt/odoo18/
    - sudo chown -R odoo18:odoo18 /var/log/odoo18/

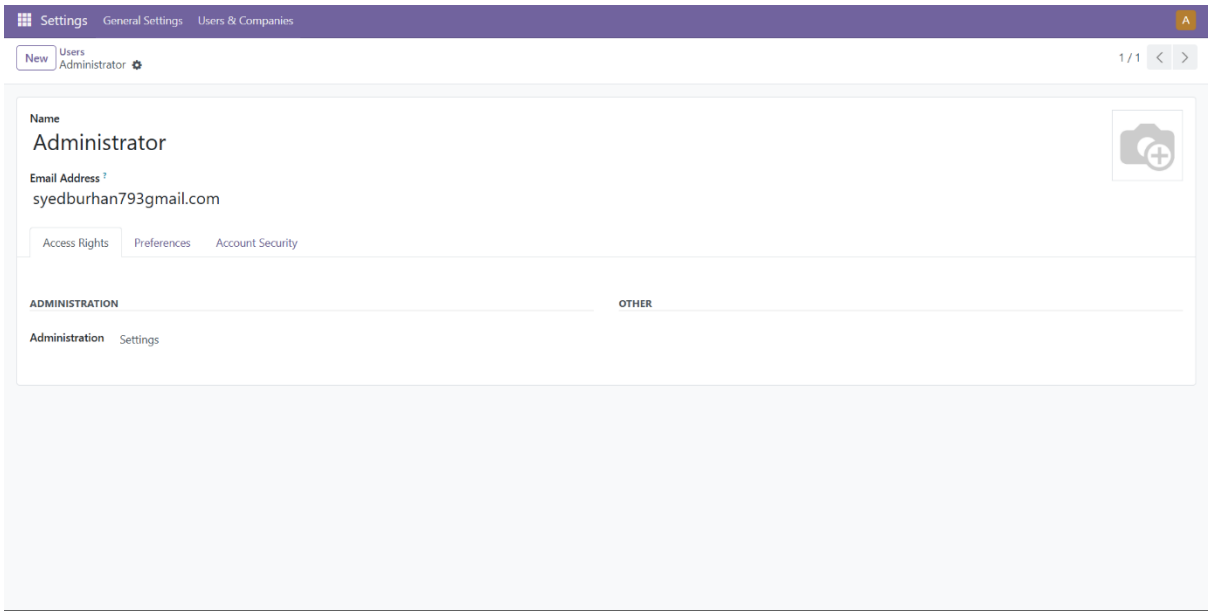
Part 2: Initial Configuration of Odoo

2.1 Logging in and changing default user:

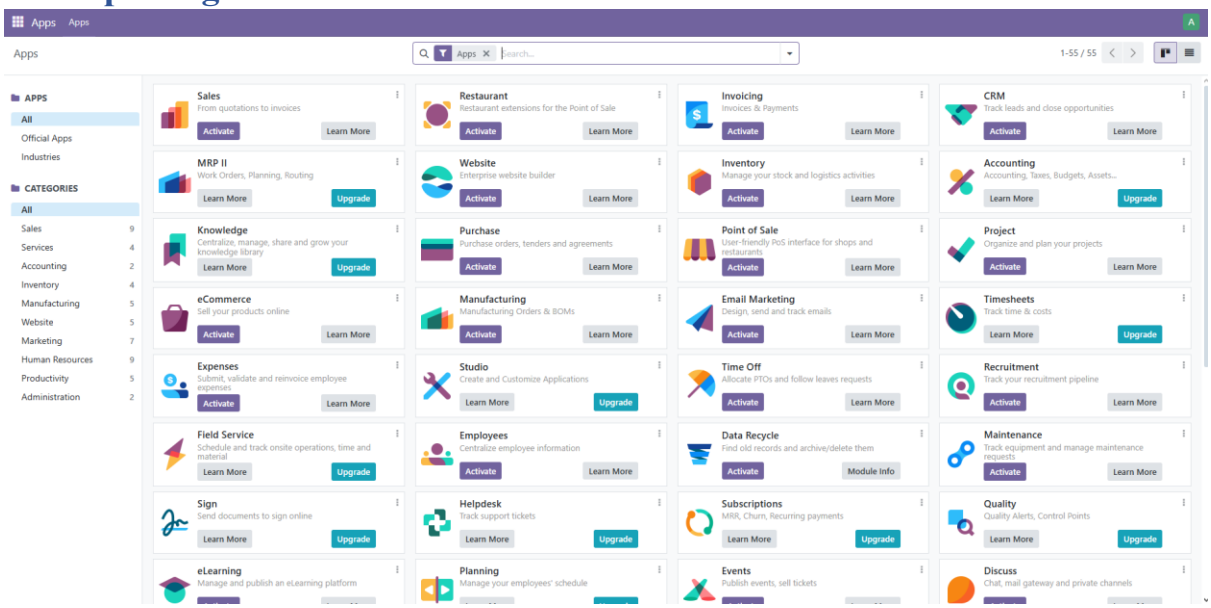




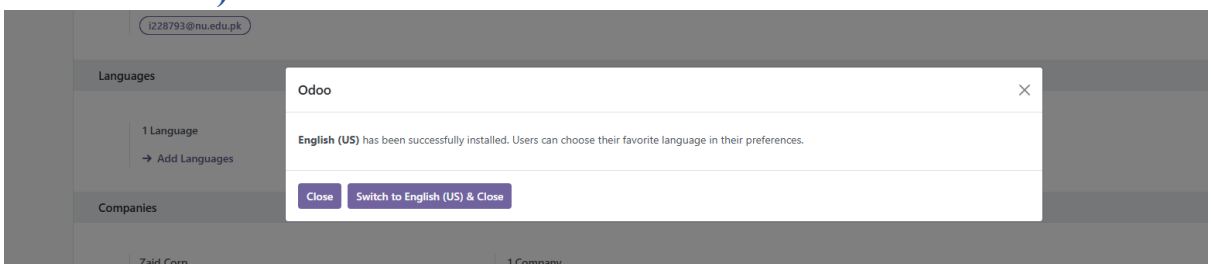
2.2 Creating a new user with administrative privileges:

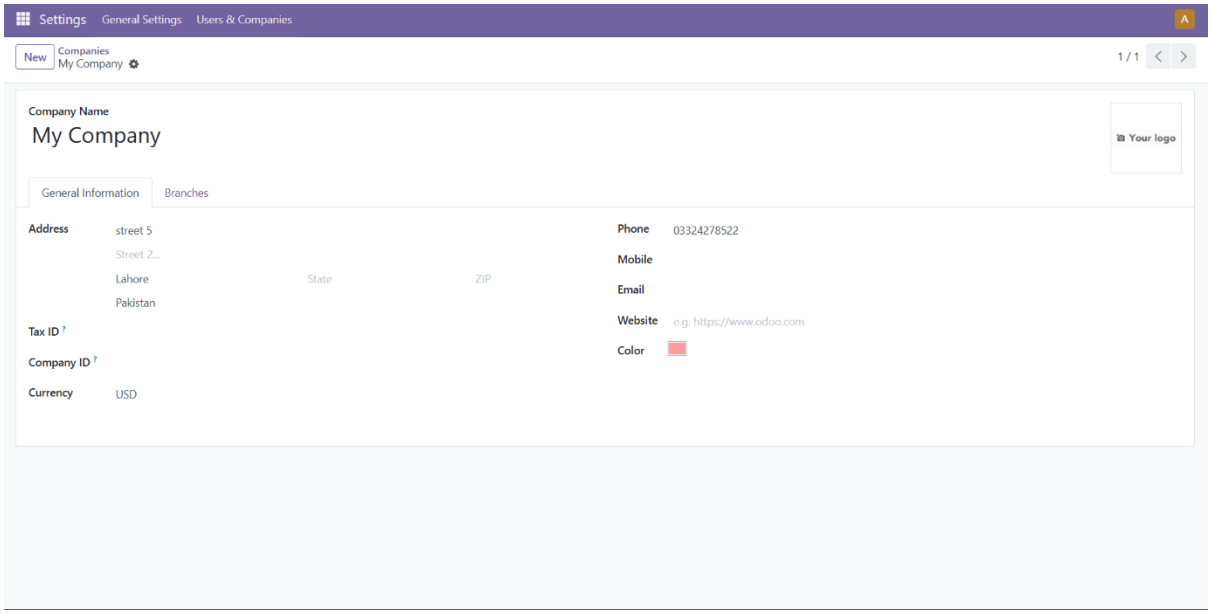


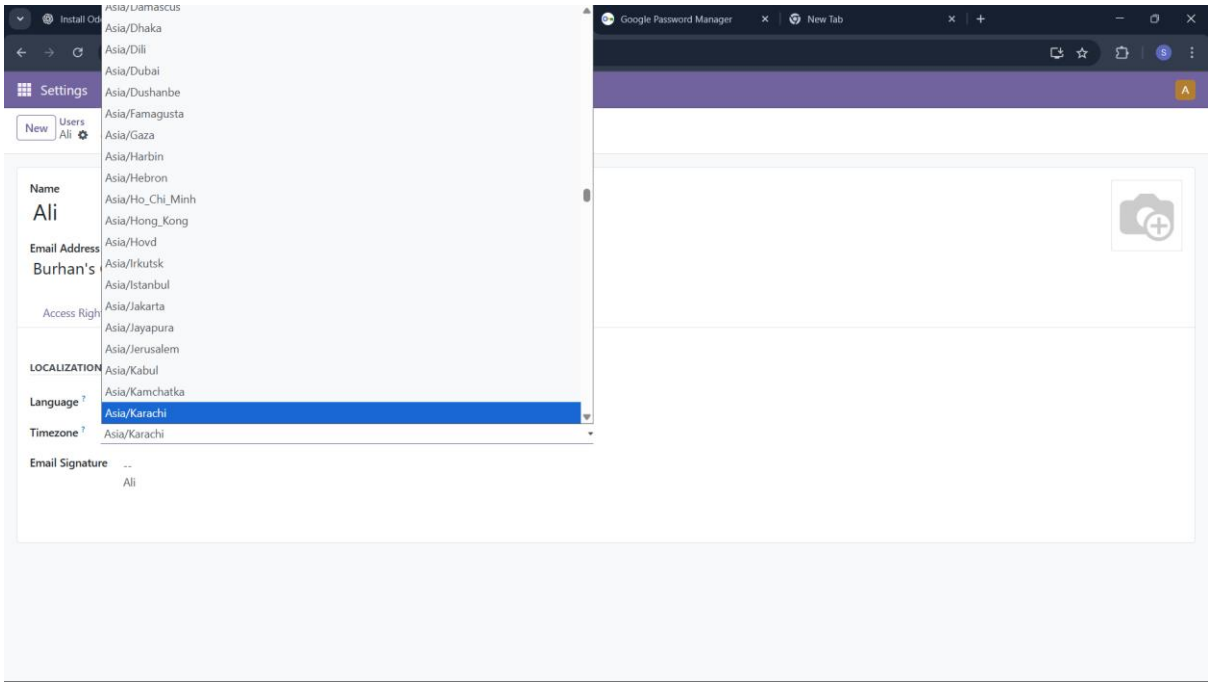
2.3 Exploring the Odoo dashboard:



2.4 Configuring basic settings (company information, currency, language, and timezone):

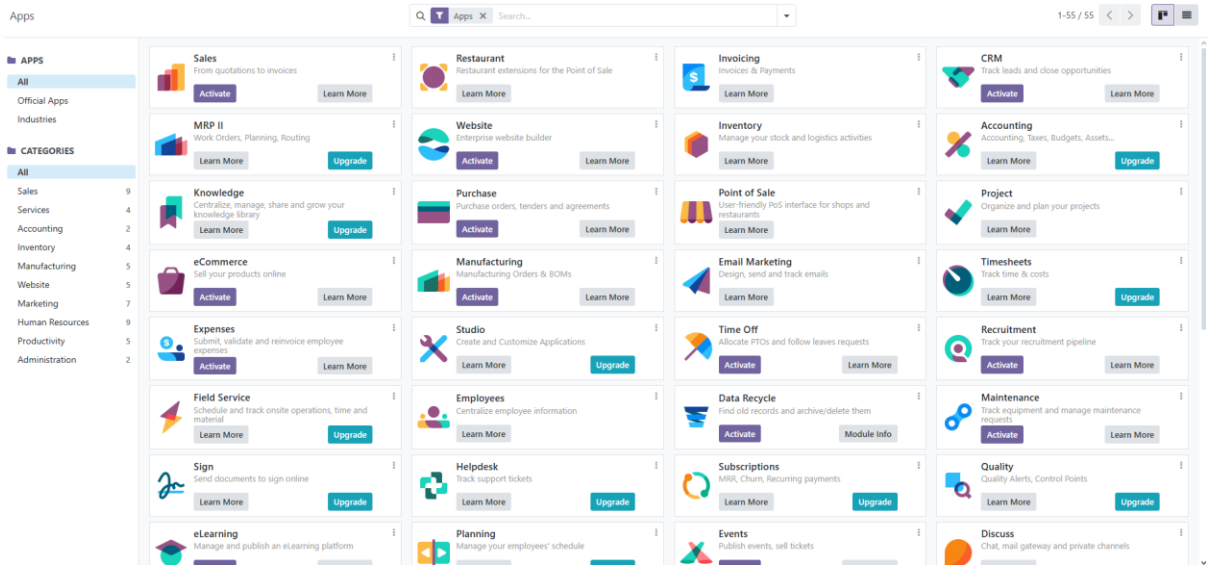


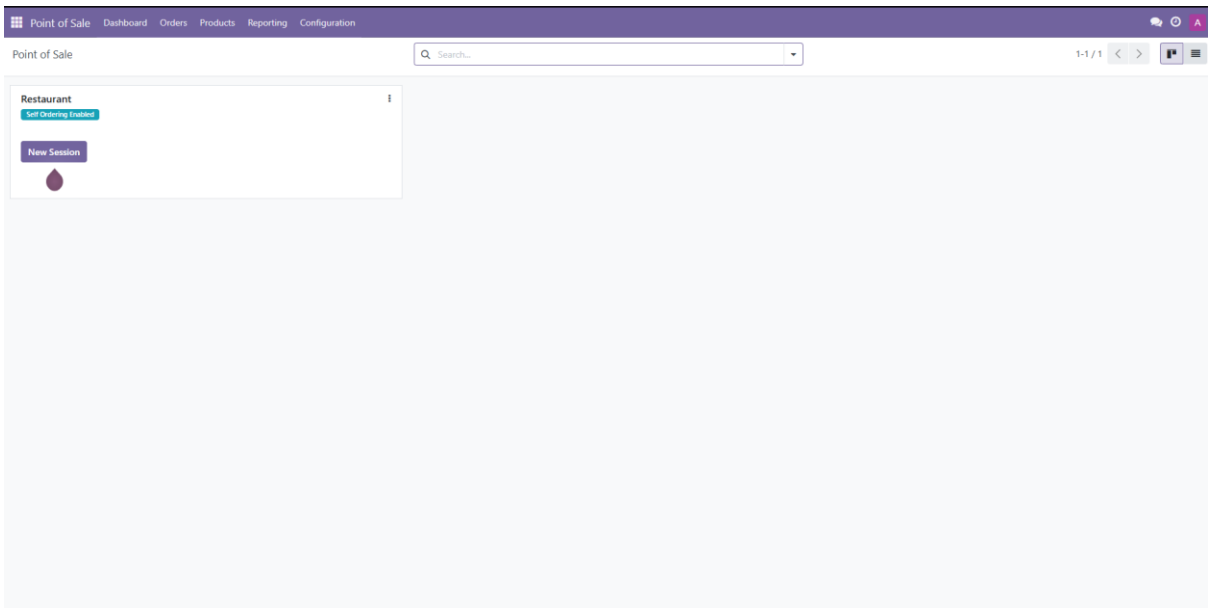

Settings
General Settings
Users & Companies
New
Companies
My Company
1 / 1
Company Name
My Company
Your logo
General Information
Branches
Address
street 5
Street 2...
Lahore
State
ZIP
Pakistan
Tax ID
Company ID
Currency
USD
Phone
03324278522
Mobile
Email
Website
e.g. https://www.odoo.com
Color


Asia/Damascus
Asia/Dhaka
Asia/Dili
Asia/Dubai
Asia/Dushanbe
Asia/Famagusta
Asia/Gaza
Asia/Harbin
Asia/Hebron
Asia/Ho_Chi_Minh
Asia/Hong_Kong
Asia/Hovd
Asia/Irkutsk
Asia/Istanbul
Asia/Jakarta
Asia/Jayapura
Asia/Jerusalem
Asia/Kabul
Asia/Kamchatka
Asia/Karachi
Asia/Karachi
Google Password Manager
New Tab
Settings
New
Users
Ali
Name
Ali
Email Address
Burhan's
LOCALIZATION
Language
Timezone
Email Signature
Ali

2.5 Install additional modules or apps:

Installing Restaurant module (Extension of Point of Sale):

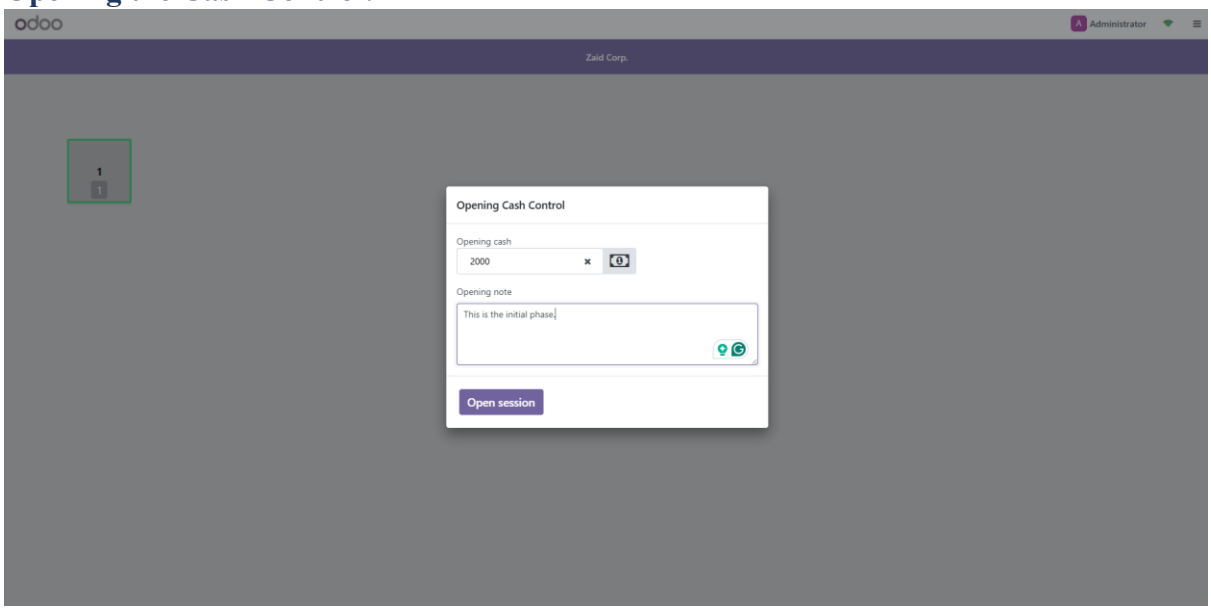




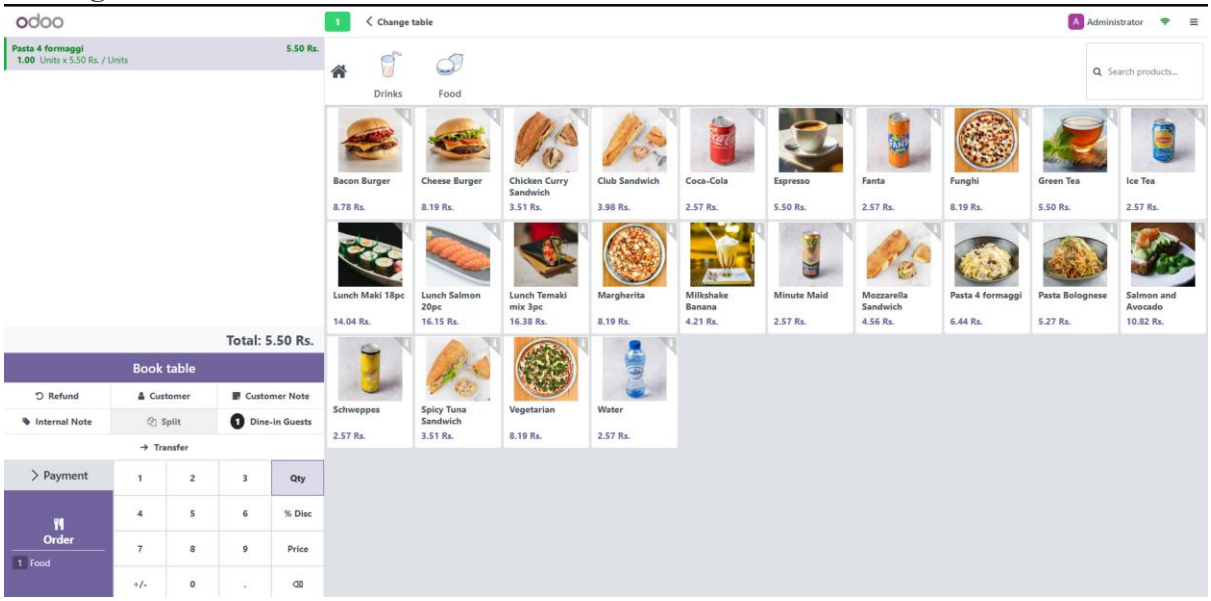
3. Advanced Configuration and Customization:

3.1 Exploring the configuration options:

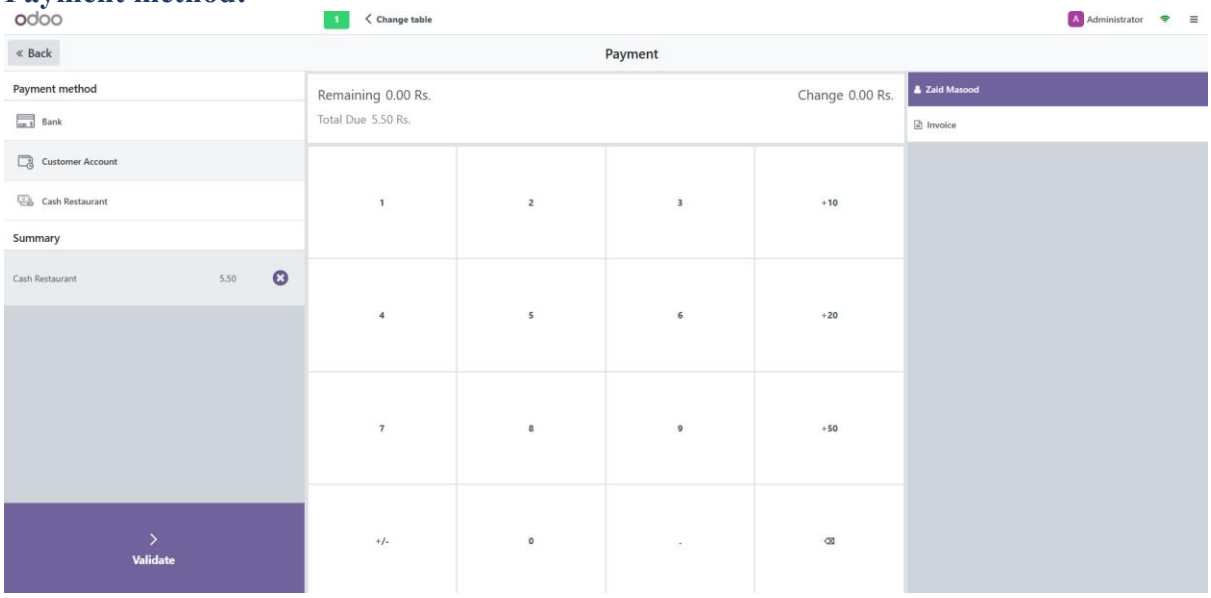
Opening the Cash Control:



Adding demo data to the session:



Payment method:



Payment Successful:

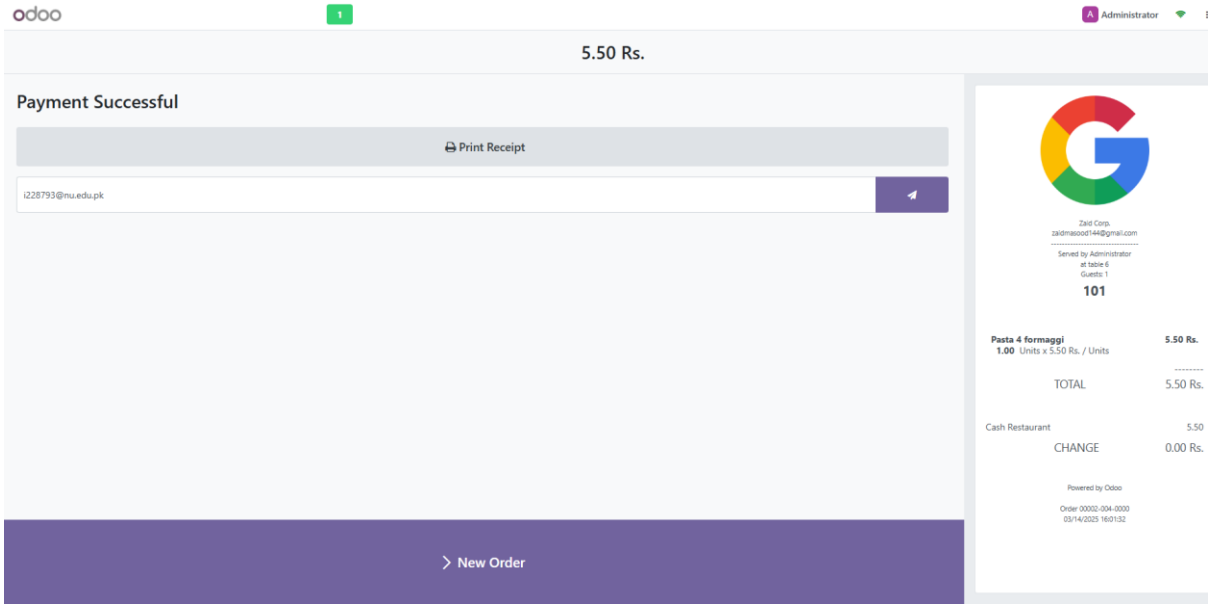
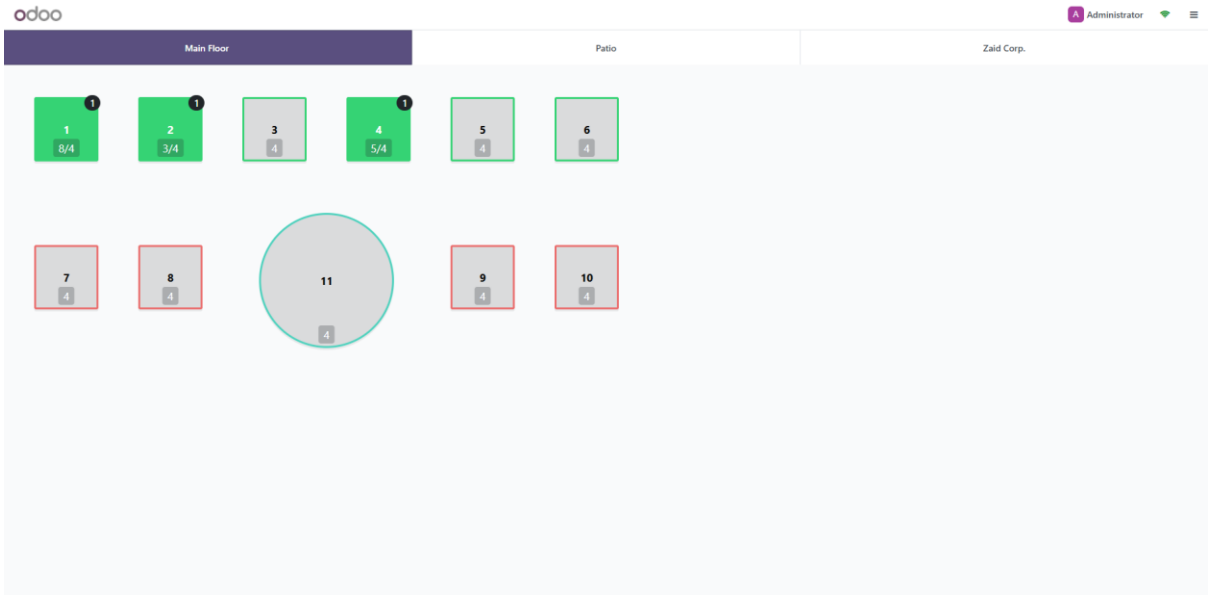
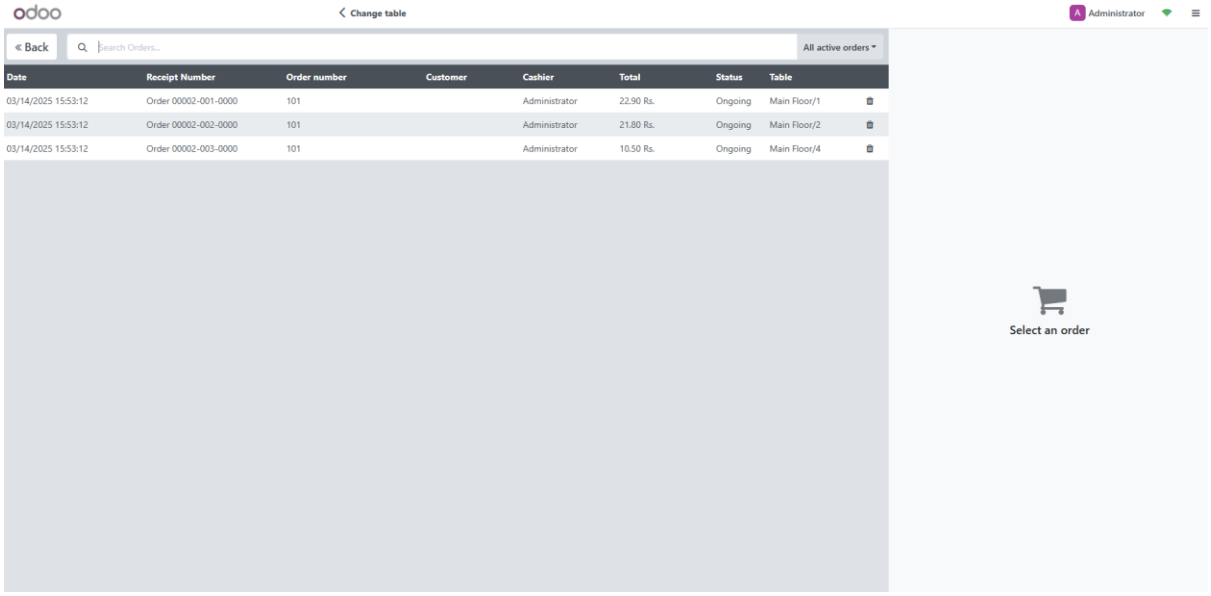


Table Management:



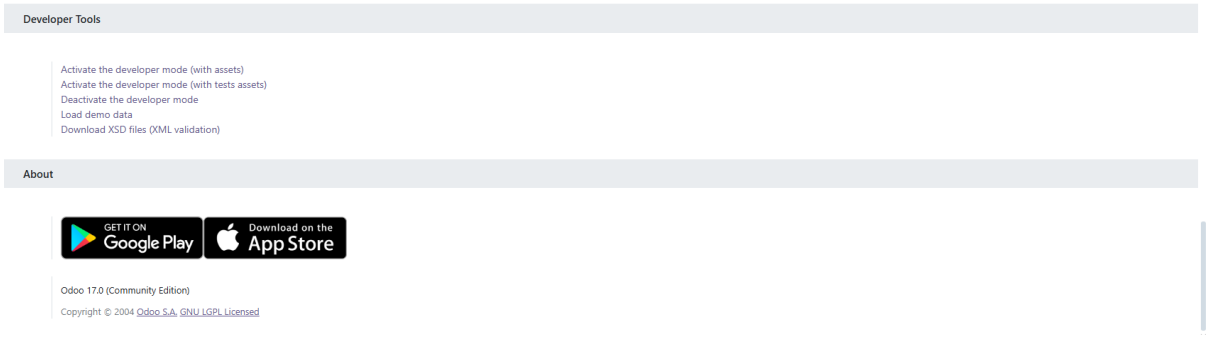
Order Management:

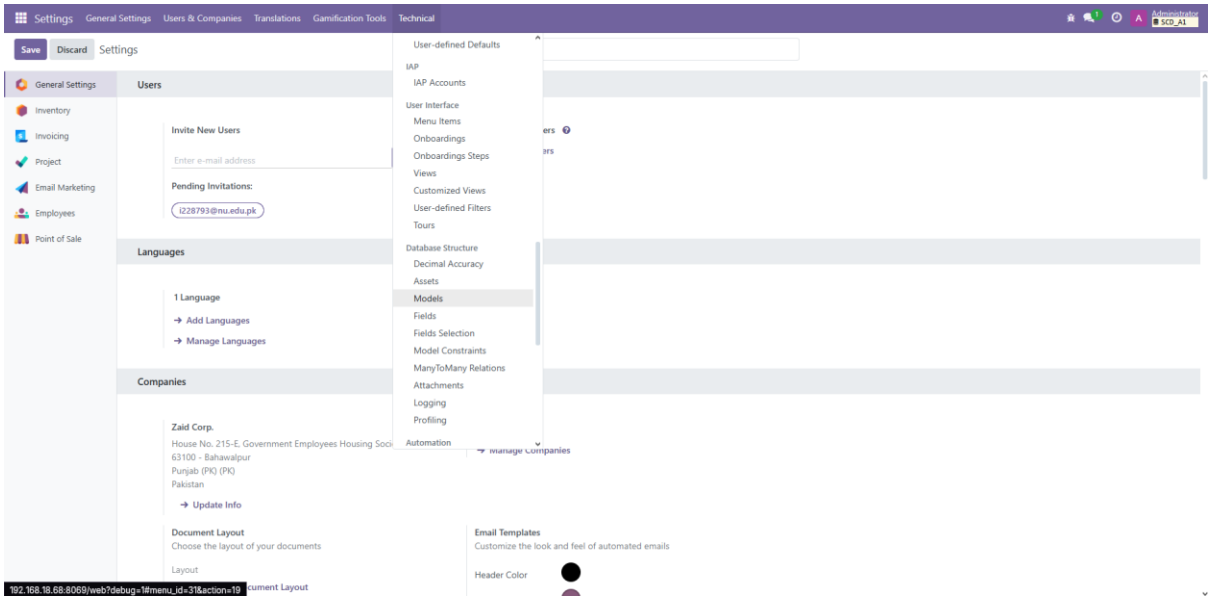


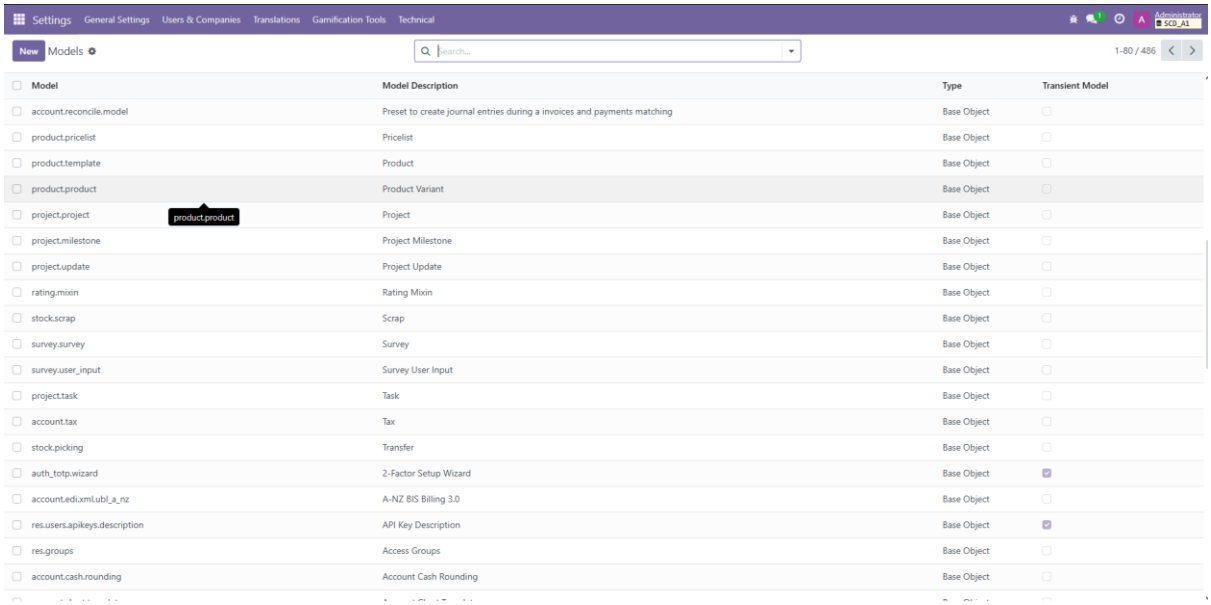
3.2,3.3 Customizing the module and Documentation and Integration:

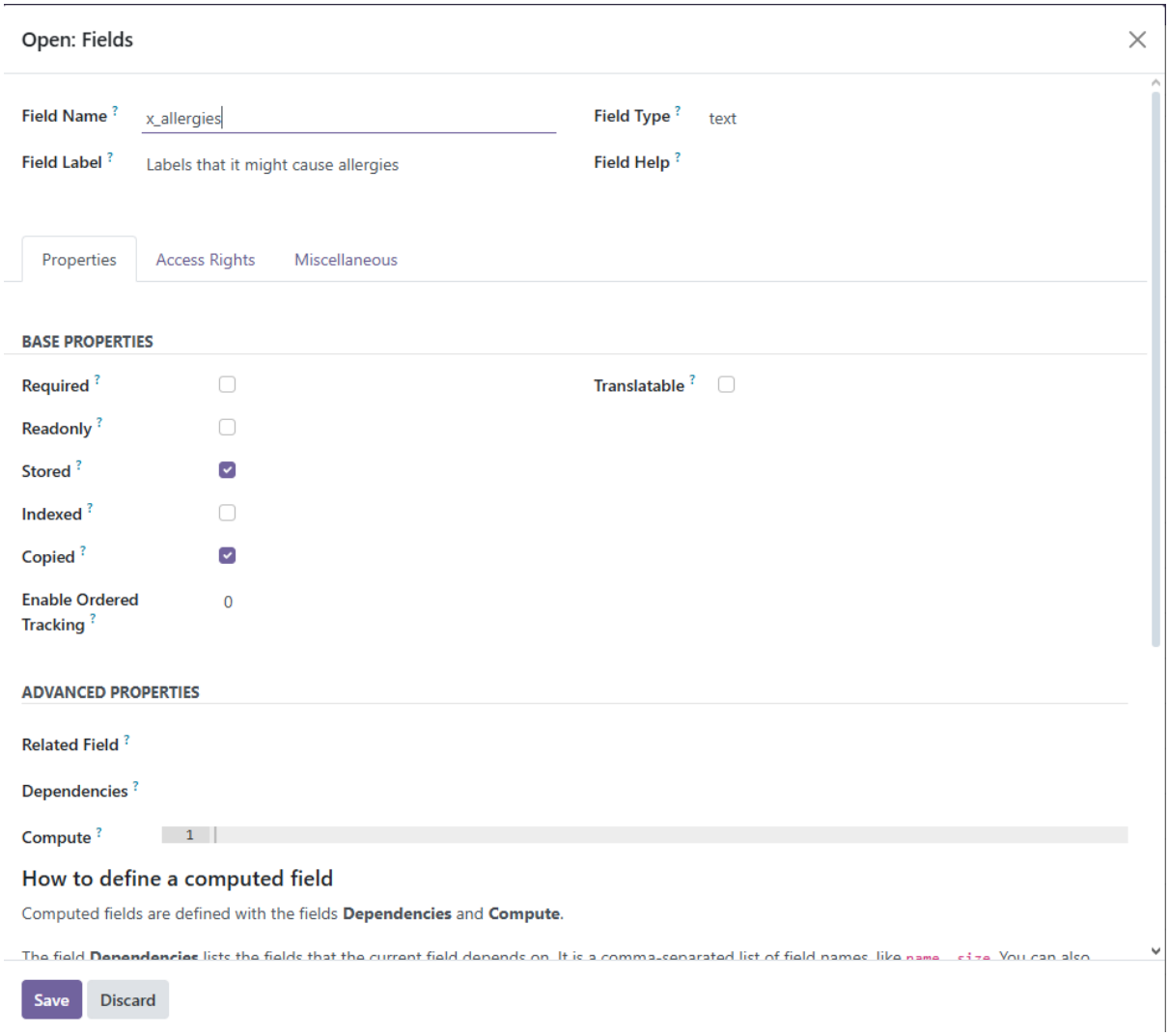
Adding custom fields:

choose “activate developer mode” for this step:

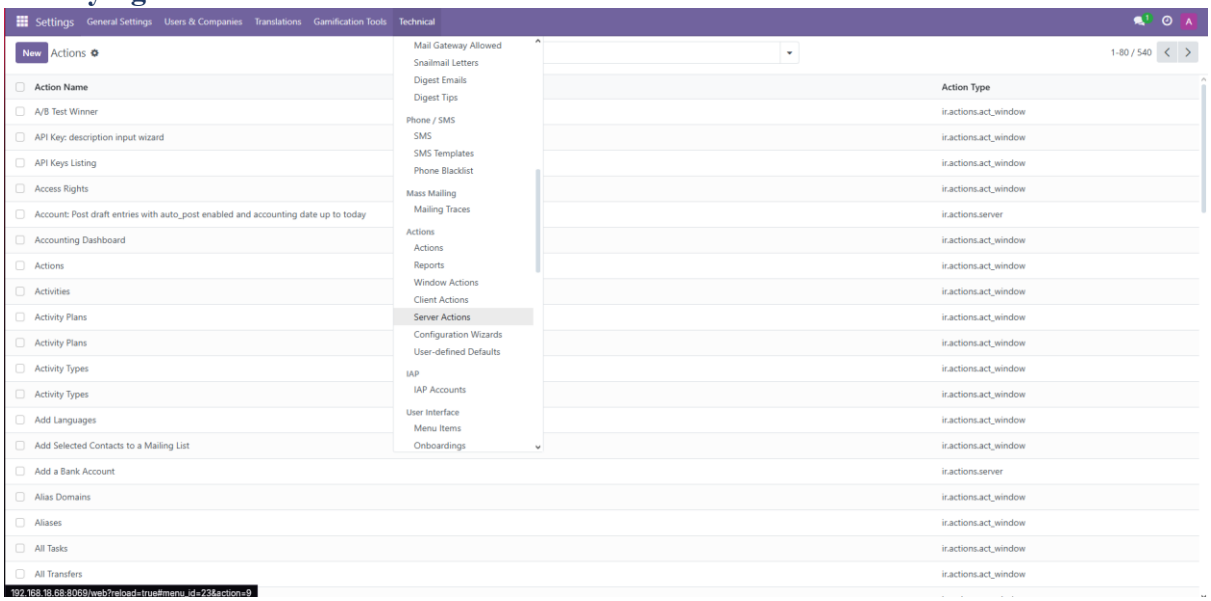


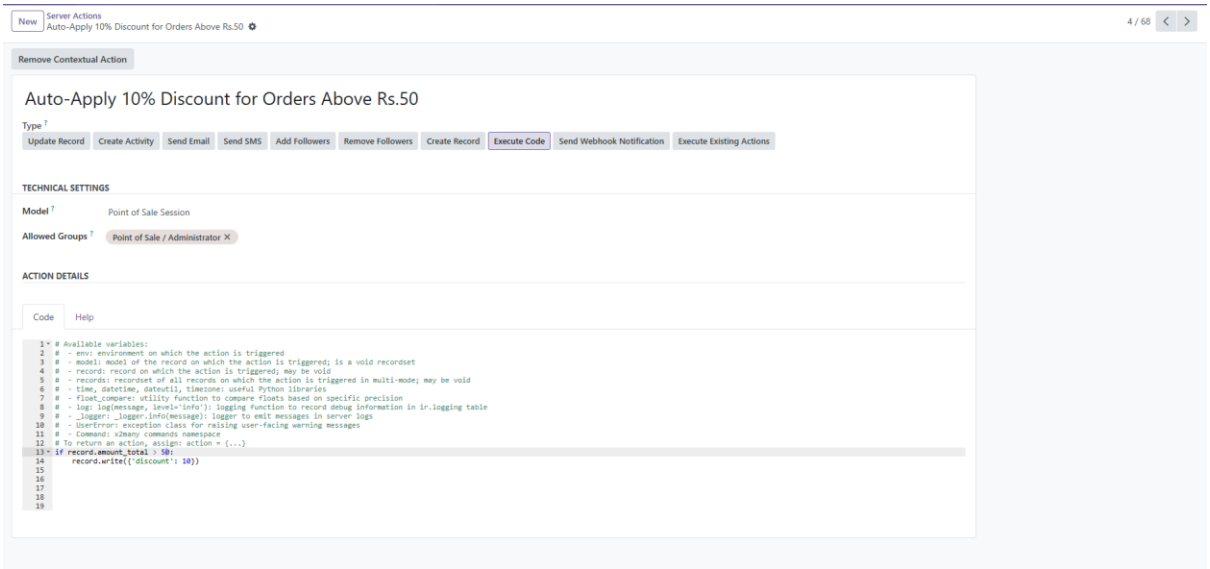

Settings
General Settings
Users & Companies
Translations
Gamification Tools
Technical
Save
Discard
Settings
General Settings
Inventory
Invoicing
Project
Email Marketing
Employees
Point of Sale
Users
Invite New Users
Enter e-mail address
Pending Invitations:
i228793@nu.edu.pk
Languages
1 Language
Add Languages
Manage Languages
Companies
Zaid Corp.
House No. 215-E, Government Employees Housing Soci
63100 - Bahawalpur
Punjab (PK) (PK)
Pakistan
Update Info
Document Layout
Choose the layout of your documents
Layout
Email Templates
Customize the look and feel of automated emails
Header Color
User-defined Defaults
IAP
IAP Accounts
User Interface
Menu Items
Onboardings
Onboardings Steps
Views
Customized Views
User-defined Filters
Tours
Database Structure
Decimal Accuracy
Assets
Models
Fields
Fields Selection
Model Constraints
ManyToMany Relations
Attachments
Logging
Profiling
Automation
192.168.18.68:8069/web?debug=1#menu_id=31&action=19


Settings
General Settings
Users & Companies
Translations
Gamification Tools
Technical
New
Models
1-80 / 486
Model
Model Description
Type
Transient Model
account.reconcile.model
Preset to create journal entries during a invoices and payments matching
product.pricelist
Pricelist
product.template
Product
product.product
Product Variant
project.project
Project
project.milestone
Project Milestone
project.update
Project Update
rating.mixin
Rating Mixin
stock.scrap
Scrap
survey.survey
Survey
survey.user_input
Survey User Input
project.task
Task
account.tax
Tax
stock.picking
Transfer
auth_totp.wizard
2-Factor Setup Wizard
account.edi.xml.ubl_a_nz
A-NZ BIS Billing 3.0
res.users.apikeys.description
API Key Description
res.groups
Access Groups
account.cash.rounding
Account Cash Rounding
Base Object



Modifying workflow:

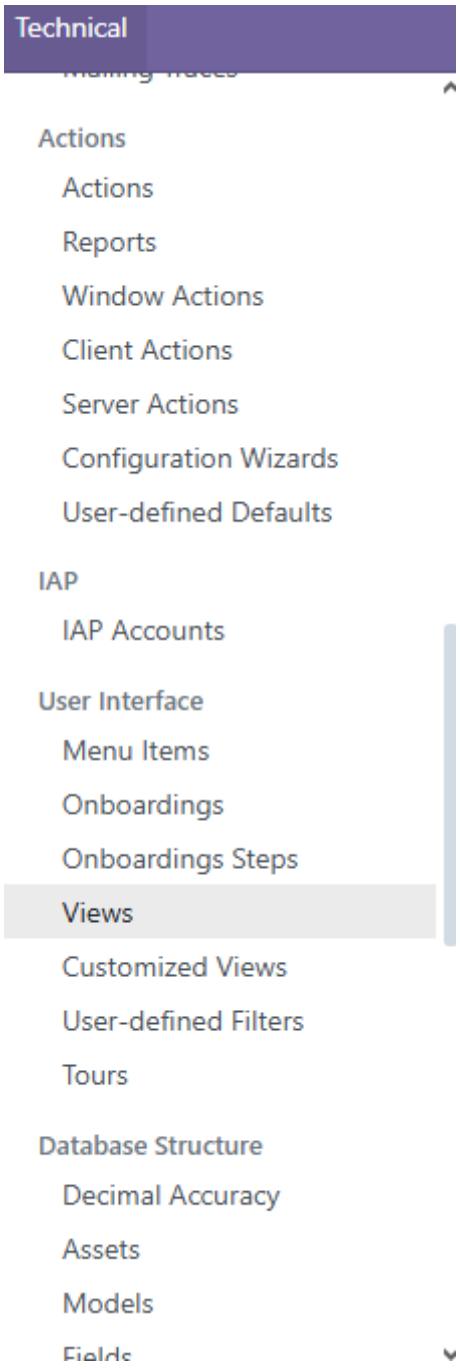


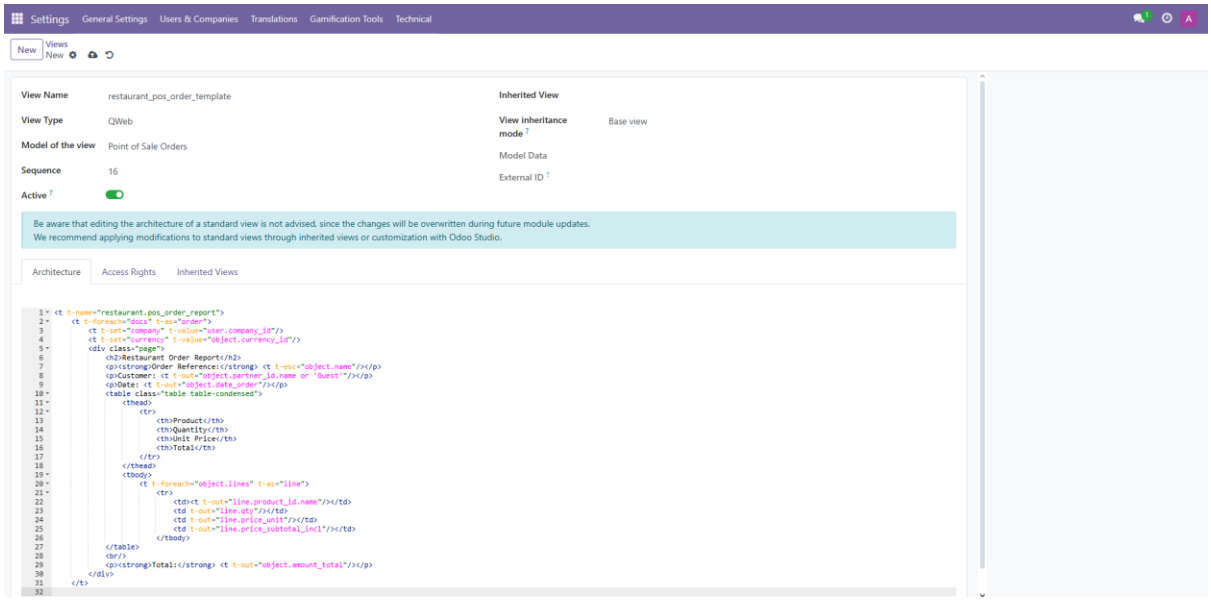


Code:

```
if record.amount_total > 50:
    record.write({'discount': 10})
```

Creating reports:

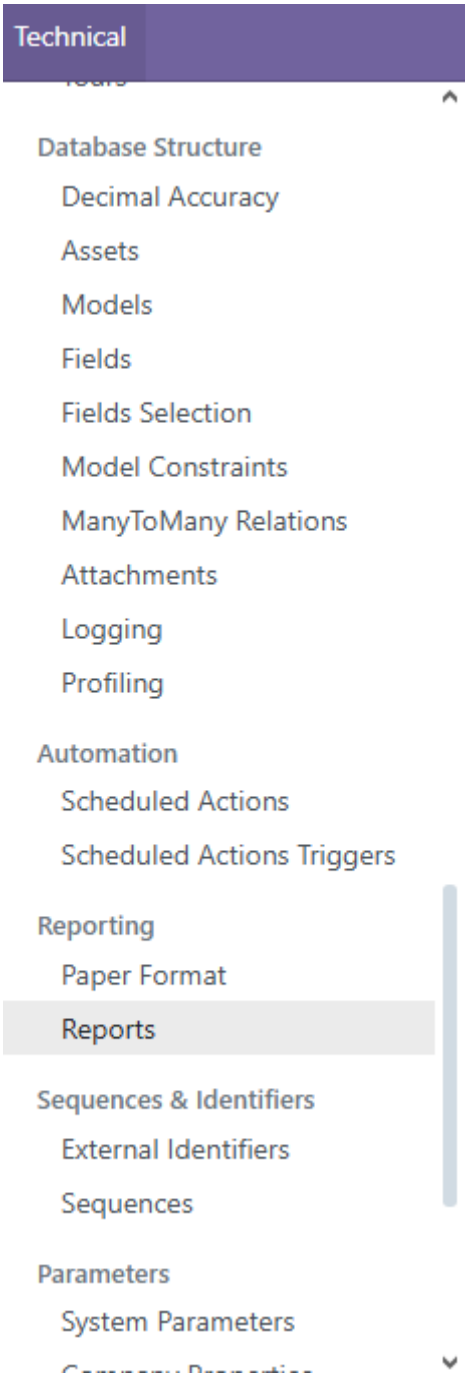




Code:

```
<t t-name="restaurant.pos_order_report">
    <t t-foreach="docs" t-as="order">
        <t t-set="company" t-value="order.company_id"/>
        <t t-set="order_lines" t-value="order.lines"/>

        <div class="page">
            <h2>Restaurant Order Report</h2>
            <p><strong>Order Reference:</strong> <t t-esc="order.name"/></p>
            <p><strong>Customer:</strong> <t t-esc="order.partner_id.name or 'Walk-in Customer'"/></p>
            <p><strong>Order Date:</strong> <t t-esc="order.date_order"/></p>

            <table class="table table-condensed">
                <thead>
                    <tr>
                        <th>Product</th>
                        <th>Quantity</th>
                        <th>Unit Price</th>
                        <th>Total</th>
                    </tr>
```

```
            </thead>
            <tbody>
                <t t-foreach="order_lines" t-as="line">
                    <tr>
                        <td><t t-esc="line.product_id.name"/></td>
                        <td><t t-esc="line.qty"/></td>
                        <td><t t-esc="line.price_unit"/></td>
                        <td><t t-esc="line.price_subtotal_incl"/></td>
                    </tr>
                </t>
            </tbody>
        </table>

        <p><strong>Total Amount:</strong> <t t-esc="order.amount_total"/></p>
    </div>
</t>
```

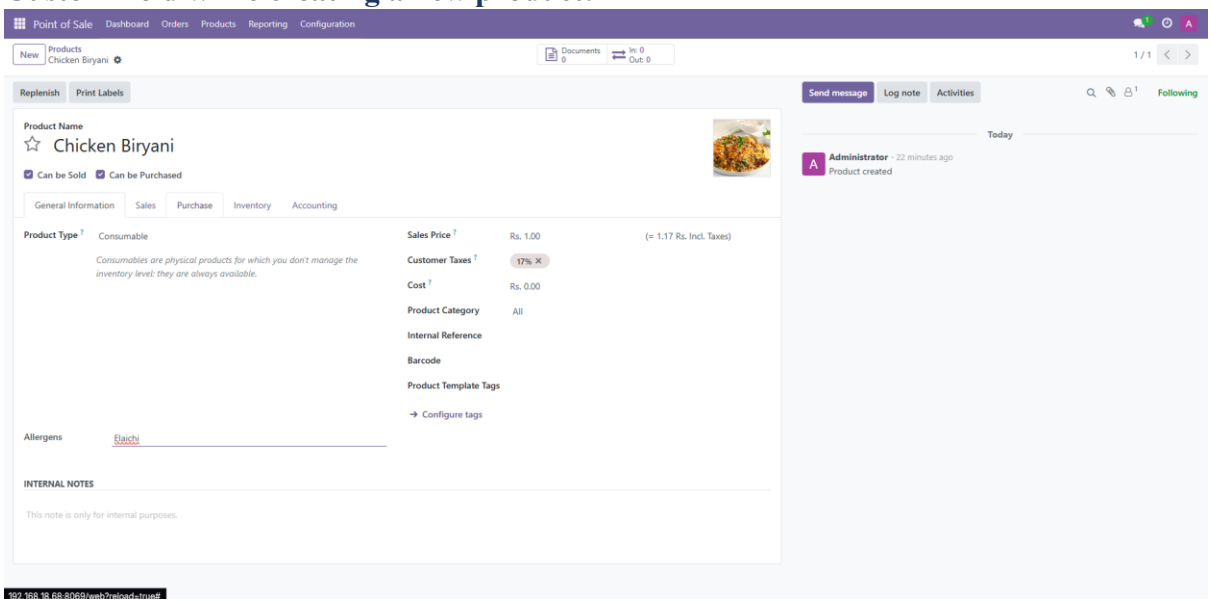

Technical
Database Structure
Decimal Accuracy
Assets
Models
Fields
Fields Selection
Model Constraints
ManyToMany Relations
Attachments
Logging
Profiling
Automation
Scheduled Actions
Scheduled Actions Triggers
Reporting
Paper Format
Reports
Sequences & Identifiers
External Identifiers
Sequences
Parameters
System Parameters

Restarting after all steps:

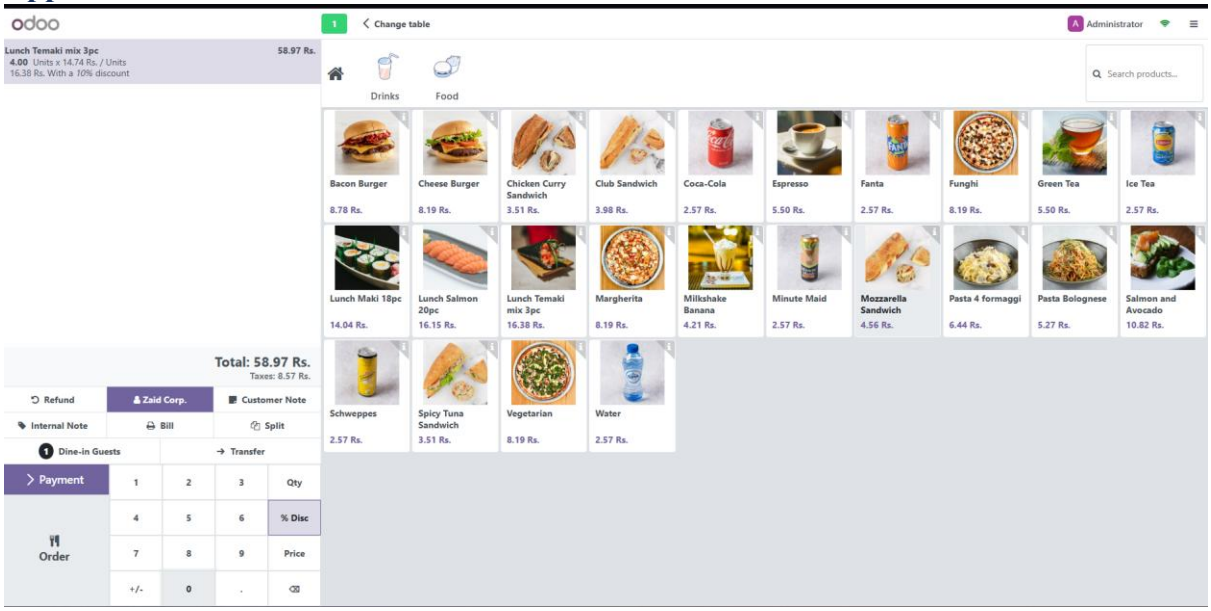
```
odoo@server: ~/odoo

  Processes:              134
  Users logged in:        1
  IPv4 address for enp0s3: 10.0.2.15
  IPv6 address for enp0s3: fd17:625c:f037:2:a00:27ff:fe15:d784


Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status


Last login: Fri Sep 19 13:04:34 2025 from 10.0.2.2
burhan@server:~$ sudo su - odoo
[sudo] password for burhan:
odoo@server:~$ cd ~/odoo
odoo@server:~/odoo$ source venv/bin/activate
(venv) odoo@server:~/odoo$ ./odoo-bin -c /etc/odoo.conf
/opt/odoo/odoo/odoo/modules/module.py:11: UserWarning: pkg_resources is deprecated as an API. See https://setuptools.pypa.io/en/latest/pkg_resources.html. The p
kg_resources package is slated for removal as early as 2025-11-30. Refrain from using this package or pin to Setuptools<81.
  import pkg_resources
ERROR: couldn't write the config file
^CException in thread odoo.service.cron.cron0:
Traceback (most recent call last):
  File "/usr/lib/python3.12/threading.py", line 1073, in _bootstrap_inner
(venv) odoo@server:~/odoo$ exit
logout
burhan@server:~$ sudo su - odoo
[sudo] password for burhan:
Sorry, try again.
[sudo] password for burhan:
odoo@server:~$ cd ~/odoo
odoo@server:~/odoo$ source venv/bin/activate
(venv) odoo@server:~/odoo$ ./odoo-bin -c /etc/odoo.conf
/opt/odoo/odoo/odoo/modules/module.py:11: UserWarning: pkg_resources is deprecated as an API. See https://setuptools.pypa.io/en/latest/pkg_resources.html. The p
kg_resources package is slated for removal as early as 2025-11-30. Refrain from using this package or pin to Setuptools<81.
  import pkg_resources
```

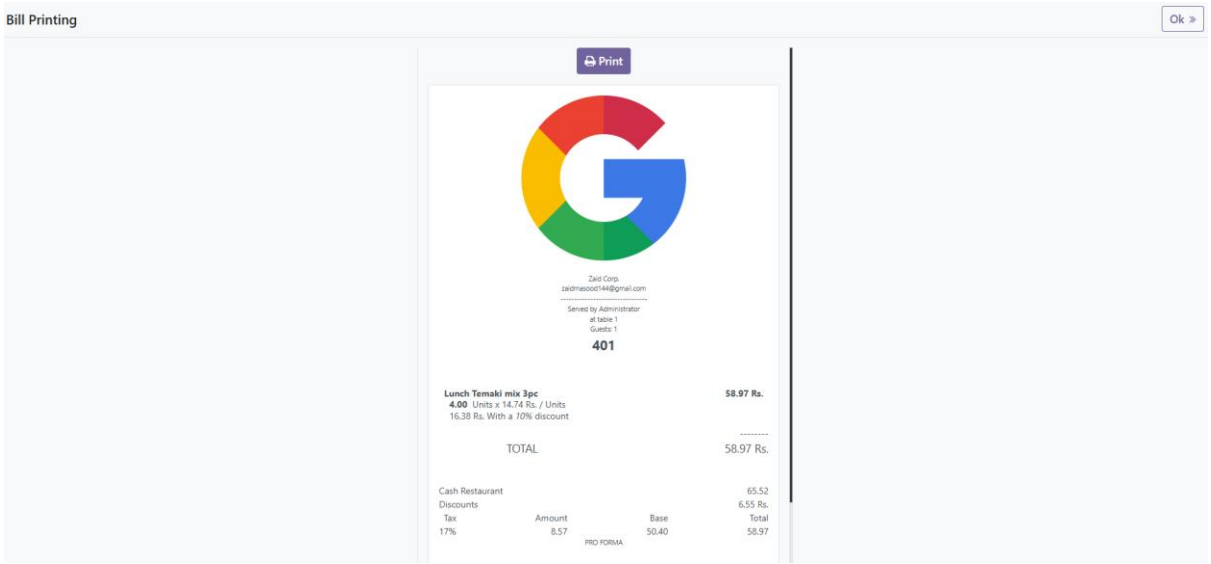
3.4 Testing the configured module:

Custom field while creating a new product:

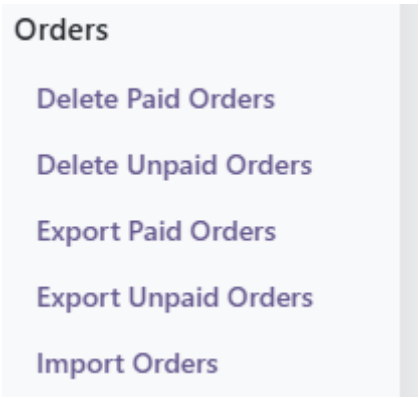


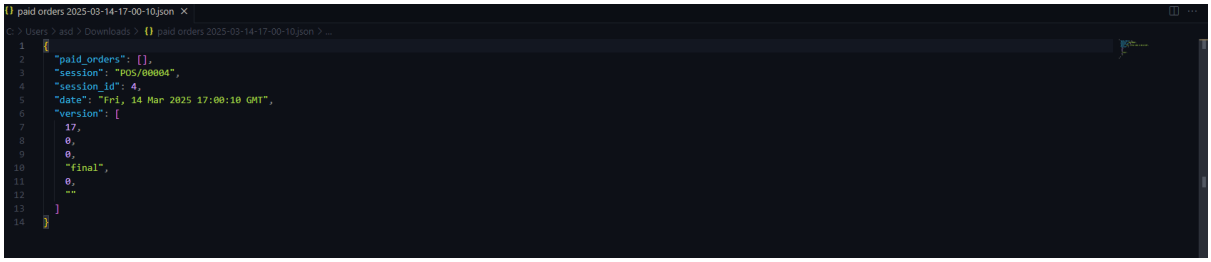
Application of discount on the set amount:





Generating a report:





Challenges and Solutions:

Challenge 1: "Technical" Menu Not Visible in Settings

Issue: The "Technical" menu was missing, preventing access to model configurations.

Solution:

- **Enable Developer Mode** using:
  - **Settings → Activate Developer Mode**, OR
  - Adding `?debug=1` to the URL.

Challenge 2: QWeb Report Error - "Opening and ending tag mismatch"

Issue: The `<tr>` and `<td>` tags were incorrectly structured, causing XML errors.

Solution:

- Fixed the **loop structure** in QWeb template to ensure proper nesting.
- Verified closing tags for `<tr>` and `<td>`.

Challenge 3: Workflow Automation Not Available

Issue: "Workflows" were deprecated in Odoo 17, requiring a new way to automate actions.

Solution:

- Used **Automated Actions** instead:
  1. **Go to** `Settings > Technical > Automation > Automated Actions.`
  2. **Create New Action**:
     - **Model:** `pos.order`
     - **Trigger:** `On Creation`
     - **Condition:** Apply **10% discount** if order > Rs.50.
     - **Action:** Execute Python Code:
     - `if record.amount_total > 50:`
     - `record.write({'discount': 10})`
  3. **Save & Test** the automation.