An Internship Report

on

Salesforce Developer Virtual Internship

Submitted in partial fulfilment of the requirements

for the award of the degree of

BACHELOR OF TECHNOLOGY

in

Computer Science and Engineering (Data Science)

by

D.MOUNIKA (214G1A3256)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

(DATA SCIENCE)

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)

(Affiliated to JNTUA, accredited by NAAC with 'A' Grade, Approved by AICTE, New Delhi & Accredited by NBA (EEE, ECE & CSE))
Rotarypuram village, B K Samudram Mandal, Ananthapuramu-515701.

2023 - 2024

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Certificate

This is to certify that the internship report entitled Salesforce Virtual Internship is the bonafide work carried out by **D.MOUNIKA** bearing Roll Number 214G1A3256 in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science and Engineering (Data Science)** for four months from June 2023 to September 2023.

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Place: Ananthapuramu

EXTERNAL EXAMINER

PREFACE

Salesforce is an American cloud -based software company. It provides Customer Relationship Management (CRM) software and applications focused on sales, customer service, Marketing automation, analytics and application development.

It was founded by Mark Benioff, Salesforce quickly grew into one of the largest companies in the world, making its IPO in 2004. Salesforce's continued growth makes it into the first cloud computing company to reach US$1 billion in annual revenue by fiscal year 2009, and the world's largest enterprise software firm by 2022.

Salesforce is a platform that allows businesses to conduct sales online. For businesses using it, the customers are allowed to thoroughly examine products and chat with people who work for that particular business.

The cool thing about Salesforce is that you can customize and automate the processes. You don’t really need to know how to code to tweak it, but it’s still good to have someone handy who can fully utilize the options that Salesforce offers. This includes the creation of business processes such as automated email campaigns, automated billing process, etc.

Salesforce mission statement “to empowers companies to connect with their customers in a whole new way.”

CHAPTER - 1

INTRODUCTION

1.1 What is Salesforce?

Salesforce is a cloud-based platform that provides software and services to create relevant customer experiences. Starting as Software-as-a-Service (SaaS), Salesforce is based on a multi-tenant architecture that has benefits such as API Integration, configuration, scalability, free capacity, low-cost ownership, platform support, and more. Salesforce is one of the best Customer Relationship Management (CRM) service providers and also provides Artificial Intelligence (AI) platform for marketing automation, financing, Human resource management, etc.

As a widely used CRM tool, Salesforce benefits both small and large businesses. It breaks down the organization's operations and allow the employees to have a single customer view of various department. All these services allow a business to use the latest technologies, find potential customers, and provide a better experience.

Fig.1.1: Salesforce Exactly do

1.2 How Does Salesforce Work?

So, how does Salesforce practically work?

The company is a service as a software (SaaS) which means it uses a cloud computing, software distribution model that hosts applications and makes them available online. Salesforce hosts numerous different cloud platforms that allow companies to interact with different data and service their customers in various capacities. As of 2023, Salesforce has multiple different cloud platforms—a service cloud, marketing cloud, health cloud, app cloud, community cloud, analytics cloud, IoT cloud, Chatter cloud, commerce cloud, Heroku engagement cloud, and more.

According to the company, Salesforce's sales cloud gives companies the ability to track contacts, opportunities and manage a team to increase sales. The service cloud allows companies to connect with customers and deliver premium customer service through showing customer activity and resolving issues. With their marketing cloud, Salesforce helps companies track customer journeys while providing multichannel marketing campaigns, while their community cloud allows companies both to directly interact with their customers as well as customer interaction, in turn. Additionally, Salesforce has been implementing artificial intelligence (AI) into their Einstein platform, which helps simplify the analytics workflow and produce more accurate forecasting, among other benefits.

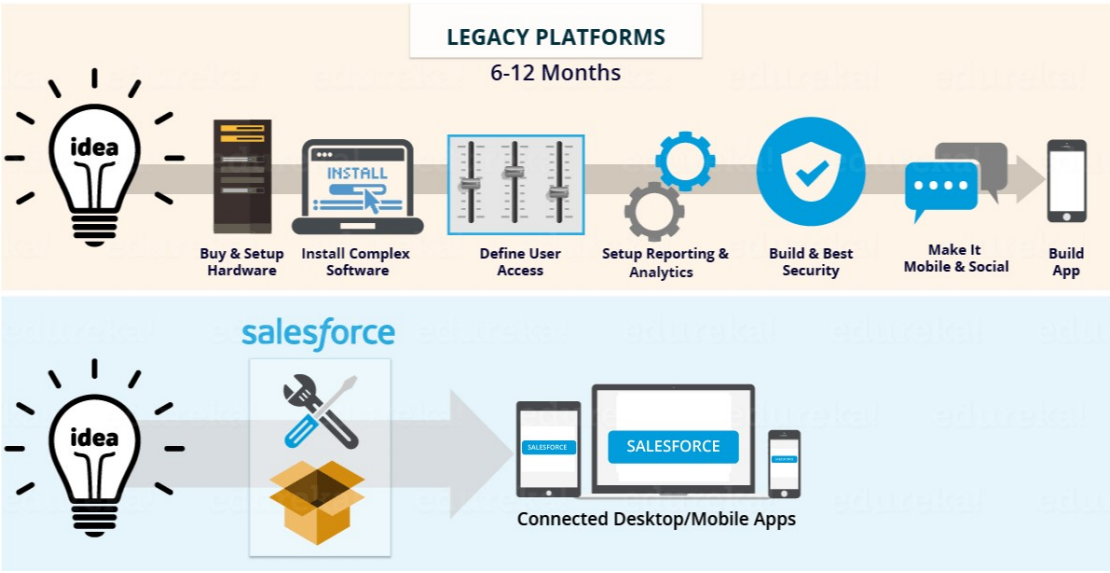

Fig.1.2: How does Salesforce Do

1.3 History of Salesforce:

Believe it or not, Salesforce began its life in March 1999 from a one-bedroom apartment (next to Marc Benioff's house) atop Telegraph Hill, San Francisco. The three men who started working in this tiny office along with Marc were Parker Harris, Frank Dominguez, and Dave Moellenhoff. They were also accompanied by posters of the Dalai Lama, Albert Einstein, and two dogs.

And the goal of these pioneers? To create business software applications in a completely new way – to deliver software through a model known as Software-as-a-Service (SaaS). This completely eliminated the need for multimillion-dollar upfront costs, implementations that could take years, and the ongoing complexities of maintenance and constant upgrades.

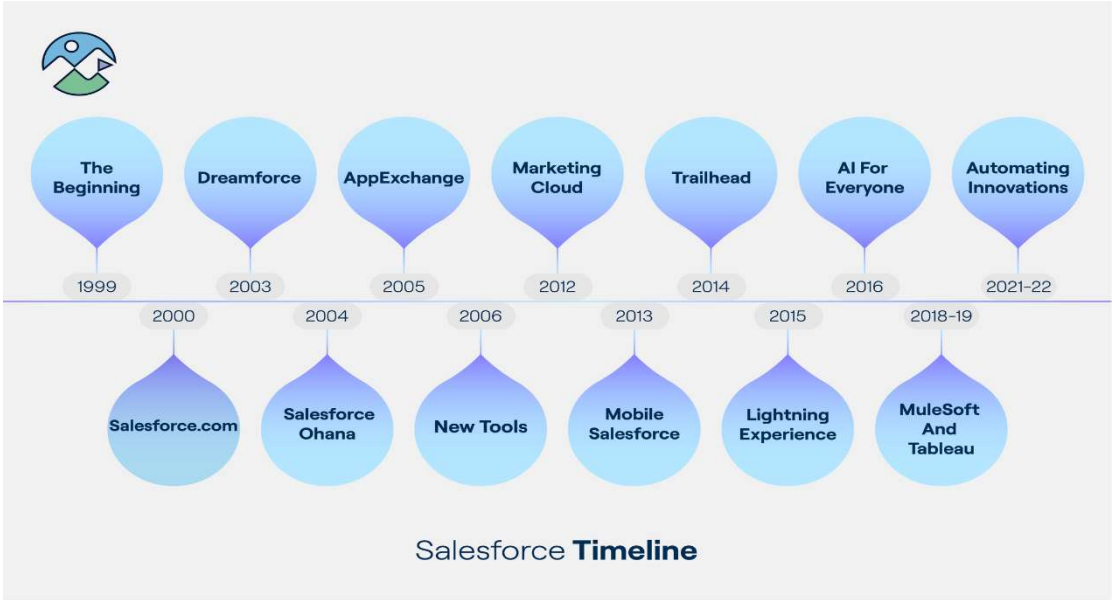

Fig.1.3: History of Salesforce

2003 was the birth of one of the most iconic parts of the Salesforce ecosystem. Prior to this, Salesforce had held many events around the country called "City Tours", which usually lasted for a few hours and showcased the latest Salesforce features and roadmap. These also allowed customers to network and talk about how to get more out of the product. In 2005 Salesforce developed a service that would change business software forever. Business Week called it "eBay for business software" and Forbes described it as the 'iTunes of business software". Salesforce called this service the

AppExchange. With Sales, Service, and PaaS already a part of the Salesforce suite of products, Salesforce turned to a new market. Prior to Dreamforce 2012, Salesforce had been very busy acquiring companies in a particular space.

So, in 2013, Salesforce rolled out the Salesforce1 platform, with the goal of opening up access to as much information as you can access from a computer. This not only allows you access to your favorite Salesforce apps, but also custom applications and integrations, as well as AppExchange apps you may have downloaded from the App store. Salesforce1 would later take on the look and feel of the entire Salesforce platform – called Lightning. Trailhead is a fun (and free) way to learn Salesforce – an online platform provided by Salesforce which opens up access to learning about the technology and build a career in the industry. Anyone can create an account and learn, which has made Salesforce-specific skills accessible for anyone, anywhere.

MuleSoft is a platform that enables companies to connect backend legacy systems to the cloud, supporting them in their digital transformation. The acquisition filled a gap in Salesforce's product portfolio, with them no longer having to look externally for a company to support this requirement. With most enterprise projects needing some form of integration capability, this made Salesforce's offering even more attractive to the huge companies that require it. One of the biggest trends at the start of 2021, was the amount of attention and funding Salesforce DevOps companies were getting. Since the pandemic, companies have become even more reliant on Salesforce as a CRM, and as companies adopt more products, their development efforts and releases get vastly more complicated.

1.4 What is a Salesforce Developer?

According to International Data Corporation (IDC), the Salesforce Economy is set to create 1.9 million direct and indirect jobs in India by 2024. For this reason and more, your friends and family might have recommended Salesforce as a career in the Information Technology (IT) space in India.

CHAPTER-2

TECHNOLOGY

2.1 What is Salesforce technology?

The cloud computing service that specially looks into Customer Relationship Management is called Salesforce. The cloud platform used in salesforce technology is Software as a Service (SaaS). This helps in connecting with existing and future customers and partners in business. The relationship with the customers can be maintained well with this technology, and new customers can be created. Also, existing customers remain loyal due to the easiness of business. The platform integrates all the domains such as marketing, sales, customer service, supply chain, data analysis, and many others so that customers can have an integrated view of the business.

2.2 So What is Cloud Computing Exactly?

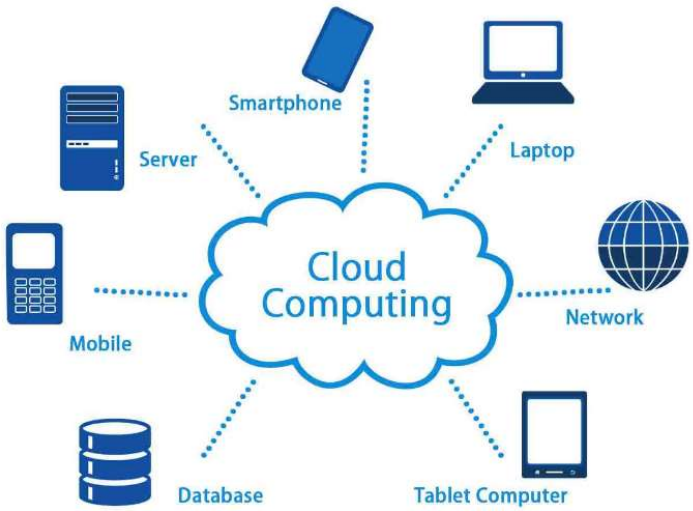

Fig.2.1: What is Cloud Computing

2.2.1 What is CRM?

CRM stands for “customer relationship management” and it’s stores customer contact information like names, addresses, and phone numbers, as well as keeps track of customer activity like website visits, phone calls, email, and more. Salesforce developers use Apex and Visual Force in their work. If you program in any object language, learning Apex will be relatively easy for you. The knowledge of relational databases and SQL and the basics of JavaScript and HTML are also useful in deployment.

2.3 TECHNICAL AND SPECIALIZED SKILLS RECRUITERS LOOK FOR:

- Salesforce Platform.
- Lightning Web Components.
- JavaScript.
- Application Lifecycle Management.
- Object-oriented Programming.
- Apex.
- System Integration.
- SOQL / SOSL.

2.4 Advantages of Salesforce technology over other CRMs:

Customer focus and customer-oriented approach is an important aspect of creating a comprehensive ecosystem where the customer data can converge. Connecting significant business areas such as customer services, marketing, sales operations, and account management enables enterprises to get a holistic understanding of the customer while also managing customer relationships much better. Customer relationship software can offer great benefits to companies. At the present time, many organizations all over the world understand the importance of CRM and implement this software for better productivity. However, with so many options available at one’s disposal, choosing a suitable CRM can seem overwhelming.

In this scenario, Salesforce emerges as one of the most widely chosen CRM adopted by many people and companies. This impressive level of success that is shown by Salesforce is a result of the many remarkable benefits and resources that it provides.

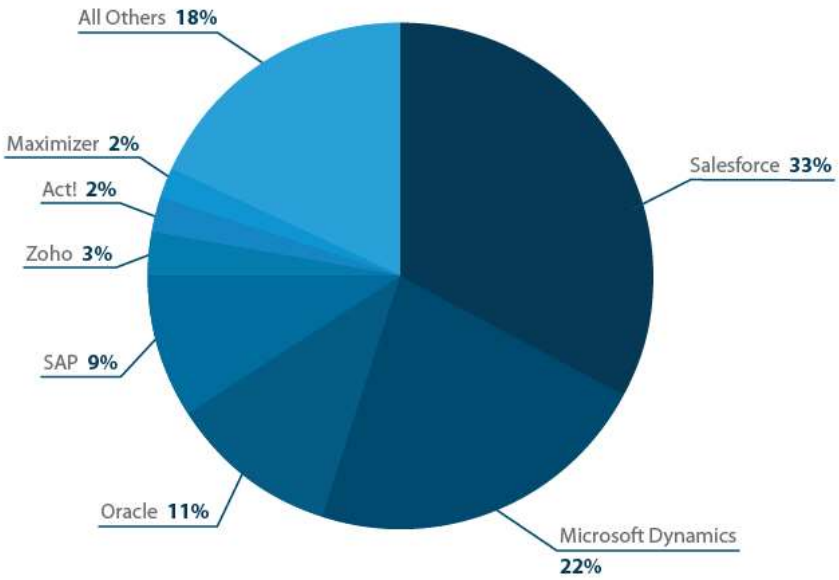

Fig.2.2 Advantages of Salesforce Technology

- Cloud Computing
- Customization/Personalization
- Integrations
- Diversity
- Customer Interaction
- Analytics

CHAPTER-3

APPLICATIONS

Salesforce is a Powerful CRM Tool which is often called Customer Relationship Management Tool that provides case management and task management interfaces for different types of events. Salesforce provides a different set of services such as PaaS i.e., Platform as a Service and Community Cloud services which have different uses.

3.1 Uses of Salesforce :

1. **It provides Integration of different Services for organizational needs**

   The different types of needs and requirements of the organizations can be fulfilled by Salesforce by integrating multiple customer services and support services along with the CRM applications to improve customer satisfaction and increase the quality of future services by using the previous experience and feedback from the customer support services. The requirement of an organization can be based on the requirement of the client and applications of the product or program or of an application.

2. **Integrate Social networking platforms**

   The data from different social networking sites can easily be integrated and data reports can be generated which can be easily understood at the instance to identify the customer insights. The data will be analyzed in different ways of extracting data and visualization forms.

3. **Understand the customer data and identify their interests and perception**

   There is another kind of process in which Salesforce tool processes the data by extracting the customer data sets into meaningful information. The visual dashboards in Salesforce summarize the data with different types of representations such as Pictorial, Pie Charts, Bar Graphs, tabular or Graphical forms.

4. **Regain the inactive or old customers**

   There can be different types of customers who are inactive in using the services or applications of the Salesforce who are the potential sources of loss

of business in the customer relationship management whereby giving the offers or discounts in the cloud services or any other platform services could give them to rejoin the customer base that potentially improves the customer base and sales.

5. **Increase sales by tracking Customer Interaction**

Customer Interaction can be tracked easily by integrating the Customer Service Management application with uses of Salesforce and the customer interests can be easily identified to improve the business.

6. **It is easier to handle the data and enhance the customer service and experience**

The process of handling the different types of data is easier and customizing that data as per the requirement is simple by using the Salesforce tool. The processor features involved in Salesforce tool does not involve any kind of programming or coding or designing and it just needs a kind of drag and drops or tool features which is easier to operate and that also involves less learning curve for the users or customers.

7. **Has greater community support**

Salesforce has a group of great professionals with expert knowledge having the passion to learn and work together in supporting the complex issues in case of handling and managing data.

8. **Improve the customer base**

The Customer base can be understood by using the customer data and their experiences and this enables the production company to customize or rebuild the products as per the requirement of the customers.

9. **Flexible Data Reporting and Analysis**

The process of extracting the data and analyzing it contains different kinds of data types to be processed or analyzed in order to understand customer perception.

CHAPTER-4

MODULES

4.1 Trailhead and Trailblazer Community:

At the heart of Trailhead and the Trailblazer Community is you—our Trailblazer. A trailblazer is:

- A pioneer; an innovator; a lifelong learner; a mover and shaker.
- A leader who leaves a path for others to follow.
- Most importantly, a person who builds a better world for others.

We have content for every role within an org, and every level of experience. Come to Trailhead and the Trailblazer Community to learn, earn, and connect, whether you're a representative using Service Cloud, a Salesforce solution architect, or an aspiring Salesforce professional. As a member of the Trailblazer Community you can join groups, where you can discuss different subjects with a group of Trailblazers. Some groups are role-, product-, or solution-based, while others are interest- or region-based (like the Salesforce Certified Professionals group or Hyderabad Community Group). You can also participate in or start a discussion around topics in the Trailblazer Community. A topic allows any Trailblazer to discuss or ask about a specific Salesforce subject, like #Service Cloud, #Mobile Development, or #MyTrailblazerStory. And because we know that you're blazing trails all over the world, Trailhead and the Trailblazer Community are available in ten languages: English, German, Japanese, French, Latin American Spanish, Spanish (Spain), Brazilian Portuguese, Korean, Simplified Chinese, and Italian.

4.2 Salesforce Platform Basics:

Salesforce comes with a lot of standard functionality, or out-of-the-box products and features that you can use to run your business. Here are some common things businesses want to do with Salesforce and the features we give you that support those activities.

What is the Salesforce Architecture?

By now you know that you can use Salesforce to deliver a highly customized experience to your customers, employees, and partners. You can do it without writing much (or any) code, and you can do it fast. When you think about the Salesforce architecture, imagine a series of layers that sit on top of each other. Sometimes it helps to think of it as a cake because cake is delicious, and it makes everything better.

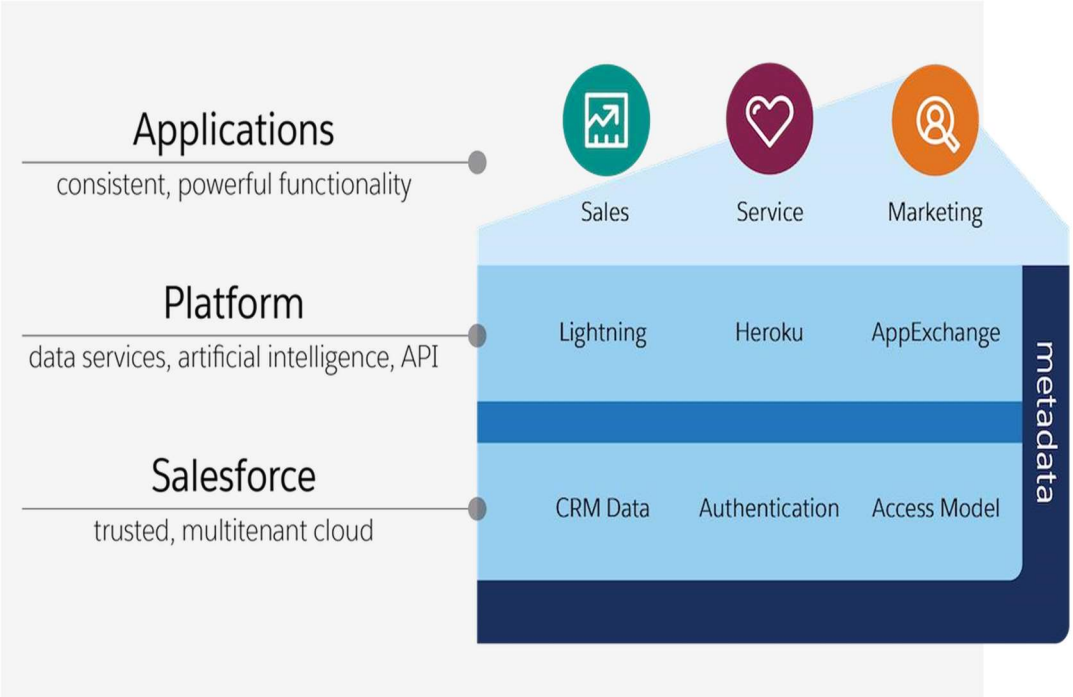

Fig.4.1: Salesforce Architecture

4.3 Picklist Administration:

Anatomy of Picklists:

Picklists have two parts.

The field (1) defines the type of picklist. Can users select more than one value? Is this field dependent on another field for its value set? You set those options, and more, at the field level.

- The value set (2) defines the choices a user sees, their order and the default value, and other settings.

- Pretty basic, but this is an important distinction. You manage these two parts separately. For now, we focus on the field. In the next unit, you focus on the values.

We have three types of picklists:

- Standard
- Custom
- Custom Multi-Select

And picklist fields can have the following properties:

- Restricted
- Dependent or Controlling Values can be defined three ways:
- Set individual values when you create the picklist. These are specific to a single picklist field.
- Use the built-in set of values for the standard picklist fields that come with your Salesforce org.
- Create a global value set. A global value set is a custom set of values you create to share with more than one picklist field.

4.4 Duplicate Management:

Salesforce helps your reps handle the duplicate records—from any device. And we give you options to prevent or discourage your sales reps from creating more duplicate records with Duplicate Management. It's available to and free of charge for Professional, Enterprise, and Unlimited editions. Duplicate Management helps you and your sales teams quickly and easily manage duplicates for:

- Business accounts
- Contacts
- Leads
- Person accounts
- Records created from custom objects

It's highly configurable, and offers you far more than just exact detection and matching logic. Our standard matching detects potential duplicate records based on exact matches, such as two contacts with the same name, Margaret Chan. But you can set up a rule to include fuzzy matching, which identifies potential duplicate records based on variances of certain fields. For example, you create a rule to include fuzzy matching for first names. Duplicate Management identifies the two contacts Margaret Chan and Maggie Chan as potential duplicate records.

4.5 Data Modeling:

Dream House is a realty company that provides a way for customers to shop for homes and contact real estate agents online. Dream House brokers use some of Salesforce's standard functionality, like contacts and leads, to track home buyers. But when it comes to selling houses, there are a lot more things they want to track. For example, Salesforce doesn't include a standard way to track properties. How is Dream House supposed to know which homes they have for sale or how much each home costs? Luckily, their Salesforce admin, D'Angelo, knows that the Salesforce platform offers a solution. We'll work with D'Angelo to see what he's building.

Let's start with the data model. A data model is more or less what it sounds like. It's a way to model what database tables look like in a way that makes sense to humans. If you're not familiar with databases, think about storing data in a spreadsheet. For example, D'Angelo can use a spreadsheet to track all Dream House's properties. Columns can store the address, cost, and other important attributes. Rows can store this information for each property that Dream House is selling. Database tables are set up in a similar way. But looking at data in tables isn't ideal for humans. That's where the data model comes in.

In Salesforce, we think about database tables as objects, we think about columns as fields, and rows as records. So instead of an account spreadsheet or table, we have an Account object with fields and a bunch of identically structured records.

When we talk about the data model, we're talking about the collection of objects and fields in an app. Let's learn more about objects and fields so you can start building your own data model.

4.6 Formula and Validations:

- **Introduction to Formula Fields:**

You've got a lot of data in your organization. Your users need to access and understand this data at a glance without doing a bunch of calculations in their heads. Enter formula fields, the powerful tool that gives you control of how your data is displayed. Let's say you wanted to take two numeric fields on a record and divide them to create a percentage. Or perhaps you want to turn a field into a clickable hyperlink for easy access to important information a record's page layout. Maybe you want to take two dates and calculate the number of days between them. All these things and more are possible using formula fields.

Let's look at a specific example. What if you wanted to calculate how many days are left until an opportunity's close date? You can create a simple formula field that automatically calculates that value. By adding the value to the Opportunity page layout, your users can quickly access this key information. You can also add this field to reports and list views for instant access.

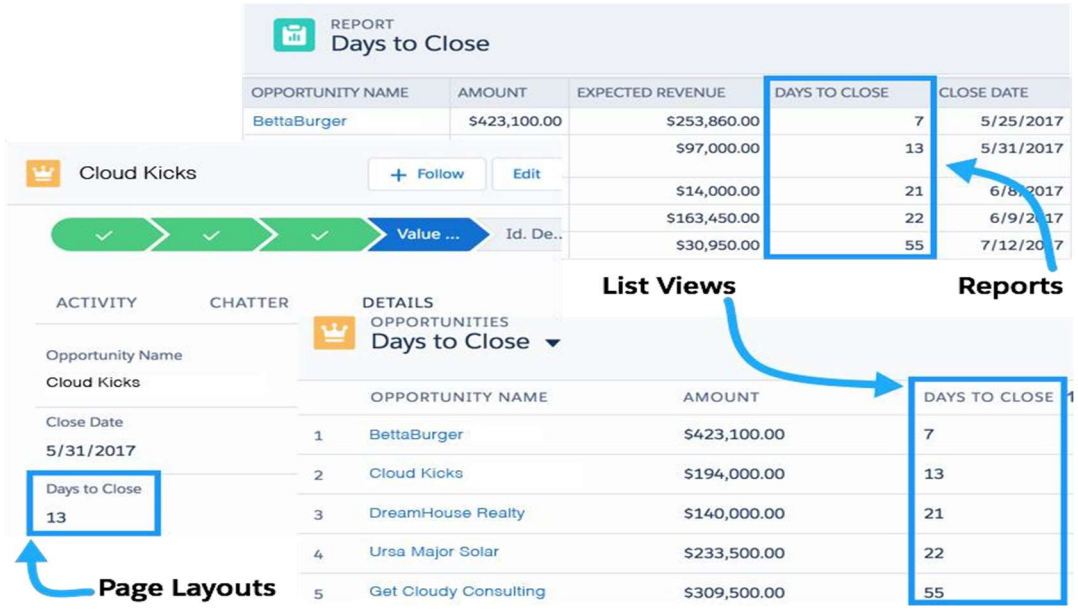

Fig.4.2: Reports and List View

When you're first learning formulas, it's best to start with simple calculations and build up to more complex scenarios. But even simple formulas can provide valuable information. Syntax errors are an inevitable part of working with formulas. The Check Syntax button in the editor is an important tool for debugging your formulas. The syntax checker tells you what error it encountered and where it's located in your formula. Here are some common syntax issues.

1. Missing parentheses:

This error most often occurs when the number of opening parentheses doesn't match the number of closing parentheses. It can be particularly difficult to avoid this error if you're using several functions at once. You'll also see this error if you forget a comma between two function parameters. This error is confusing because the actual problem doesn't match up with the syntax checker. If you're certain your parentheses are correct, double check that the commas in your function are correct as well.

2. Incorrect parameter type:

If you give a function a number parameter when it expects text (or any other combination of data types), this is the error you see. Always check the help text or the documentation so you know what kind of parameters a function accepts.

3. Incorrect number of parameters for function:

If you input too many or too few parameters into a function, the syntax checker alerts you. Again, check the help text or documentation for guidelines on inputting parameters to specific functions.

4. Formula result is incompatible with formula return type:

You see this error if you select one data type when creating the formula field but write a formula that returns a different data type. In the example below, you can see that My Account Formula expects to return a number, but the TODAY () function returns a date. The error tells you what the expected data type is, but you can always reference the documentation beforehand to avoid the error.

5. Field does not exist:

This error indicates that you've included a field in your formula that your object doesn't support. In this case, check your spelling and capitalization. If you can't find any mistakes, try inserting the field from the Insert Field menu again to make sure you're referencing it correctly. Another reason you see this error is if you forget to put quotation marks around a text literal or a hyperlink.

6. Unknown function:

In this case, check that Salesforce supports the functions you're using. You also get this error for misspelled functions.

4.7 Approve Records with Approval Processes:

An approval process automates how Salesforce records are approved in your org. In an approval process, you specify:

The steps necessary for a record to be approved and who approves it at each step. For example, when an employee creates a time-off request, have Salesforce automatically send an approval request to the employee's manager. The actions to take based on what happens during the approval process. For example, if a time-off request is approved, update fields on the employee's record. But if the request is rejected, send a notification to the employee.

Let’s look at an example approval process to see how a record moves through various steps of the process. In this example, a user submits a request for a new position in a company. When a user first requests approval for a new position, initial submission actions occur. The default initial submission action locks the record. This action ensures that other users (except for approvers and admins) can’t change the record while it's pending approval. Other possible submission actions include sending an email alert, updating a field on a record, creating a task, and sending an outbound message. Approval steps assign approval requests to various users and define the chain of approval for a particular approval process. In this example, the first step assigns the approval request to the submitter's direct manager.

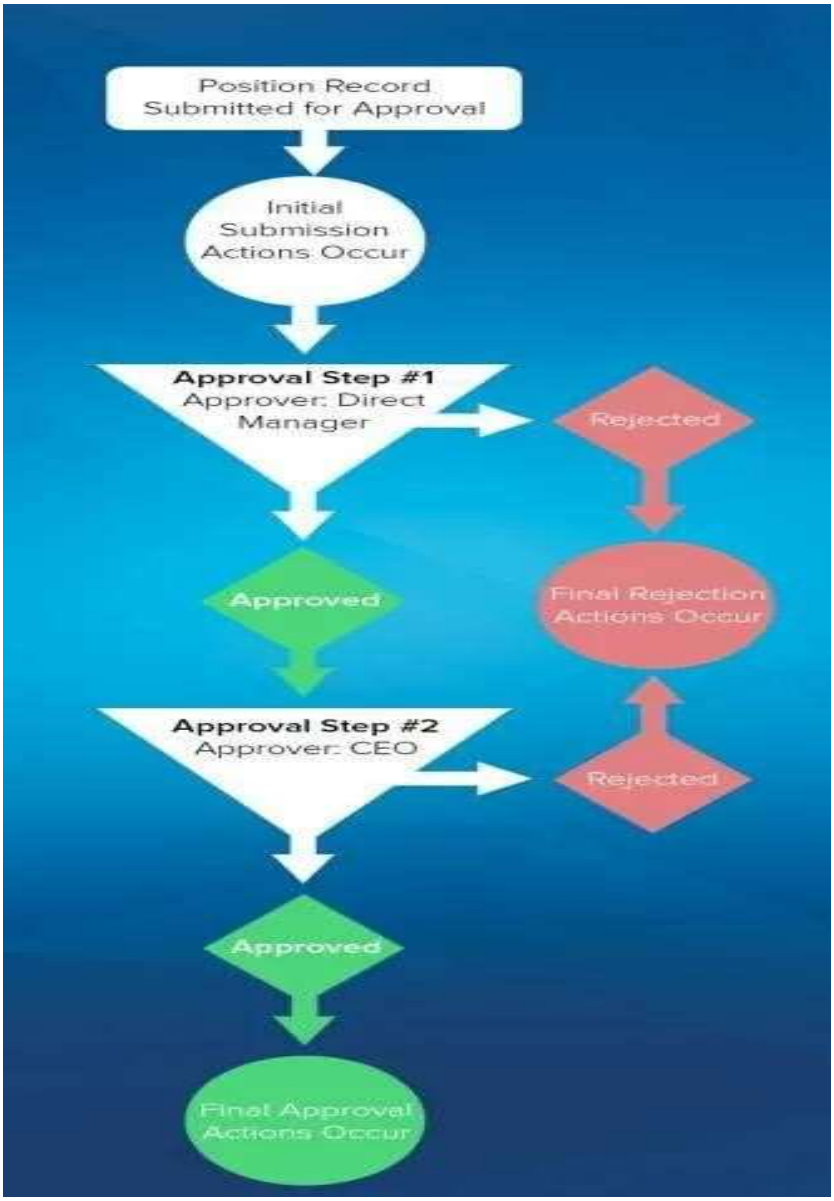

Fig.4.3: Approval Records with Approval process

Final approval actions occur only when a record is approved and there are no further approval steps.

4.8 Lightning App Bulider:

- **With the Lightning App Builder, you can build:**
  - Single-page apps that drill down into standard pages
  - Dashboard-style apps, such as apps to track top sales prospects or key leads for the quarter
  - "Point" apps to solve a particular task, such as an expense app for users to enter expenses and monitor expenses they've submitted
  - Custom record pages for your objects, tailored to the needs of your users
  - Custom Home pages containing the components and features that your users use most

A Lightning page is a custom layout that lets you design pages for use in the Salesforce mobile app or Lightning Experience. A Lightning page is composed of regions that contain components. A Lightning component is a compact, configurable, and reusable element that you can add to a Lightning page in the Lightning App Builder.

4.9. Flow Builder:

In flows, resources are placeholders similar to merge fields in an email template or a formula. Let's say you start an email with is a placeholder, so when the email is sent, it displays the actual first name of the user. In each step of the flow (the elements added to the canvas), you can reference flow resources instead of manually entering values.

Example:

In the Build a Discount Calculator project, the flow updates an opportunity's Discount field. But not every opportunity gets the same discount; it's determined by the associated account's revenue. A variable acts as a placeholder for the discount

percentage and is set to a different percentage based on the flow logic. The flow then uses the variable to update the opportunity's discount.

4.10 Data Management:

You can easily import external data into Salesforce. Supported data sources include any program that can save data in the comma delimited text format (.csv).

4.10.1 Salesforce offers two main methods for importing data:

1. Data Import Wizard

This tool, accessible through the Setup menu, lets you import data in common standard objects, such as contacts, leads, accounts, as well as data in custom objects. It can import up to 50,000 records at a time. It provides a simple interface to specify the configuration parameters, data sources, and the field mappings that map the field names in your import file with the field names in Salesforce.

2. Data Loader

This is a client application that can import up to five million records at a time, of any data type, either from files or a database connection. It can be operated either through the user interface or the command line. In the latter case, you need to specify data sources, field mappings, and other parameters via configuration files. This makes it possible to automate the import process, using API calls.

4.10.2 Introduction to Data Export

You can easily export data from Salesforce, either manually or on an automatic schedule. The data is exported as a set of comma-separated values (CSV) files. Data export tools provide a convenient way to obtain a copy of your Salesforce data, either for backup or for importing into a different system.

Salesforce offers two main methods for exporting data.

1. **Data Export Service**

An in-browser service, accessible through the Setup menu. It allows you to export data manually once every 7 days (for weekly export) or 29 days (for monthly export). You can also export data automatically at weekly or monthly intervals. Weekly exports are available in Enterprise, Performance, and Unlimited Editions. In Professional Edition and Developer Edition, you can generate backup files only every 29 days, or automatically at monthly intervals only.

2. Data Loader

A client application that you must install separately. It can be operated either through the user interface or the command line. The latter option is useful if you want to automate the export process, or use APIs to integrate with another system.

4.11 Data Security:

Choosing the data set each user or group of users can see is one of the key decisions that affects the security of your Salesforce org or app. Once you've designed and implemented your data model, give some thought to the kinds of things your users are doing and the data they need to do it. If you haven't completed the Data modeling module, go ahead and earn that badge before continuing with this module. Let's say you're building a recruiting app to help manage open positions, candidates, and job applications. You'll have to store confidential data, such as social security numbers, salary amounts, and applicant reviews, that only some types of users should see. You'll want to secure the sensitive data without making life harder for recruiters, hiring managers, and interviewers. With the Salesforce platform's flexible, layered sharing model, it's easy to assign different data sets to different sets of users. You can balance security and convenience, reduce the risk of stolen or misused data, and still make sure all users can easily get the data they need.

The platform makes it easy to specify which users can view, create, edit, or delete any record or field in the app. You can control access to your whole org, a specific object, a specific field, or even an individual record. By combining security controls at different levels, you can provide just the right level of data access to thousands of users without having to specify permissions for each user individually.

4.12 API Basics:

What Is an API?

An API is equivalent to a user interface, except it's designed for software instead of humans. This is why APIs are often described in the media as technology that allows applications to talk to one another.

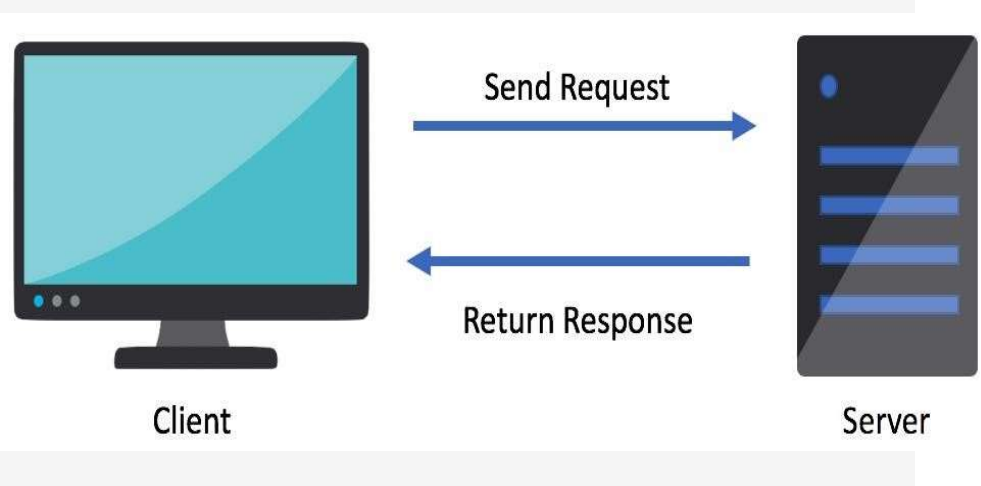

Fig.4.4: API User Interface

The client sends a request for specific information or functionality to another system. That system returns the data or functionality in a response. To send or receive data, there is an expectation that it will be in a specific format that both sides can understand. That format is often very sensitive to the context(s) it serves. Let's take a closer look. A business owner at a local fitness club wants to plug in her new gym equipment for the club's new location. She knows that since she lives in North America, she needs a US household plug to do this. She also knows wall sockets deliver 120 volts of electricity. These known guidelines essentially set an expectation for any device needing to be plugged into the wall.

API Economy

Depending on the volume of calls or some other way of breaking down different tiers of service, a provider like Google might charge the application developer a fee for using the API. This gives rise to the idea of an API economy.

4.13 Apex Triggers:

Apex triggers enable you to perform custom actions before or after events to records in Salesforce, such as insertions, updates, or deletions. Just like database systems support triggers, Apex provides trigger support for managing records.

Typically, you use triggers to perform operations based on specific conditions, to modify related records or restrict certain operations from happening. You can use triggers to do anything you can do in Apex, including executing SOQL and DML or calling custom Apex methods. Us triggers to perform tasks that can't be done by using the point-and-click tools in the Salesforce user interface. For example, if validating a field value or updating a field on a record, use validation rules and flows instead.

Triggers can be defined for top-level standard objects, such as Account or Contact, custom objects, and some standard child objects. Triggers are active by default when created. Salesforce automatically fires active triggers when the specified database events occur.

4.14 Apex Testing:

The Apex testing framework enables you to write and execute tests for your Apex classes and triggers on the Lightning Platform. Apex unit tests ensure high quality for your Apex code and let you meet requirements for deploying Apex.

Testing is the key to successful long-term development and is a critical component of the development process. The Apex testing framework makes it easy to test your Apex code. Apex code can only be written in a sandbox environment or a Developer org, not in production. Apex code can be deployed to a production org from a sandbox. Also, app developers can distribute Apex code to customers from their Developer orgs by uploading packages to the Lightning Platform AppExchange. In addition to being critical for quality assurance, Apex unit tests are also requirements for deploying and distributing Apex.

- **These are the benefits of Apex unit tests.**

- Ensuring that your Apex classes and triggers work as expected
- Having a suite of regression tests that can be rerun every time classes and triggers are updated to ensure that future updates you make to your app don't break existing functionality
- Meeting the code coverage requirements for deploying Apex to production or distributing Apex to customers via packages
- High-quality apps delivered to the production org, which makes production users more productive
- High-quality apps delivered to package subscribers, which increase your customers trust

4.15 Asynchronous Apex:

An asynchronous process is a process or function that executes a task "in the background" without the user having to wait for the task to finish. Here's a real-world example. Let's say you have a list of things to accomplish before your weekly Dance Revolution practice. Your car is making a funny noise, you need a different color hair gel and you have to pick up your uniform from your mom's house. You could take your car to the mechanic and wait until it is fixed before completing the rest of your list (synchronous processing), or you could leave it there and get your other things done, and have the shop call you when it's fixed (asynchronous processing). If you want to be home in time to iron your spandex before practice, asynchronous processing allows you to get more stuff done in the same amount of time without the needless waiting.

4.16 Apex Integration Services:

An Apex callout enables you to tightly integrate your Apex code with an external service. The callout makes a call to an external web service or sends an HTTP request from Apex code, and then receives the response. Apex callouts come in two flavors. Web service callouts to SOAP web services use XML, and typically

require a WSDL document for code generation. HTTP callouts to services typically use REST with JSON.

These two types of callouts are similar in terms of sending a request to a service and receiving a response. But while WSDL-based callouts apply to SOAP Web services, HTTP callouts can be used with any HTTP service, either SOAP or REST.

So you are probably asking yourself right now, “Which one should I use?” Whenever possible, use an HTTP service. These services are typically easier to interact with, require much less code, and utilize easily readable JSON. All the “cool kids” have been switching to REST services over the last couple of years, but that's not to say that SOAP Web services are bad. They've been around forever (in Internet years) and are commonly used for enterprise applications. They are not going away anytime soon. You'll probably use SOAP mostly when integrating with legacy applications or for transactions that require a formal exchange format or stateful operations. In this module we'll touch on SOAP, but will spend most of our time on REST.

4.17 Leads & Opportunities for Lightning Experience:

Qualifying a lead indicates that you believe the lead has a use for and interest in your products, and that a sale is a definite possibility. Some businesses choose to qualify leads more quickly than others. The exact criteria for qualifying and converting leads are part of your company’s unique business process. When you qualify a lead, you can convert the lead record into an opportunity. You then work your opportunity until you close the deal either by completing it or canceling it. Suppose that you call Aparna at Get Cloudy West to talk about her deal. She likes what you tell her, and you’re sure she has a genuine interest in buying custom shoes. Your lead is ready to be converted to an opportunity. When you convert a lead, Salesforce uses the information stored in the lead record to create a business account, a contact, and an opportunity. If you’ve enabled person accounts and the lead record

didn’t include a company name, the lead is converted into a person account and an opportunity.

CHAPTER-5

REAL TIME EXAMPLES

We've said it before, and we'll say it again – managing a field service team is not an easy feat without an automated system. It takes a lot of coordination to make it work – be it scheduling resources, creating work orders, keeping track of inventory, or addressing customer issues. Field Service Lightning, an extension of Service Cloud is now adopted among numerous industries, which includes retail, healthcare, public utilities and transportation, telecommunications, manufacturing, waste management, financial services, professional services and so much more! This clearly signals a massive shift in the way the Field Service teams are aiming to bolster customer experience irrespective of industries or service offerings. In this blog, we'll discuss three use case examples of Salesforce Field Service Lightning & how FSL can help empower field service providers in different business sectors.

Examples of Salesforce Field Service Lightning Example Use Case #1:

A water purifier manufacturer who facilitates water purifier installations and maintenance in residential buildings, corporates, schools, and so on. The team consists of experienced project managers, field technicians, and other administrative staff.

Challenge:

Increased difficulty in coordinating work orders between field service staff and dispatchers.

How can FSL help?

With FSL in place, the managers can dispatch the field executives and enable them with real-time data on the go. With Salesforce being their central hub for all their service needs, they can now easily streamline operations and optimize the dispatching process. Be it scheduling, getting customer service history or resolving the case itself, it can all be done within one platform powered by Service Cloud capabilities. Now field technicians can access available appointments, manage routes and get a proper understanding of what issues need to be addressed. This helps them in increasing their productivity and truly work as an extension of their company.

Example Use Case # 2:

An electronic retail chain that sells home appliances such as TV, home theatres, refrigerators, washing machines and so on. Their team of technicians, admins and store managers overlook installation and maintenance work orders on a day-today basis.

Challenge:

Manually managing and planning service visits while receiving so many incoming orders turned out to be ineffective and an extremely costly affair for the store. Also, the customers did not get any instant feedback regarding repairs and the current status of the particular issue or when the technician would arrive for the repair. How can FSL help?

Now the store managers can get a birds eye view of all the details regarding their field technician – what are their available slots, what issue did they fix, how much time did they spend on the case, customer feedback etc.

CHAPTER-6

Learning Outcomes

The objectives of a student participating in an internships or co-op are to:

- Explore career alternatives prior to graduation.
- Integrate theory and practice.
- Assess interests and abilities in their field of study.
- Learn to appreciate work and its function in the economy.
- Develop work habits and attitudes necessary for job success.
- Develop communication, interpersonal and other critical skills in the job interview process.
- Build a record of work experience.
- Acquire employment contacts leading directly to a full-time job following graduation from college.
- Identify, write down, and carry out performance objectives (mutually agreed upon by the employer, the MCC experiential learning supervisor, and the student) related to their job assignment.

Conclusion

The different areas and multiples areas of applications in the field of Customer Relationship and its management and also the utilization of Data tools contain Salesforce as one of the top utilized applications which have become a major one among the top CRM or tool. This clearly resembles that the greater utilization of Salesforce tool exists in the area of Data Reporting and Analysis where still as there are many numbers of tools available in the current market i.e., in the current era of the digital data world. Increase in the customer base and daily requirements or the customer relationship and sales-related activities, the uses of Salesforce tool has been an ideal solution for many of the businesses in the latest arena of the digital world with a lot of innovations and technology breakthroughs for highly complex data analysis and data reporting.

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CERTIFICATE OF COMPLETION

October 30, 2023

DUBBALA MOUNIKA

Salesforce Developer Virtual Internship

During the 8 Weeks period of Virtual Internship **(August-October 2023),** DUBBALA MOUNIKA has completed the following Salesforce Trailhead modules

Salesforce Fundamentals
Organizational Setup
Relationship & Process Automation
Types Of Flows & Security
Apex, Testing & Debugging
VS Code Setup & CLI Setup
Lightning Web Components (LWC) & API

Developer Super Set

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