

Software Development

by

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*Internship report (CSE4099-A) submitted in partial fulfillment of the
requirements for the degree of*

Bachelor of Science in Computer Science and Engineering

Under the supervision of

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UNIVERSITY OF LIBERAL ARTS BANGLADESH

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DECLARATION

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I declare that this internship report entitled *Software Development* is the result of my own work except as cited in the references. The internship report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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CERTIFICATE

This is to certify that the internship report entitled **Software Development**, submitted by **MD.Nadimul Islam** (Student ID: 212014028) is a undergraduate student of the **Department of Computer Science and Engineering** has been examined. Upon recommendation by the examination committee, we hereby accord our approval of it as the presented work and submitted report fulfill the requirements for its acceptance in partial fulfillment for the degree of *Bachelor of Science in Computer Science and Engineering*.

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Place: Dhaka

Date: April 21, 2026

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I am extremely thankful to my parents for their unconditional love, endless prayers and caring, and immense sacrifices for educating and preparing me for the future. I would like to say thanks to my friends and relatives for their kind support and care. Finally, I would like to thank all the people who have supported me in completing the Internship directly or indirectly.

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Date: April 21, 2026

Dedicated to
my loving Mother

– MD.Nadimul Islam

EXECUTIVE SUMMARY

The internship experience with the Softomatic BD Limited company was aimed at getting a hands-on experience of the software development industry, as well as to help bridge the gap between the theoretical and practical sides of the subject studied and its practical implementation. Softomatic BD Limited is a technology-oriented company that deals with enterprise solutions, web and mobile applications, and business reporting systems. The organization offers a professional environment that promotes innovation, collaboration, and technical excellence.

The main goal of the internship was to get familiar with the Software Development Life Cycle (SDLC) in the context of the agile paradigm and acquire practical experience in the field of real-world projects. The scope of the internship included working with databases, application development tools, and reporting systems. I had been working in the sphere of software development and was working with such technologies as SQL, Oracle APEX, and BI Publisher.

I helped in the creation and generation of reports during the internship, such as modules such as SM_NG_SPINNING.DO and Delivery_Order, and forms like Excess Delivery Register, LC Creation. These activities improved my knowledge of data manipulation, report creation, and enterprise applications processes. The ability to design and implement structured reports with the use of BI Publisher and Oracle APEX was one of my major accomplishments.

Some of the challenges that I had to overcome include the complexity of workflow in a system and the inconsistency of real-world data. These were defeated by constant learning, consulting documentation, and consulting other team members. This event enhanced my problem-solving skills and flexibility.

During the internship, I enhanced technical as well as soft skills such as database management, debugging, teamwork, and communication. It also enhanced my time management and professional discipline. In general, the internship was a great experience and helped me to grow personally and professionally, and get ready to work in the field of software development in the future.

Keywords: Oracle APEX, BI Publisher, Oracle Report Builders

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Chapter 1

Introduction

1.1 Introduction

This internship was a significant step in my life because I am recently graduated in Computer Science and Engineering, and I was moving on to the professional world. It helped me to put my theoretical learning about software development into practice in the industry. This experience helped me understand better how enterprise level applications are created, operated and maintained within actual constraints including deadlines, business needs and user expectations.

The main aim of this internship was to have a hands on experience on software development and enterprise reporting systems as well as being part of the ongoing projects. My professional experience during the internship at SoftoMatic BD Limited was in a professional setting where I was engaged with the development team in working on several database-based and web-based applications.

During the internship, I was engaged in developing applications and generating reports in the work with the industry standard tools including Oracle APEX, Oracle BI Publisher, and Oracle Reports Builder. I was also involved in the design and implementation of application interfaces, managing database functions, designing and tailoring reports as well as ensuring the output fulfilled the requirements of the user and the business. This practical experience helped me to learn how software development and reporting can be embedded in actual business processes. I also got acquainted with the real-life process of the development, such as requirement comprehension, implementation, testing, and debugging. Through close collaboration with senior developers, I was also in a position to develop my problem solving skills as well as technical skills.

All in all, the internship was instrumental in equipping me with a professional career in software development since it was an excellent experience and exposure in the industry, as well as enhancing my technical and interpersonal skills.

1.2 Objective of the internship report

The purpose of this internship report is to present the overall goals, activities, challenges, and learning experiences gained during my Software Development internship at SoftoMatic BD Limited. This report highlights how academic knowledge was applied in a real-world professional environment. The main objectives of this report are:

- To gain practical experience in software development by working in a real-world industry environment at SoftoMatic BD Limited.
- To apply theoretical knowledge of software development and database systems to develop web-based applications and business reports.
- To develop hands-on skills in enterprise tools such as Oracle APEX, Oracle BI Publisher, and Oracle Reports Builder.
- To understand and participate in key development processes, including application design, database operations, and system testing.
- To improve database management skills by working with relational data and writing efficient queries.
- To enhance problem-solving abilities and adapt to challenges such as complex enterprise systems and changing project requirements.
- To strengthen professional skills, including communication, teamwork, and adaptability in a collaborative work environment.

Chapter 2

Background

This chapter gives the background information required regarding SoftoMatic BD Limited, which is a dynamic organization dealing with IT solutions and the development of enterprise software. It emphasizes the mission, the vision, and the core values of the company, as well as placing the company in the competitive technology industry.

Moreover, this chapter describes the reason behind this internship and the role and duties that I performed as a Software Developer Intern. It gives an account of the organizational structure and work environment that I was exposed to, having applied experience in application development and reporting systems.

2.1 Overview of SoftoMatic BD Limited

SoftoMatic BD Limited is an IT and software development firm and a concern of SAAD Group that deals with modern enterprise solutions and digital systems. The organization is centered on designing and developing scalable, efficient, and innovative software applications that address various business requirements. It is a technology-driven enterprise dedicated to transforming business needs into effective, convenient digital solutions. Some of the areas that the company has developed a strong portfolio include custom software development, enterprise application solutions, Oracle E-Business Suite (EBS), Migrating from On-Premise Oracle EBS to Cloud, management information systems, human resource information systems, SmartRep (iOS & Android App), Apparel Solution, and Freight Management Software. It employs modern tools and technologies such as Ora-



Figure 2.1: Logo of SoftoMatic BD Limited

cle APEX, Oracle BI publisher and Oracle Reports Builder to create web-based applications and create business reports to help organizations make decisions.

SoftoMatic BD Limited has a diverse range of clients in various industries, offering solutions to enhance operational efficiency and data management. The company focuses on quality, innovation, and customer satisfaction, making every project up to the industry standards and satisfying the clients. The organization is



Figure 2.2: SoftoMatic Solution at a glance

also engaged in various projects such as application development and reporting systems and has a team of experienced professionals and developers. It is a trusted and expanding player in the IT services sector due to its collaborative working environment and emphasis on continuous improvement.

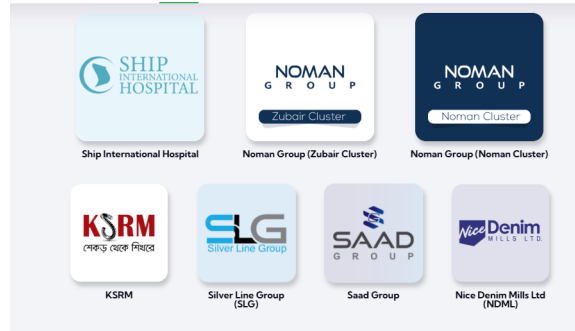


Figure 2.3: Clients of SoftoMatic BD Limited

2.2 Mission of SoftoMatic BD Limited

The mission of SoftoMatic BD Limited is to revolutionize businesses by effectively applying technology and ensuring maximum customer satisfaction. By providing tailored, effective, and innovative services, the company aims to close the gap between business complexities and the solutions provided by technology. Its mission does find its reflection in the following main objectives:

- To deliver custom software development solutions that translate client needs into scalable, secure, and efficient business applications.
- To maximize the efficiency of operations to the clients by offering professional services in web and mobile application development, e-commerce solutions, and business process automation.
- To achieve high-quality deliverables by enforcing disciplined development practices, testing, and quality assurance that will produce reliable and error-free software.
- To establish long-term customer relationships through providing reliable after-sales services, maintenance services, and scalable solution management.
- To contribute to the digital ecosystem through the creation of solutions to problems facing the real world in both the government and the private sector.

2.3 Vision of SoftoMatic BD Limited

SoftoMatic BD Limited has the vision to be a world-renowned company offering IT solutions, which is innovative, reliable, and excellent in customer service. The company strives to constantly explore the limits of technological capabilities with the implementation of the latest tools, technologies, and development practices. It aims to be the technology partner of choice by organizations that are in the pursuit of digital transformation, automation and operational excellence hence making significant contributions to the field of technology progress in the world.

2.4 Industry Environment and Marketplace

IT services and software development in the world is a highly competitive and rapidly changing industry due to the rapid development of digital technologies. Companies in different industries are increasingly demanding tailor-made software applications, cloud computing, mobile applications, and automation systems to advance operational effectiveness, better customer interactions, and sustain a competitive edge.

In this dynamic environment, SoftoMatic BD Limited has been able to achieve a strong market presence through the provision of end-to-end digital solutions that emphasize on customization and cross-platform compatibility. The capability of the company to provide customized solutions places it at a good position to satisfy different client needs. The market positioning of the company has the following key strengths:

- **Highly Differentiated Services:** SoftoMatic BD Limited offers broad scope of services, including enterprise-level services like ERP, HR, and CRM solutions as well as customer-facing applications like e-commerce websites, mobile application and corporate web solutions. This flexibility allows the company to cater to various sectors in the industry.
- **Technical Proficiency:** The firm has been showing good competence in diverse contemporary technology stacks, such as Java (Spring Boot), PHP (Laravel), React.js, React Native, and Native Android development. This technical diversity enables the organization to choose the best technologies depending on the project needs.

- **Well-established Clients:** The company has dealt with a diversity of well-known clients, such as Ship International Hospital, Noman Group (Zubair Cluster), Noman Group (Noman Cluster), KSRM, Saad Group, Nice Denim Mills Ltd (NDML). This indicates its ability to deal with major, complex projects and provide quality and reliable solutions that satisfy the clients.

2.5 Purpose of the Internship

The internship at SoftoMatic BD Limited was meant to help me attain some hands-on experience on how software development works and to help me close the gap between book learning and practice. The internship offered practical experience in the Software Development Life Cycle.

The technologies that I worked with during this time include SQL, Oracle APEX, and BI Publisher, and assisted me in developing abilities in managing databases, creating reports, and developing applications. The internship helped me to develop problem-solving skills, technical knowledge, and experience in handling real-world data.

It also improved my teamwork and communication skills since I involved myself with professionals and adjusted to the working processes in an organization. All in all, the internship equipped me with future jobs in the software development sector

2.6 Role and Responsibilities During the Internship

At SoftoMatic BD Limited, I had the opportunity to work as a Software Development intern, where I gained hands-on experience in the development and support of enterprise level applications, and reporting systems.

I was to analyze software requirements, help in application feature development, based on functional specifications. I also dealt with databases in SQL where I would write and optimize queries to retrieve and manipulate data. I also had practical experience with the Oracle APEX to create application components and the Oracle BI Publisher to create and produce business reports. With these tools, I have helped to develop reports, including SM_NG_SPINNING_DO and Delivery_Order, having all the data properly integrated and formatted.

I was also involved in debugging, testing as well as validating the functionalities of the application to maintain accuracy and reliability. I was working with the real-world data, and it was necessary to check it carefully and resolve issues.

The internship was performed in a fast-moving setting as I worked with the team members, adhered to the development schedules, and reported on the progress regularly. This position helped me gain real-life experience of industry best practices in development, and developed my technical, analytical, and collaborative capabilities.

Chapter 3

Scope of Work

This chapter outlines the activities, duties and practical activities that I carried out during my internship at SoftoMatic BD Limited. It also emphasizes the practical experience achieved in the development of software and reporting systems, as well as the character of work performed with the use of the enterprise tools. The chapter also describes how these activities helped the organization to achieve its objectives and how they helped me to develop professionally. This report gives a log of all the activities carried out during the period of the internship such as application development, report generation, and activities associated with databases.

3.1 Engagement in Software Development Activities

My internship experience at SoftoMatic BD Limited was as a Software developer intern in the development department. The internship helped me gain first-hand experience of the real world software development practices in a working environment. My tasks mainly involved creating web-based, database applications and creating business reports. I participated in several projects during which I had to deal with enterprise applications like Oracle APEX. I designed application interfaces, created forms, handled database interactions and developed dashboards. I also took part in various phases of software development lifecycle such as requirement understanding, development, testing and debugging. The experience helped me to realize how software applications are developed to suit business needs. I worked with developers, team members, and this positively affected my understanding of the teamwork, communication, and work processes. In general,

this period has laid a solid foundation in the real-world software development practices.

3.2 Development Tasks and Responsibilities

I worked with the development team as a part of the development team and was assigned different tasks on application development and reporting. Among my main tasks was to learn about the requirements of systems and transform them into practical application features. I created forms and data operations and applied application logic using Oracle APEX. I also used SQL query to access and manipulate data in an effective manner. I also designed reports with Oracle BI Publisher and Oracle Reports Builder. The other significant role was debugging and testing programs so that they could work. I was engaged in problem finding, problem correction, and problem optimization. I also made sure that the applications were user requirements and offered a user experience.

3.3 Reporting and Use of Tools

I was also engaged in report generation and data presentation along with application development. I designed templates and used data sources to create structured reports using Oracle BI Publisher. Business information was presented in a clear and organized way using these reports. I also used Oracle Reports Builder to create traditional reports and I used SQL queries and formatted the output to enhance readability. These tools assisted me in learning how data are converted into valuable insights to make business decisions. The internship experience taught me to be efficient in working with professional tools and adhering to organized work processes. I also made documentation and reports of what I did, and this helped me to present technical information understandably.

3.4 Team Support and Professional Development

Besides technical work, I was also involved in ensuring that my team upheld the standards of development and did the tasks assigned to us in time. I was able to work with the senior developers and team members to learn how to solve

problems and understand the requirements. I was engaged in discussions and project work, and it assisted me in enhancing my communication and working skills. The internship also helped me to be able to control time, meet time limits and cope with new challenges in a professional set up. In general, the work experience in the course of the internship was broad to get an understanding of the real-world software development and reporting practice. Not only did it enhance my technical skills, but also helped me to deepen my knowledge of professional processes, which will allow me to work in the field of software development in the future.

Chapter 4

Internship Activities

4.1 Introduction of the Organization/Institution

This segment gives a brief background of SoftoMatic BD Limited, such as its background, business, geographical location where the company operates, and the structure. It emphasizes the most important things, like the facilities of the company, hierarchy of management and positioning in the market. This section aims to provide a concise idea of the innovative technology setting where I undertook my Software Development internship, which will provide a context for the hands-on experience and technical exposure I was exposed to during the internship period. SoftoMatic BD Limited. has a unique range of products that aims at fulfilling the changing and dynamic requirements of different industries. The company is concerned with redefining industry standards by continually integrating new advanced technologies. Its solutions encompass implementation of the Oracle E-Business Suite (EBS) modules, MIS, application of customized ERP solutions specific to the Textile and Garments Industry, and easy-to-use mobile applications designed in both iOS and Android platforms. Moreover, SoftoMatic also offers detailed Business Intelligence (BI) dashboards can help organizations to analyze data in a meaningful way and make informed decisions.

4.1.1 Location and facilities of offices

SoftoMatic BD Limited has a strategically located office that facilitates the effective cooperation of the development teams and effective communication with clients. To ensure productivity and innovation, the company offers a professional working environment with modern facilities to support its activities.

Head office: Softomatics head office is in Arabmbagh, Mothijil, Dhaka, Bangladesh. This office was my primary working place during the internship and I worked with team members on developing real-life tasks and reporting systems with the help of the technologies of SQL, Oracle APEX and report publisher.

Location: Softomatic BD Limited is located in Gawsia Kashem Center, 2nd Floor, 10/2 Arambag, Dhaka -1000, Bangladesh. As it's a concern of SAAD Group some employees of softomatic give their supports at gulshan office and in factory.

Working Days and Hours:

Service Day	Service Hours
Saturday - Thursday	9:00AM - 6:00PM
Friday	Closed

Table 4.1: Service Days and Hours

4.2 Work Accomplishment

This section presents a diary-like chronological record of the activities carried out throughout the internship period at SoftoMatic BD Limited. It focuses on the observations, experiences, tasks performed, and knowledge gained during the attachment. The section highlights what was learned and comprehended through practical involvement in software development processes. It also reflects on the gaps identified between academic learning and real-world organizational practices, providing insights into how theoretical concepts are applied in a professional environment.

- **Weeks 1-2:** In the first part of the internship, the basics of SQL were taught to me via the W3Schools. I used an online platform (sql-practice.com) to train my knowledge in solving SQL issues. The exercises were designed according to the different complexity of queries, starting with simple queries and then

moving on to more complex issues which assisted me to establish a strong foundation on the skill to query databases as well as solving problems.

- **Weeks 3-4:** At my internship, I got to know about BI Publisher and Oracle Application Express (APEX) which are ultimately vital in the applications development and reporting of an enterprise level. BI Publisher (Oracle BI Publisher) is a reporting and document generation software created by Oracle. It is applied to create, generate and publish highly formatted business reports by mining data in different data sources. Oracle APEX (Application Express) is a low-code application development platform that allows developers to create scalable, secure and full-fledged web applications in a short period of time. It makes the development process simple, and applications are simple to maintain and deploy. I also acquired practical knowledge in the use of BI Publisher as well as Oracle APEX to create reports. I also got to know how to create and produce reports, combining data sources and using the suitable formatting methods. I was able to produce reports using BI Publisher on the modules: SM_NG_SPINNING_DO and Delivery_Order. This experience allowed me to realize the real-life reporting needs and improved my data-handling, report customization, and development of enterprise applications.
- **Weeks 5-6:** Using BI Publisher, I have created reports of (KNIT_PI), JOB_CARD_WORKSHOP_DETAILS, SM_NG_SPINNING_DO, Customer Invoice, lc_limit_set_up.
- **Weeks 7-8:** I have learned how to create forms in APEX. I have implemented a form that allows users to view different types of attributes by selecting a category. Also User can see the user list.

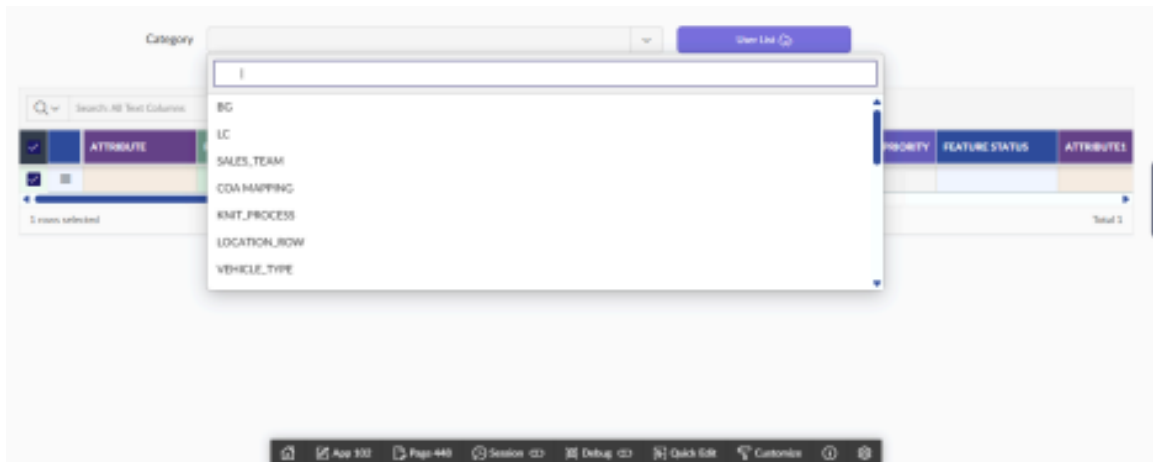


Figure 4.1: Category List using Popup LOV

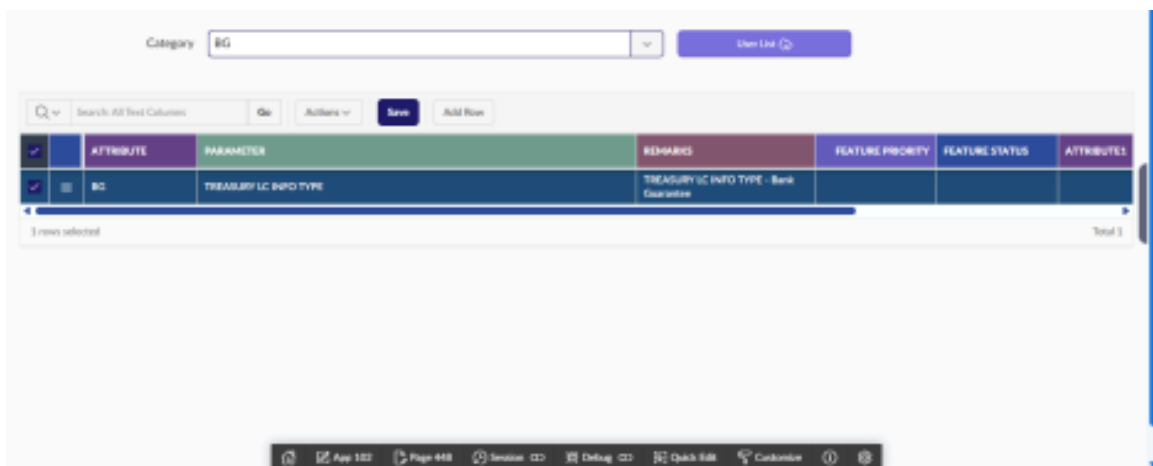


Figure 4.2: Showing data according to category

If the user selects a category, the data will be shown in the forms.

The attribute data is coming from a table based on the Category. Also, users are able to see the user list by clicking the user list. When they click the user list button, the following pop-up will be shown to them.

EMPLOYEE	DEPARTMENT	DESIGNATION

1 rows selected Total 1

Figure 4.3: User List

There, they can see the Employee Name, Department, and their Designation. All the processes are done by SQL queries, and CSS is used for the background colour.

- **Weeks 9-10:** I have created a register named Excess Delivery Register. Over-production or excess delivery, commonly known as production overage or overstocking is a serious problem in the textile industry worldwide, with manufacturers producing more pieces than ordered. Where User can see the Excess Delivery Information.

PP NO	R	SO NUM	REQUEST DATE	REQUIRED DATE	SALES PERSON	CUSTOMER NAME	REQUEST	ACCEPT	PERCENTAGE
NFPL/EDR/00043	1	22607607	09-APR-2026	09-APR-2026	Mr. Md. Al Mamun	KM	15	15	
NFPL/EDR/00042	1	22607603	06-APR-2026		Mr. Md. Al Mamun	A&A	200	200	
NFPL/EDR/00041	1	22607597	02-APR-2026		Ismail Muhammad	A&A		1222	
NFPL/EDR/00040	1		24-FEB-2026						
NFPL/EDR/00039	1		22-FEB-2026	24-FEB-2026	Ismail Muhammad	OTF	22		
NFPL/EDR/00038	1		19-FEB-2026	25-FEB-2026	Ismail Muhammad	A&A	500		
NFPL/EDR/00037	1		19-FEB-2026	26-FEB-2026	Ismail Muhammad	M&A	450		
NFPL/EDR/00036	1		19-FEB-2026	27-FEB-2026	Ismail Muhammad	A&A	122		

Figure 4.4: Overview of Excess Delivery Register

The user can create an excess delivery from the create button.

Excess Delivery Creation

Delivery No

Request Date: 14-APR-2026

Required Date

OU Name: Nice Fabrics Processing Ltd.

Sales Person

Customer

Excess %

SO No.

Excess Delivery ID

Remarks

Status Name: Draft

Choose PP

PP NUM	COLOR	PP QTY	WORK ORDER NO	WORK ORDER QTY	CONSTRUCTION	REQUEST QTY	ACCEPT QTY	SHIP QTY
No data found								

Create SO No

Create

Figure 4.5: Excess Delivery Creation

User can edit the Excess delivery informations, they can download report by clickin the Report button(R). They can also see the data of submitted and Rejected Excess Delivery data from the register.

- **Week 11-12:** I have created a Purchase information register where user can find informtion about purchase. Purchase information involves the essential information that is recorded in a business transaction and it includes the buyer/seller names, a description of the items in question, their quantities, prices, and terms of payment. This information is needed in procurement, tracking, and auditing, typically documented in a Purchase Order (PO) that becomes a legal contract when accepted. The most important details are a special PO number, shipping information, and tax details.

Date From

01-APR-2026

Date To

14-APR-2026

OU

Item Type

PO No

Vendor ID

Vendor Site ID

Agent ID

Item Code

COA Short Name

Apply

Q

Search: All Text Columns

Go

Actions

Reset

MRR/GRN							SUPPLIER	
DATE	TYPE	APPROVED DATE	ORG	PURCHASER	SHIP TO ORG	OPERATION NAME	NAME	SITE
14-APR-2026	DELIVER	05-MAR-2026	NSUML	Bilal Hossain - ...	NSUML Inv. Org	SPINNING	ROYECH ENTERPRISE	Packing
14-APR-2026	DELIVER	05-APR-2026	NSUML	Antor Sen - Off...	NSUML eAM. Org	SPINNING	PETTY CASH FACTORY	Other-L
13-APR-2026	DELIVER	04-APR-2026	NWML	SM.ZIA	NWML Inv Org	WEAVING	DONG BANG DYEING LIMITED	Services-
13-APR-2026	DELIVER	17-MAR-2026	ZZFL (H)	Md. Abu Raihan ...	ZZFH Inv Org	HOME	ZABER & ZUBAIR ACCESSORIES LIMITED	Inter Clust
13-APR-2026	DELIVER	17-MAR-2026	ZZFL (H)	Md. Abu Raihan ...	ZZFH Inv Org	HOME	ZABER & ZUBAIR ACCESSORIES LIMITED	Inter Clust

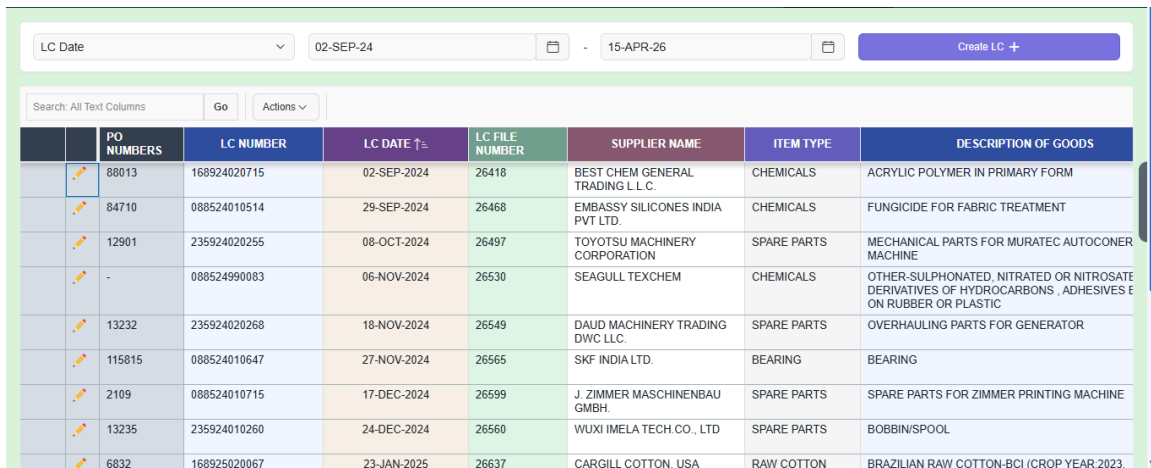
Figure 4.6: Overview of Purchase Information Register

The user can also filter data according to their need from the header part. They can also download different reports like MRR report, Po report etc.

PO							RECEIVED				
C.NO	NO	R	QUANTITY	UNIT PRICE	CURRENCY	GD/PP/SET	NO	SHIPMENT HEADER ID	MRR	QUANTITY	UOM
	NSUML-8007	1	2300	170	BDT		NSUML-3147	27842249	1	1300	kilogram
	NSUML-8077	1	50	20	BDT		NSUML-8159	27842247	1	50	PCS
	NWML-30755	1	5915	134	BDT		NWML-52128	27841409	1	29	Each
	ZZFL (H)-124812	1	84	.05	USD		ZZFL (H)-249528	27841370	1	84	PCS
	ZZFL (H)-124812	1	340	.05	USD		ZZFL (H)-249528	27841370	1	340	PCS

Figure 4.7: Different Reports

- **Week 13-14:** I have create a LC Entry register. A Letter of credit or a documentary credit is an obligation of a bank (the issuing bank) on behalf of a buyer (the applicant) to pay a seller (the beneficiary). It is a secure, serious mode of payment in foreign trade whereby a seller receives payments upon the presentation of certain complying documents, like evidence of shipment. The user can create an LC and see the LC information.



	PO NUMBERS	LC NUMBER	LC DATE ↑↓	LC FILE NUMBER	SUPPLIER NAME	ITEM TYPE	DESCRIPTION OF GOODS
	88013	168924020715	02-SEP-2024	26418	BEST CHEM GENERAL TRADING L.L.C.	CHEMICALS	ACRYLIC POLYMER IN PRIMARY FORM
	84710	088524010514	29-SEP-2024	26468	EMBASSY SILICONES INDIA PVT LTD.	CHEMICALS	FUNGICIDE FOR FABRIC TREATMENT
	12901	235924020255	08-OCT-2024	26497	TOYOTSU MACHINERY CORPORATION	SPARE PARTS	MECHANICAL PARTS FOR MURATEC AUTOCONER MACHINE
	-	088524990083	06-NOV-2024	26530	SEAGULL TEXCHEM	CHEMICALS	OTHER-SULPHONATED, NITRATED OR NITROSATE DERIVATIVES OF HYDROCARBONS , ADHESIVES E ON RUBBER OR PLASTIC
	13232	235924020268	18-NOV-2024	26549	DAUD MACHINERY TRADING DWC LLC.	SPARE PARTS	OVERHAULING PARTS FOR GENERATOR
	115815	088524010647	27-NOV-2024	26565	SKF INDIA LTD.	BEARING	BEARING
	2109	088524010715	17-DEC-2024	26599	J. ZIMMER MASCHINENBAU GMBH.	SPARE PARTS	SPARE PARTS FOR ZIMMER PRINTING MACHINE
	13235	235924010260	24-DEC-2024	26560	WUXI IMELA TECH.CO., LTD	SPARE PARTS	BOBBIN/SPOOL
	6832	168925020067	23-JAN-2025	26637	CARGILL COTTON. USA	RAW COTTON	BRAZILIAN RAW COTTON-BC1 (CROP YEAR:2023.

Figure 4.8: Overview of LC Creation

The user can edit the LC information by clicking the edit button.

4.3 Challenges Faced

In my internship at SoftoMatic BD Limited, I had to go through various challenges that enabled me to acquire problem-solving skills and learn how software development problems of the real world are dealt with. These difficulties enhanced my technical and adaptability knowledge, as well as critical thinking capacity. The key challenges that I had are listed below:

- **Workflow of a Complex System:** Another key problem was to learn the workflow of complex enterprise systems in a limited period of time. At first, navigating the codebase, knowing the already existing modules and working in the Oracle APEX environment were challenging. This has been overcome through documentation, question asking and practice.

- **Understanding Existing Codebase:** To begin with, it was not easy to work with an existing large-scale codebase. It took time and effort to learn the structure, logic flow and the coding standards. Over time, I came to be conversant with the system through inquiry of various modules and through learning with others.
- **Practice in Academic Knowledge:** The other difficulty was the practical use of theoretical knowledge in practice in real-life situations where time was of the essence. I was taught that priorities and emphasis on key features are important in ensuring that project deadlines are achieved.
- **Time Management and Task Prioritization:** Prioritization was necessary to be able to handle several tasks within a restricted period of time. My time management skills were also developed since I was able to concentrate on areas that yield high impact and provide solutions within deadlines.
- **Communication and Collaboration Problems:** I found myself struggling with communication of technical issues with team members at times. I have worked on this by ensuring that I explain issues in a clear way using examples, logs, and outputs that have assisted in better collaboration.
- **Handling Real-World Data:** The use of real-world data created inconsistencies and unforeseen situations. I managed these problems by using the systematic validation and debugging to verify the accuracy of the data.
- **Debugging and Problem Solving:** Detecting and eliminating errors in application logic and data flow involved tedious debugging and attention to detail. This aided me in enhancing my analytical and trouble-shooting abilities.

Chapter 5

Methodology

The approach used in the internship at SoftoMatic BD Ltd. followed a practical and structured approach that was in accordance with the Software Development Life Cycle (SDLC). My task was to create:

5.1 Software Development Life Cycle(SDLC)

The Software Development Life Cycle (SDLC) is a methodical approach that development teams adopt to create, develop, test, and maintain quality software. It aims to develop high quality software that can satisfy customer expectations and can be developed within specific time periods and budget projections.

- **Identify and Gather Information:** During this stage, the team will discuss with the users and stakeholders on what the software is expected to do. All requirements are written clearly. This level of understanding will prevent later misunderstandings and errors in the project.
- **Plan:** The team develops a plan by determining the timeline, cost and resources. Potential threats are also determined, and an approach to development such as Agile is selected. Correct planning assists in keeping the project on track and organized.
- **Design:** System design is drawn up according to requirements. This involves database design, system structure, and the layout of user interface. A well-designed one assists developers to know how to form the software appropriately.

- **Implement:** The developers begin to code the software depending on the design. The piece is broken down into smaller sections and there is adherence to coding standards. The changes and teamwork are handled by the version control.
- **Test:** The software is debugged to discover bugs and make sure that it functions properly. Testing of various kinds is performed and bugs are eliminated. This step can guarantee the software is in line with the user requirements.
- **Deploy:** The software is released to users after testing. It is deployed in a real-life setting and the system is monitored in order to see that all is well.
- **Maintain:** Once deployed, the system is supported through bug fixing, additional features and enhanced performance. The software is improved over time with user feedback.

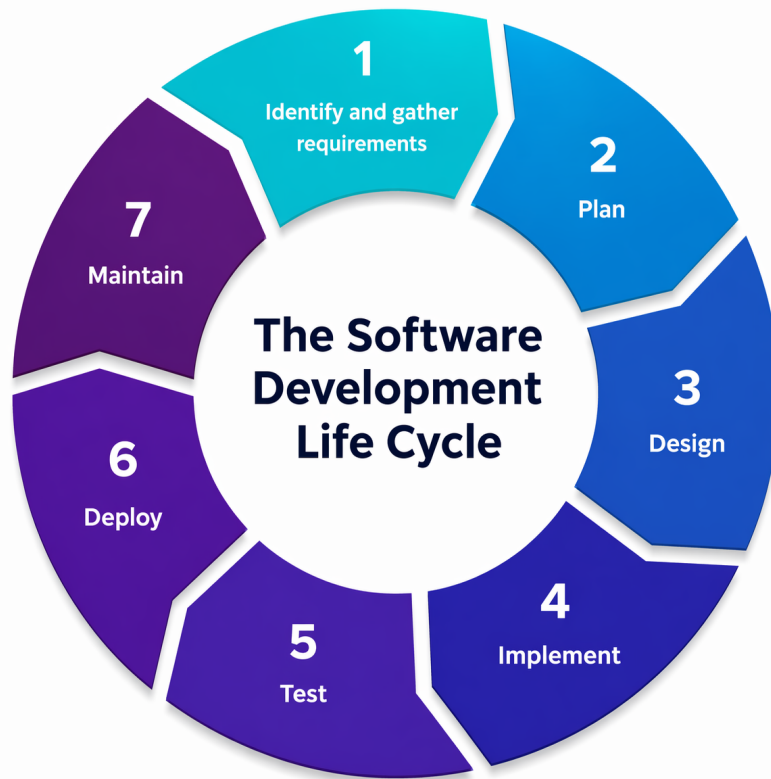


Figure 5.1: Software Development Life Cycle

5.2 CUD (Create, Update, Delete)

The CUD (Create, Update, Delete) approach was used in my internship with Soft-oMatic BD Limited to handle and manipulate the data effectively in the system. This methodology guaranteed proper data management, integrity and the seamless functioning of the enterprise level application and reporting systems created with the Oracle APEX and BI Publisher.

5.2.1 Create (Data Insertion)

Operation to enter new data into system database is known as the Create operation. During the internship:

- New records were added to the database like delivery orders, purchase entries, and production data.
- User input was captured in structured tables via Oracle APEX forms.
- Proper validation methods were used to guarantee the accuracy of data and to avoid duplication or errors.

5.2.2 Update (Data Modification)

The Update operation enables changing existing records in case of need. In practice:

- Information on existing data like order details, quantities or customer related information were updated according to the business requirements.
- Records were dynamically modified using SQL queries and APEX forms.
- The integrity of data was ensured by limiting unreliable updates and validating before making changes in the data.

5.2.3 Delete (Data Removal)

The process of deleting the redundant and erroneous information in the system is referred to as Delete operation. During implementation:

- Old or incorrect records were carefully removed to ensure the cleanliness of the databases.

- Soft delete methods (record inactivation rather than deletion) were also thought to be necessary in certain instances to retain historical information.
- Before conducting delete operations, proper authorization had to be done to prevent the unintended loss of data.

5.2.4 Data Integrity and validation

In all CUD activities:

- Validation of inputs, constraints and checks were used to ensure consistency.
- Transactions were handled such that operations were done successfully without any partial updates.
- The detection and resolution of issues in data operations were done using error handling mechanisms.

5.2.5 Role in Report Generation

BI Publisher generated reports directly supported by CUD operations:

- The accuracy in data creation enabled for the correct input of the report.
- Real-time business changes were reflected in updated data.
- Good and well-run datasets enhanced the reliability and performance of reports.

5.3 Feedback and User Support

Feedback and user support during my internship were critical to enhancing the quality and usability of the developed applications. Continuous communication with team members and senior developers helped in identifying issues, understanding requirements, and refining system functionalities. Regular feedback was taken in development and review phases, which enabled me to make corrections in application logic, SQL queries, and report generation as needed.

User support was maintained by designing user-friendly interfaces and ensuring correct and effective system functionality. Systematic debugging and validation were used to address any identified errors or problems during use. Repeat cycles of feedback, changes, testing, and refining the system were used to assist in providing credible and effective software solutions and in improving overall user experience.

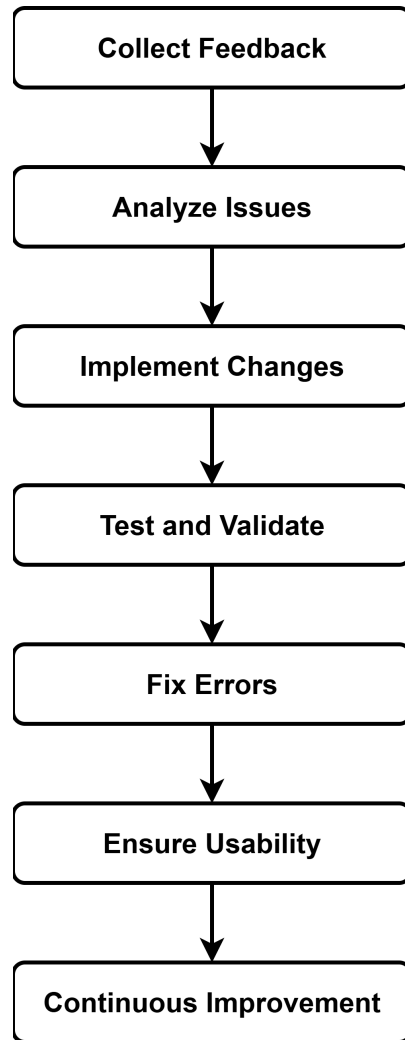


Figure 5.2: Feedback and User Support Flowchart

Chapter 6

Analysis and Findings

6.1 Results/Findings

Throughout the internship period in SoftoMatic BD Ltd., there were a number of practical outcomes that were attained by actively participating in software development activities. I was able to create and deploy various application elements and reporting systems with Oracle APEX and BI Publisher. Reports like SM NG spinning do, Delivery Order, KNIT PI and purchase information register were developed and tailored to the needs of business.

I have also created interactive forms and registers, such as the Excess Delivery Register and the LC Entry System that enhanced data management and interaction with the user. These applications revealed the way in which enterprise systems manage the actual business processes effectively.

The internship also taught how to deal with real world data, debugging and how to make sure the system works. In general, the results can be summarized as the significance of systematic development practices, database management, and application design oriented on the user. There were some significant outcomes and conclusions made:

- **Improved System Efficiency:** The performance of the system was enhanced because SQL queries were written using optimized code and retrieving only the required data. This assisted in the minimization of processing time and enhanced overall response of applications.
- **Efficient Data Handling:** The ability to work with SQL and Oracle APEX allowed the efficient work with large volumes of data. Adequate query design

and filtering measures guaranteed that data processing was quick and ensured that there was less unnecessary data loading.

- **Accurate Data Representation:** Problems of wrong or missing data presentation were addressed by making sure that query logic and data mapping were correct. This enhanced correctness and dependability of reports and application outputs.
- **Successful Business logic implementation:** The features of the application and reports were built according to business needs. Conditional logic, data validation and appropriate structure ensured that the system presented relevant information that was in the right format.
- **Flexibility to Change of Requirements:** Managing evolving customer demands enabled me to appreciate the significance of flexible and serviceable code. I was taught how to add additional features and reports without compromising the functionality of the system.
- **Enterprise Application Structure:** You will have a solid understanding of the structure of the Enterprise Application. The experience of working with Oracle APEX and reporting systems helped to understand the way enterprise applications are designed, developed, and maintained.
- **Enhanced Diagnostic and Problem-Solving abilities:** The solution of problems connected with inquiries, inconsistency of data and system errors helped me to improve my skills in debugging and thinking.
- **Practical Industry Experience:** The internship also gave me a hands-on experience of enterprise-level development, tools, and workflows, which solidified my general technical base.

6.2 Learning and Development

The internship had a great impact on my technical and professional growth. I got practical knowledge on Software Development Life Cycle (SDLC) and agile based flows. My technical skills were enhanced through working with SQL, Oracle APEX, and BI Publisher.

I got to know how to design and develop database-based applications, create business reports, and work with real-life data effectively. My problem solving and debugging abilities were enhanced because I was doing system troubleshooting to find out which part of the system had a problem.

Besides the technical skills, the internship had enhanced my soft skills such as communication, teamwork, and time management. My experience in the professional setting enabled me to learn about organizational processes and adjust to the real world.

6.3 Tools and Technology

6.3.1 Oracle Apex

Oracle APEX (Application Express) is a low-code development platform that allows users to create secure, scalable, and responsive web/mobile applications that can be developed 20x faster than traditional code. It is closely combined with the Oracle Database, where server-side processing is done using SQL/PL/SQL and is free to existing customers of Oracle.

Important Characteristics and Advantages:

- **Low-Code Development:** Page Designer and Intelligent wizards make it easy to build data-driven applications.
- **AI-Powered:** The APEX AI Assistant aids in creating apps, data models, and SQL queries via natural language.
- **Responsive Web Apps:** Intrinsically support responsive designs, so apps are compatible with any device.
- **Security & Scalability:** Incorporates enterprise-level security of the Oracle Database.
- **Portability:** Can be deployed anywhere that Oracle Database can be deployed (On-premises, Oracle Cloud, AWS, Azure, GCP).
- **No licensing charges:** Oracle Database is free of charge, no per-user or per-developer fees.

6.3.2 Components of Oracle APEX

Oracle APEX (Application Express) is a low-code development platform. Here are its main components:

- **Application Builder:** The fundamental development platform on which we can develop and maintain web applications. Here, the user can create an

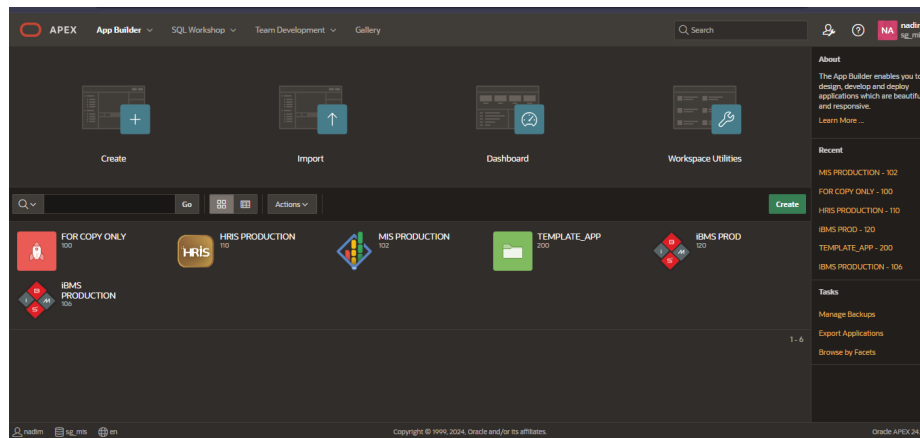


Figure 6.1: Overview of App Builder

application, import an application from one to another. Can see the dashboard and utilities of the workspace.

- **SQL Workshop:** A collection of tools to manage database objects directly in APEX. Here, Object Browser uses for view /edit tables, indexes and sequences.

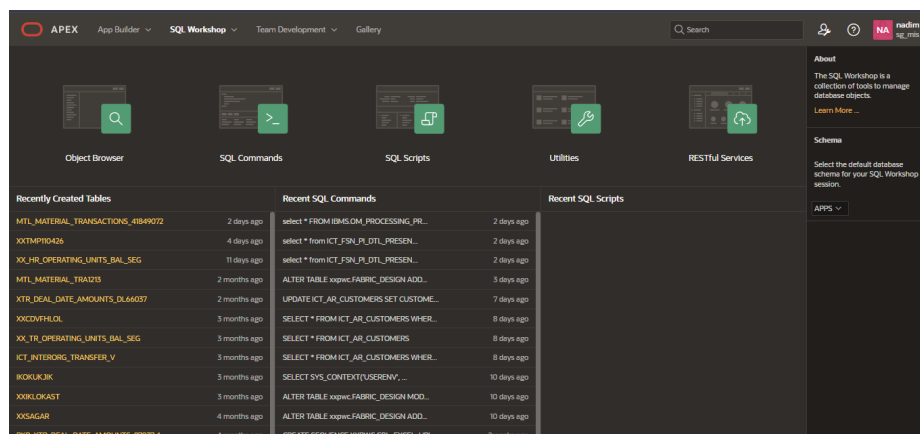


Figure 6.2: Overview of SQL Workshop

The SQL command runs SQL, PL/SQL queries. The SQL scripts save and execute files. In utilities can see the utilities provided by APEX and also can see the restful services.

- **Team Development:** An inbuilt project management tracker.

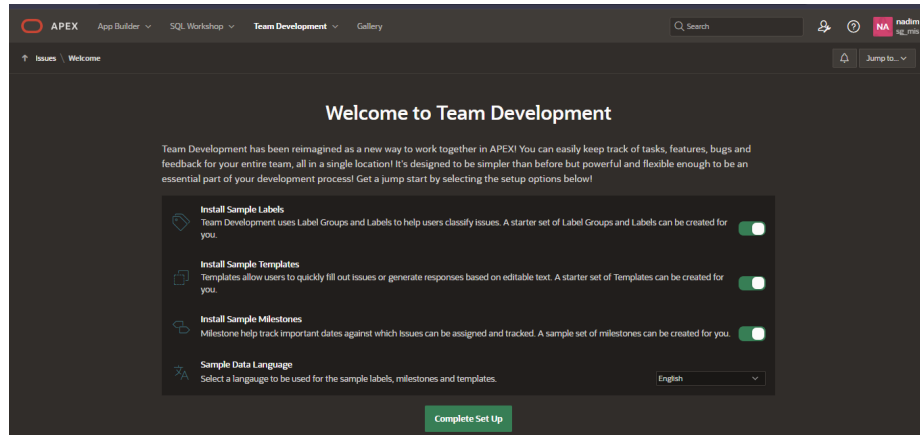


Figure 6.3: Overview of Team Development

- **Gallery:** An App Store full of ready-made sample applications and productivity apps that you can install immediately (e.g., Sample Database Application, Budget Planner).

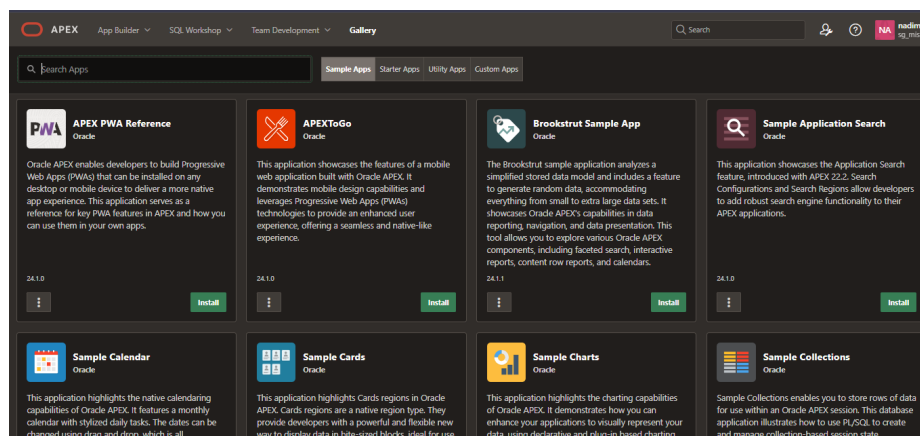


Figure 6.4: Overview of Gallery

- **Workspace:** A common work station where programmers work together. There is one or more database schemas associated with each workspace.

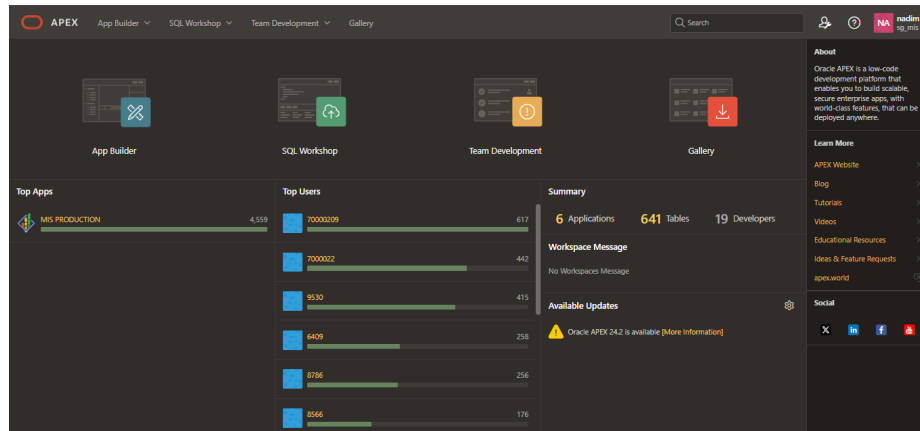


Figure 6.5: Overview of Worksapce in APEX

- **Page Designer:** The Applications Builder visual with three panes:
 - **Left:** Page Component tree
 - **Center:** Live page canvas
 - **Right:** Property editor

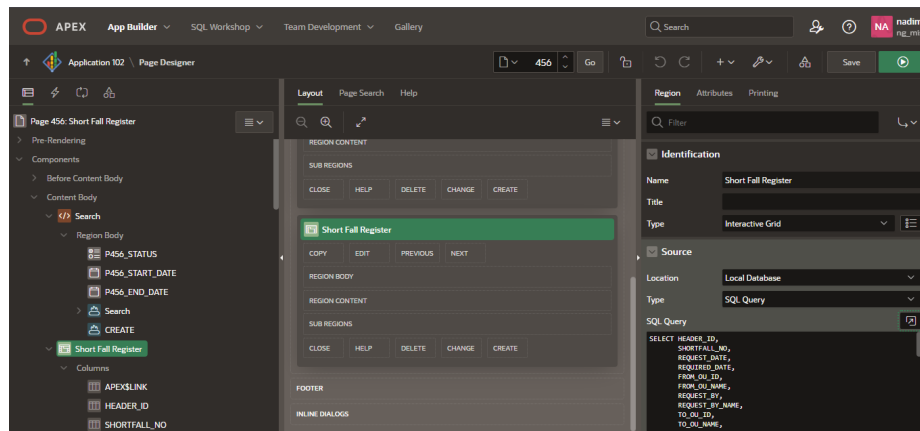


Figure 6.6: Overview of Page Designer

- **Shared Components:** Assets that can be reused and are present on each page of an app:
 - Authentication & Authorization schemes.
 - Navigation menus & breadcrumbs.
 - Themes & templates
 - Application items & computations
 - Lists of Values (LOVs)
 - Plug-ins

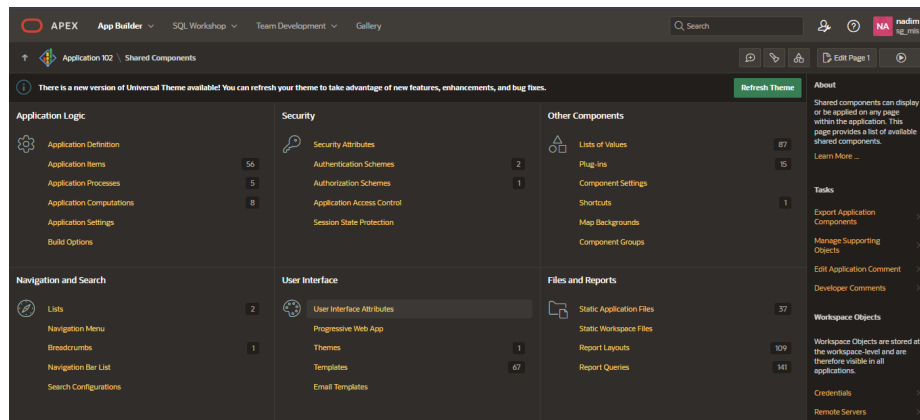


Figure 6.7: Overview of Shared Components

6.3.3 Oracle BI Publisher

Oracle BI Publisher (previously XML Publisher) is a business reporting system that isolates the data extraction and report formatting process to allow pixel-perfect and highly formatted reports, including invoices, shipping labels, and financial statements. It is designed to create templates with standard tools such as Microsoft Word (RTF) and Adobe Acrobat (PDF), and it allows a wide range of output formats (PDF, Excel, HTML).

Workflow of BI Publisher

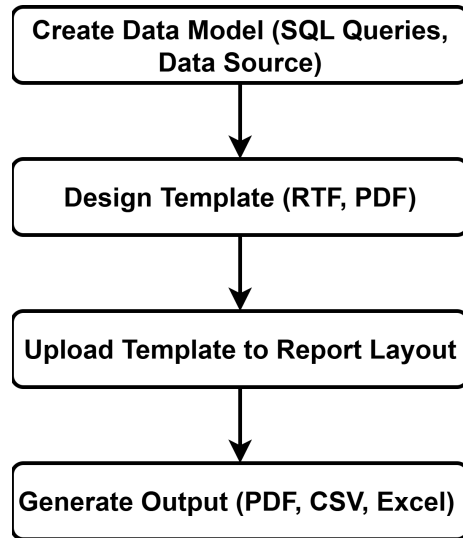


Figure 6.8: Workflow of BI Publisher

Using process of BI Publisher

First need to create a query in APEX for the report and download the XML file to run the report. Then, create an RTF file (template for the report) using MS Word, and after creation, use BI Publisher, and upload the XML file. After uploading the XML file to MS Word, users see the report in PDF, CSV, and Excel format.

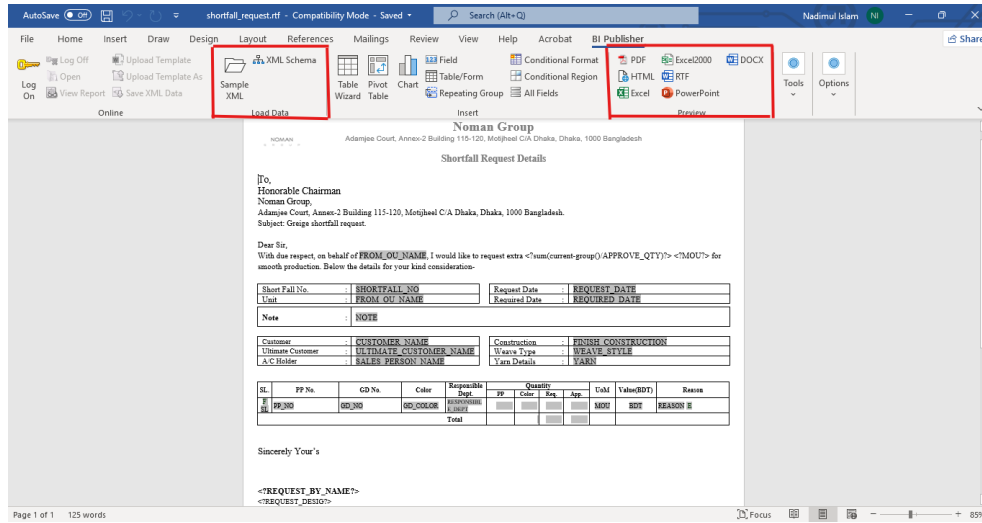


Figure 6.9: BI Publisher

6.3.4 Oracle Reports Builder

The graphical design tool that helps the developers to create and maintain report definitions in the Oracle Reports suite is Oracle Reports Builder. It enables the creation of advanced enterprise reports to be published to paper and web quickly on any data source against any data source.

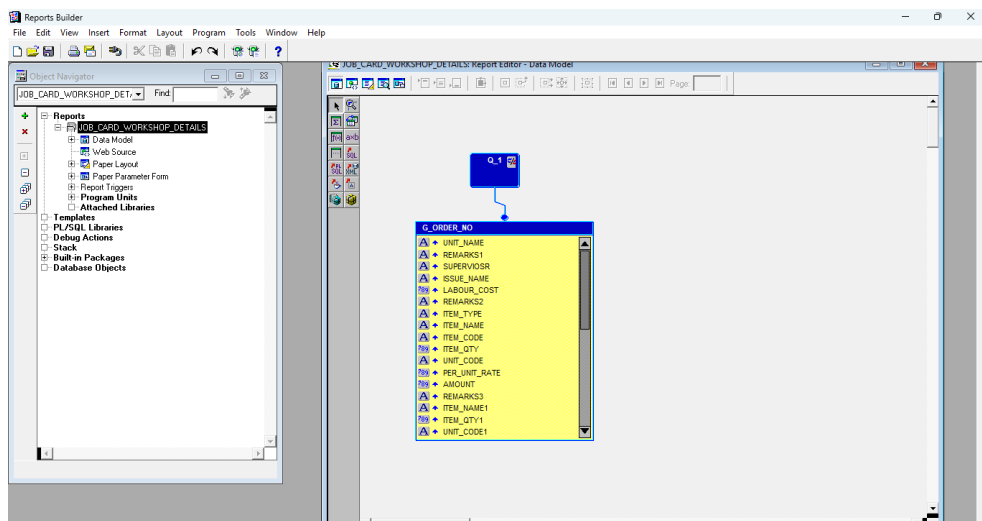


Figure 6.10: Oracle Report Builder

6.4 User Guideline

The developed systems and application during the internship are user-friendly and efficient. The system allows users to interact with the system using web-based interfaces, which were created using Oracle APEX.

- The application dashboard allows users to navigate across various modules, including registers, forms and reports.
- Interactive forms can be used to view, insert and update data.
- BI Publisher can be used to generate and download reports in different formats (PDF, Excel).
- They have filtering and searching features that can be used to find useful data fast.
- Role-based access prevents users from accessing any unauthorized features and data.

The guidelines are designed in such a way that the users of the system can effectively use it to conduct business without having to have high levels of technical skills.

6.5 Impact of the Internship

- Helped in the creation of enterprise applications and reporting systems on Oracle APEX and BI Publisher.
- Helped to develop and tailor reports, enhance access to data and decision making.
- Assisted in simplifying business by creating registers and data management systems.
- Obtained practical skills in working with real-life information, enhancing the precision and dependability of the system.
- Improved knowledge of Software Development Life Cycle (SDLC) and agile processes.

- Enhanced technical capabilities in SQL, database handling, and applications.
- Enhanced problem-solving and debugging skills by participating in a real project.
- Learned to communicate and work as a team efficiently by working with developers and team members.
- Trained to be time effective and to achieve project deadlines at the workplace in a professional manner.
- Increased confidence and preparedness for a future career in software development.

Chapter 7

Conclusions and Recommendations

7.1 Conclusion

The SoftoMatic BD Ltd. internship was an educational experience that exposed me to practical experience in software development in a work setting. It assisted in closing the gap between the academic knowledge and the practical application by participating in the real projects.

I got a real-world experience of the Software Development Life Cycle (SDLC) and agile-based processes. Collaborating with team members helped me to enhance my collaboration and communication abilities. Using such tools and technologies as SQL, Oracle APEX, and BI Publisher, my technical knowledge was strengthened.

My problem-solving, analytical thinking, and my work with real-world data were also enhanced by the internship. Being involved in project activities and adhering to development schedules enhanced my time control and professionalism. On the whole, this experience made me more confident and helped me to understand my future career objectives in software development.

7.2 Limitations

- The internship was also quite brief to have more exposure to higher learning development fields.
- Short time to study on large-scale or complex modules on their own.
- The confidentiality limited some of the system components and data.

7.3 Recommendations

- Conduct formal training of interns during the commencement of internship.
- Increase the involvement of intern on the requirement analysis and system design phases.
- Give the opportunity to complete more complicated and autonomous development tasks.
- Keep good records and repositories of codes to learn more and to maintain consistency.

Chapter 8

Acknowledgments

To begin with, I would like to acknowledge my profound gratitude to Almighty Allah, who gave me strength, patience, and perseverance to complete my internship successfully.

I wish to hereby place my profound gratitude to the SoftoMatic BD Ltd. in giving me the chance to experience my internship in a working environment. It has been a valuable experience in developing my practical knowledge and understanding of software development practices.

I owe a special debt to my supervisor, Md.Mohi Uddin (Mahi) in the industry. Due to his guidance, insights, and support, which he provided me throughout the internship stint. He has been a great mentor in helping me to grow in terms of technical and professional competency.

I would also like to say my heartfelt gratitude to my academic supervisor, Raihan Kibra, with his support, guidance, and supervision towards the successful completion of my internship as well as this report.

In addition to this, I would also like to note that all members of the team at SoftoMatic BD Ltd. supported and collaborated with me to ensure that my experience as an Intern was fruitful and enriching. Last but not least is the fact that I am extremely thankful to my family and my all-time well-wisher Tasnia Tasnim, who have been encouraging, motivating, and supportive of me throughout this process.

Appendix



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Gawasia Kashiem Center, 2nd Floor, 10/2 Arambagh
Motijheel C/A, Dhaka-1000, Bangladesh

Student Intern Appointment Letter

Date: 14.12.2025

Name: Md. Nadimul Islam
Student Id: 212014028
University of Liberal Arts Bangladesh
Resident Address: 26/A, Rayer Bazar,
Community Center, Dhanmondi, Dhaka.

Dear Mr. Nadimul:

Welcome to Saad Group. The purpose of this letter is to confirm your appointment to the position of **Student Intern** in the ICT Department/ Section of Softomatic BD Ltd [a concern of Saad Group]. The effective date of your engagement is 05 January 2026.

This position reports to Md. Abdullah Al Mamun, Head of ICT Department. Your primary work location will be in the ICT Department/ Section of located Softomatic BD Ltd [a concern of Saad Group] at Arambagh, Motijheel, Dhaka – 1000.

This position's normal work hours are 9:00 am to 6:00 pm, Saturday to Thursday. You may discuss your specific schedule with your supervisor.

Within the first three days of engagement, you must present document(s) that identify both your identity and ability to work in the Softomatic BD Ltd [a concern of Saad Group of Industries]. On your first day of work, you will meet with a human resources/payroll staff person who will provide more information.

Student internships are programs that provide students with exposure to workplace activities which are related to the intern's field of study. As a student intern, you are an at-will temporary employee and serve at the discretion of the hiring authority; either you or the company may terminate your employment at any time with or without cause or prior notice. Student interns covered by the provisions of Law of Land.

The following items are important for you to know:

- You may be separated from engagement prior to the completion of the assignment without cause or prior notice.
- You do not attain any rights toward regular employment.
- You are not represented by a labor union.



Figure 8.1: Appointment Letter

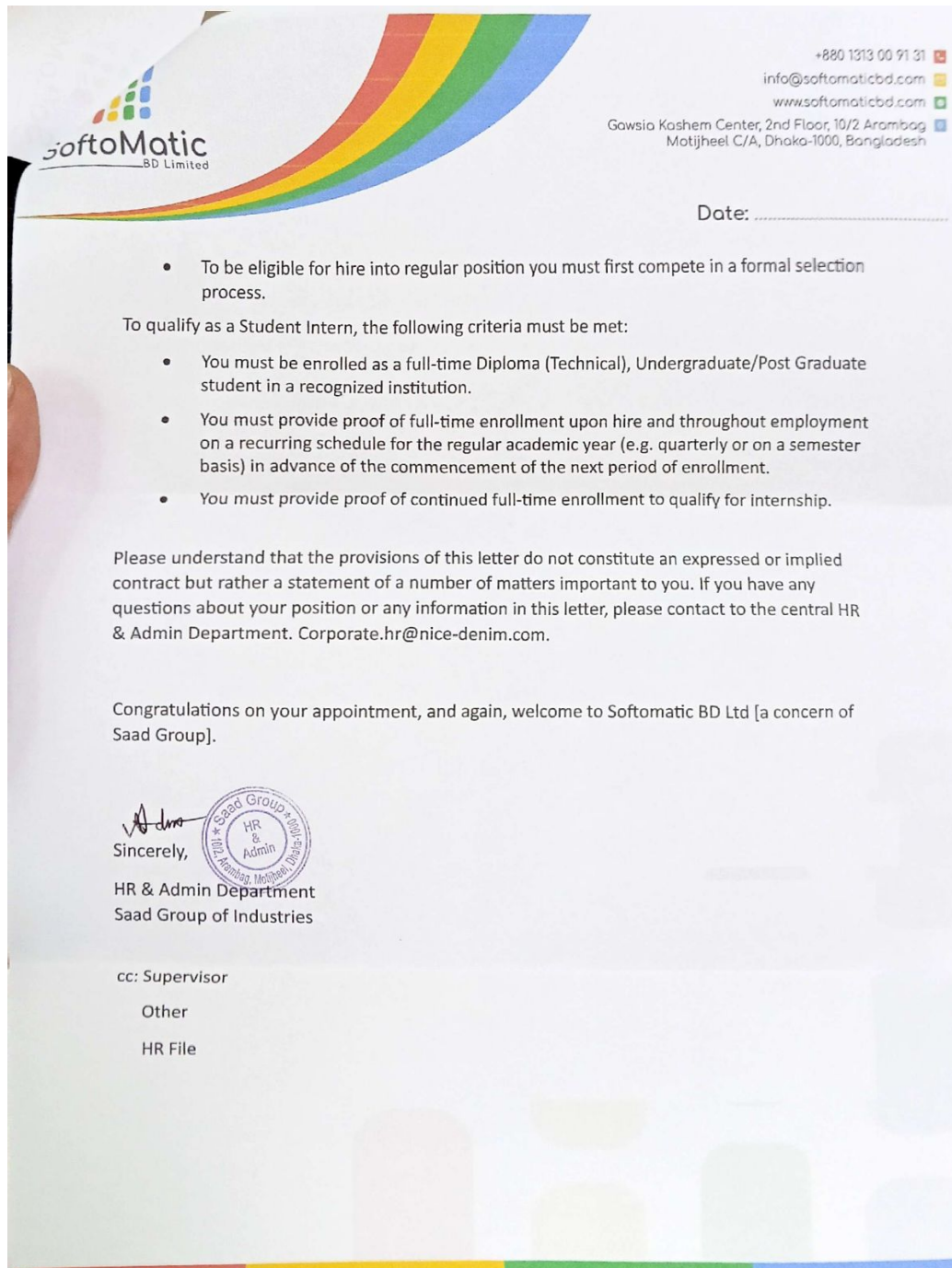


Figure 8.2: Appointment Letter

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