[Skip to main content](https://crafts.getmerlin.in/render" \l "main)

**CDU Unit — Project Tasks, Skills, and Tools Guide**

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Unit teaching content preparation

**Prepared for:** Masters (Final Year) IT Students

**Date:** 18 September 2025

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**1. Overview**

Purpose: Provide a consolidated, resume-ready reference of tools, skills, and weekly project tasks across BA, DEV, TEST, and DA roles.

Audience: Final-year IT students preparing for industry project work and job applications.

Usage: Add role-relevant items to “Skills” and “Tools & Technologies” sections. Quantify outcomes in “Projects/Experience.”

**2. Role-Based Resume Skills, Tools, and Technologies**

**2.1 Business Analyst (BA)**

**Tools/Technologies**

* Git/GitHub (version control)
* BPMN (process modeling)
* Zoho CRM (training)
* Knowledge base/FAQ/glossary management artifacts

**Skills/Practices**

* Backlog grooming/refinement, MVP scoping
* User personas, user stories, acceptance criteria
* INVEST criteria, user story mapping
* Wireframing/mockups
* Validation rules definition
* Requirements gathering/documentation
* Non-functional requirements (performance, security, usability)
* Requirements Traceability Matrix (RTM)
* Definition of Ready (DoR) and Definition of Done (DoD)
* UAT planning and scripts, release notes
* Stakeholder demo facilitation, feedback incorporation
* Change log management, cross-functional collaboration

**Certifications/Frameworks**

* BABOK familiarity; IIBA ECBA/CBAP prep
* PRINCE2 Foundation; ITIL Foundation
* Human-Centered Design; Agile principles and misconceptions

**2.2 Developers (DEV)**

**Tools/Technologies**

* Visual Studio, VS Code
* Git/GitHub
* SQL Server Express, SQL Server (DB), SSMS
* .NET Web API, C#, Entity Framework (SQL Server)
* React, Vue, Angular
* Kendo UI, DevExtreme, Tailwind CSS, Bootstrap
* FluentValidation, FluentMigrator
* IIS, Active Directory/LDAP (integration/queries), containerization
* Message queue (MQ) concepts
* CSV/Excel import/export, email sending utilities, async HTTP/Web API clients
* Structured logging & exception middleware
* Database migrations (schema/seed), README/documentation practices

**Skills/Practices**

* Themed UI implementation; form validation (client/server)
* API design and development; end-to-end integration (DB → API → UI)
* Error handling; seed/migration workflows
* Proof-of-Concepts (IIS basics, AD/LDAP, containers, background/queue)
* Unit testing (happy path); code reviews & collaboration

**2.3 Testers (TEST)**

**Tools/Technologies**

* Postman, SoapUI
* Selenium, Cypress
* JMeter, LoadRunner
* Fiddler, Browser Developer Tools
* Jenkins
* Jira, Trello, TestRail
* Git/GitHub/GitLab
* VirtualBox, VMware

**Skills/Practices**

* Manual testing; test case design
* API testing & automation; UI test automation
* Page Object Model (POM), Data-Driven Testing
* Regression pack creation and maintenance
* Performance testing (smoke/baseline load, stress/spike)
* Database validation for CRUD integrity
* UAT support and training
* Defect lifecycle management; severity/priority matrix; defect triage
* Traceability to BA stories

**2.4 Data Analysts (DA)**

**Tools/Technologies**

* Microsoft SQL Server, SSMS, SQL (T-SQL), AdventureWorks sample DB
* Power BI (Desktop/Service), DAX, Row-Level Security (RLS), scheduled dataset refresh
* SSIS, SSRS, Visual Studio with SQL Server Data Tools (for SSIS)
* Microsoft Fabric
* SQL Server spatial data (geography), nearest-neighbor queries
* Data warehouse/star schema modeling, SSAS
* Tableau, SAP BusinessObjects, SAP Web Intelligence
* Git/GitHub

**Skills/Practices**

* Data modeling (facts/dimensions; grain/keys)
* ETL design and incremental loads
* Power BI modeling and visualization
* KPI dashboards with drill-through
* Report authoring (SSRS/Power BI)
* Data dictionary creation; data lineage (source → staging → warehouse → reports)
* BI performance optimization

**Certifications/Preparation**

* Power BI Data Analyst Associate (PL-300) prep
* SQL/SSIS/SSRS/SSAS learning paths

**3. Weekly Tasks (Weeks 1–4) by Role**

**3.1 Business Analyst (BA)**

**Week 1**

* [w1-BA] Co-ordinate and discuss with your group and decide the product you want to develop
* [w1-BA] Research or examine the following key items: capabilities, business processes (define all three levels), user personas, user stories, and requirements. Understanding how these elements are interconnected is crucial. Write examples of each topic and explain to team
* [w1-BA] Write some sample user Stories for your product
* [w1-BA] Do mockup of screens and add to the tasks/stories for developers to know
* [w1-BA] Identify Validation rules for some user stories
* [w1-BA] Research on backlog grooming process for iteration

**Week 2**

* [w2-BA] write relavant requirements to your app, do grooming for some and present to your team
* [w2-BA] watch video tut on BABOK and do some key topic documentation and present to your team
* [w2-BA] Do a sample knowledge document on different BA tools and process diagrams with some samples - and present to your team

**Week 3**

* [w3-BA] Prioritize the product backlog and define MVP scope; run a grooming session with the team
* [w3-BA] Refine top user stories using INVEST and add detailed acceptance criteria
* [w3-BA] Create a user story map (epics → features → stories) for the chosen domain
* [w3-BA] Update screen mockups/wireframes to reflect MVP and link each to its story
* [w3-BA] Document non-functional requirements (performance, security, usability) for MVP stories
* [w3-BA] Build a requirements traceability matrix mapping stories → test cases → APIs/UI
* [w3-BA] Validate and finalize validation rules with Dev/Test for current sprint items

**Week 4**

* [w4-BA] Prepare a UAT plan (entry/exit criteria, scenarios, test data, sign‑off template)
* [w4-BA] Define and publish Definition of Ready (DoR) and Definition of Done (DoD) for stories/defects
* [w4-BA] Create process flow/BPMN diagrams for two critical flows and review with the team
* [w4-BA] Draft release notes for the MVP increment; capture known issues and mitigations
* [w4-BA] Conduct a stakeholder demo rehearsal; collect feedback and update the backlog
* [w4-BA] Maintain a change log and update the knowledge base with FAQs and a glossary

**3.2 Developers (DEV)**

**Week 1**

* [w1-DEV] Setup Repo
* [w1-DEV - Individual] Setup tools like visual studio, vscode, sql express, ssms (as per your lead direction)
* [w1-DEV] Check access to all team members and all members of group MUST commit to same repo (BA, DA and testers create your own folders to save ur files)
* [w1-DEV - Individual] Research and do POC of your product (for look and feel of your application) - this task is individual - each developer should do one prototype of look n feel of your website
* [w1-DEV] Lead dev - setup primary code base and ask other devs to check if they commit, push and can execute code
* [w1-DEV] Setup database connection / ORM and share with other devs on how to make db changes
* [w1-DEV - Individual] Each Dev develop 2 api
* [w1-DEV] Lead dev setup front end of your application (i.e. React, Vue or angular) choice of your own - and share with team - how this all works
* [w1-DEV] Unit test project (if time permits)

**Week 2**

* [w2-DEV-individual] Watch video on How to develop .NET web api with entity framework (sql server)
* [w2-DEV-individual] Watch video on How to develop React hello world app - see if you can consume web api built
* [w2-DEV-individual] Develop three apis each and develop front end with React (on the same code base)
* [w2-DEV] try to use third party library like kendoUI tables, drop downlist etc on your app and share with other devs on how to use

**Week 3**

* [w3-DEV] Build a dedicated app with a themed UI (e.g., bookstore or movie ticket booking) as a cohesive prototype
* [w3-DEV] Choose an alternative front‑end (React/Vue/Angular) from last week and scaffold the app
* [w3-DEV] Apply a modern CSS/UI library (e.g., Tailwind or Bootstrap) and standardize component styles
* [w3-DEV - Individual] Implement 3 APIs each aligned to MVP stories, including server‑side validation
* [w3-DEV] Add form validation on corresponding UI screens with clear inline error messages
* [w3-DEV] Integrate a third‑party JS UI library (e.g., Kendo UI or DevExtreme) for grids/dropdowns
* [w3-DEV] Introduce FluentValidation for request models using BA validation rules
* [w3-DEV] Initialize database migrations with FluentMigrator; create baseline schema and seed data
* [w3-DEV] Write happy‑path unit tests for key API endpoints (if time permits)

**Week 4**

* [w4-DEV - Individual] Add 2 more APIs each and connect end‑to‑end (DB → API → UI) with robust error handling
* [w4-DEV] Implement file I/O features: CSV import/export and downloadable Excel/CSV for grid data
* [w4-DEV] Create code utilities in C#: file read/send, async web API calls, and email sending
* [w4-DEV] Build a simple background/queue POC to simulate a message queue workflow
* [w4-DEV] Add structured logging and exception middleware; return consistent problem detail responses
* [w4-DEV] Extend FluentMigrator migrations for schema changes and include rollback scripts
* [w4-DEV] Run a lightweight POC on one: Active Directory/LDAP lookup, IIS hosting basics, or containerizing the app
* [w4-DEV] Update README with setup, migrations, environment configs; ensure all devs can run the app

**3.3 Testers (TEST)**

**Week 1**

* [w1-TEST - Individual] Research on Testing Methodologies -Manual Testing, Automated Testing, Testing Types: Functional, Non-Functional Testing,Regression Testing, User Acceptance Testing (UAT)
* [w1-TEST - Individual] Research on test cases and write sample test cases for your product and for your BA user stories and share with your team. Test Case Design
* [w1-TEST - Individual] Do a course on automation (one tool) and install the tool for future sprints (API Testing, Test Automation)
* [w1-TEST - Individual] Identity list of all tools - that could be used for testing i.e. jmeter, fiddler, postman, selenium etc - and write three lines abt that tool use case

**Week 2**

* [w2-TEST] write test cases relavant to your app requirements and work with BA to check the requirements and test cases are aligned
* [w2-TEST] watch video tut on Automation testing tool and do a sample test / POC of automation
* [w2-TEST] Do a sample knowledge document on different testing options and methodologies - and present to your team

**Week 3**

* [w3-TEST - Individual] Build an API test suite (Postman/SoapUI) for at least 3 endpoints with positive/negative cases
* [w3-TEST] Create a UI automation POC in Selenium or Cypress; implement Page Object Model for 2 key flows
* [w3-TEST] Add data‑driven tests (CSV/JSON) covering field validation and edge cases from BA acceptance criteria
* [w3-TEST] Start performance testing POC in JMeter: 1 smoke test + 1 baseline load test; record SLA baselines
* [w3-TEST] Begin assembling a regression pack; tag tests by module/priority for ongoing reuse

**Week 4**

* [w4-TEST] Set up test management (Jira/TestRail): organize suites and link test cases to BA stories (traceability)
* [w4-TEST] Define defect lifecycle and severity/priority matrix; conduct a defect triage with the team
* [w4-TEST - Individual] Add database validation checks for CRUD flows to verify data integrity
* [w4-TEST] Execute a focused regression for the MVP increment; publish a test summary report
* [w4-TEST] Prepare UAT scripts/data and train stakeholders on defect reporting for UAT
* [w4-TEST] Extend performance tests with stress/spike scenarios; highlight bottlenecks and recommendations

**3.4 Data Analysts (DA)**

**Week 1**

* [w1-DA - Individual] Install SQL server full version & SSMS
* [w1-DA - Individual] Download adventure works database from microsoft site and restore database
* [w1-DA - Individual] Do a course on basics of sql and try practice all sql on adventureworks db - save the scripts in git
* [w1-DA - Individual] Create a brand new database and create tables with FKs and do some inserts of data - store the script
* [w1-DA - Individual] Do backup and restore process on database (using scripts and via SSMS menu options)
* [w1-DA - Individual] Install power Bi & Visual studio with data tools for SSIS development (for next sprints)

**Week 2**

* [w2-DA - Individual] watch video tut on PowerBi and do hello world - do some document on powerBi
* [w2-DA - Individual] watch video tut on Fabric, Datawarehouse and do hello world - do some document and present to others
* [w2-DA - Individual] watch video tut on SSIS - and do sample example for using SSIS

**Week 3**

* [w3-DA - Individual] Design a star schema (facts/dimensions) for the selected domain; document grain and keys
* [w3-DA - Individual] Create staging tables and an SSIS package to load from AdventureWorks to the warehouse
* [w3-DA] Build a Power BI model: relationships, calculated columns, and 3–5 core DAX measures (e.g., Total Sales, Avg Ticket)
* [w3-DA] Develop and publish an initial Power BI report (2–3 pages) with slicers, KPIs, and drill‑through
* [w3-DA] Create one SSRS report from the warehouse as a printable summary
* [w3-DA] Explore spatial data basics: run a nearest‑neighbor query and note potential use cases

**Week 4**

* [w4-DA - Individual] Add an incremental load SSIS package; document load windows and error handling
* [w4-DA] Optimize the Power BI model (star validation, measure formatting); consider calculation groups if applicable
* [w4-DA] Implement row‑level security (RLS) and schedule dataset refresh; verify with test accounts
* [w4-DA] Build a management dashboard with KPIs, trend lines, and drill‑through to detail pages
* [w4-DA] Author a data dictionary and lineage notes from source → staging → warehouse → reports
* [w4-DA] Practice 1–2 PL‑300 exam sections; log gaps and a short study plan

**4. Learning Resources and Certifications**

**SQL and Data Warehouse**

* [SQL Essential Training](https://www.linkedin.com/learning/sql-essential-training-20685933/the-data-driven-world-19067626)
* [Learning SQL Programming](https://www.linkedin.com/learning/learning-sql-programming-8382385)
* [SQL: Data Reporting and Analysis](https://www.linkedin.com/learning/sql-data-reporting-and-analysis-18082247/don-t-let-your-reporting-system-hold-you-back)
* [SQL Server: Reporting Services (SSRS)](https://www.linkedin.com/learning/sql-server-reporting-services/present-sql-data-with-reporting-services)
* [SQL Server Integration Services (SSIS)](https://www.linkedin.com/learning/sql-server-integration-services-2/integrate-your-data-with-sql-server-integration-services-ssis)
* [Microsoft SQL Server 2022 Essential Training](https://www.linkedin.com/learning/microsoft-sql-server-2022-essential-training/create-databases-with-sql-server-2022)
* [Data Warehouse (2012)](https://www.linkedin.com/learning/implementing-a-data-warehouse-with-microsoft-sql-server-2012/welcome?u=49050689)
* [Data Warehouse (2019)](https://www.linkedin.com/learning/implementing-a-data-warehouse-sql-server-2019/store-information-in-a-data-warehouse?u=49050689)

**Oracle**

* [Oracle Database 12c: Basic SQL](https://www.linkedin.com/learning/oracle-database-12c-basic-sql/welcome)
* [Oracle Database 19c: Basic SQL](https://www.linkedin.com/learning/oracle-database-19c-basic-sql/learning-oracle-database-sql-why-19c)

**Power BI, Tableau, BusinessObjects**

* [Explore a Career as a Power BI Specialist](https://www.linkedin.com/learning/paths/explore-a-career-as-a-power-bi-specialist?u=49050689)
* [Prepare for the Power BI Data Analyst Associate (PL‑300) Certification](https://www.linkedin.com/learning/paths/prepare-for-the-power-bi-data-analyst-associate-pl-300-certification?u=49050689)
* [Tableau Certified Data Analyst](https://www.linkedin.com/learning/tableau-certified-data-analyst-cert-prep/preparing-for-the-tableau-data-analyst-exam?u=49050689)
* [SAP BusinessObjects BI tools](https://www.linkedin.com/learning/topics/tableau-20259762?u=49050689) (overview placeholder as per source text)

**Spatial Data (SQL Server)**

* [Geography Data Type intro](https://www.youtube.com/watch?v=gVneM-ImN9A&list=PL_jn5jikluSL-r5HJuhr5nTQ3iT_8sINU)
* [Nearest Neighbor spatial queries](https://learn.microsoft.com/en-us/sql/relational-databases/spatial/query-spatial-data-for-nearest-neighbor?view=sql-server-ver16)

**BA Training and Certifications**

* [Getting Started as a Business Analyst](https://www.linkedin.com/learning/paths/getting-started-as-a-business-analyst?u=49050689)
* [Improve Your Business Analysis Skills](https://www.linkedin.com/learning/paths/improve-your-business-analysis-skills?u=49050689)
* [Business Analysis: Essential Tools and Techniques](https://www.linkedin.com/learning/business-analysis-essential-tools-and-techniques/three-essential-business-analysis-techniques-everyone-should-know?u=49050689)
* [CBAP Exam Prep](https://www.linkedin.com/learning/studying-for-the-certified-business-analysis-professional-cbap/cbap-and-your-career?u=49050689)
* [IIBA ECBA](https://www.iiba.org/business-analysis-certifications/ecba/)
* [PRINCE2 (free offer)](https://simpli-web.app.link/e/Y1zh7JVKXMb)

 Data analyst courses

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|  |  |  |  |  |  |
| SQL Courses |  |  |  |  |  |
| # | Name | Time | Level | Description | website |
| 1 | SQL Essential Training | 4h 34m | Beginner | This course provides a solid foundation in SQL, covering basic queries, data manipulation, and data retrieval from databases. It's designed for absolute beginners and gradually introduces more complex concepts. | <https://www.linkedin.com/learning/sql-essential-training-20685933/the-data-driven-world-19067626> |
| 2 | Learning SQL Programming | 1hr 48m | Beginner | Focused on practical applications, this course teaches you how to write SQL queries to retrieve, manipulate, and analyze data effectively. It’s great for those who want to apply SQL in a real-world context. | <https://www.linkedin.com/learning/learning-sql-programming-8382385> |
| 3 | SQL: Data Reporting and Analysis: | 2h 32m | Intermediate | This course is tailored for those who want to use SQL for business analysis, helping you extract and analyze data from databases for reporting purposes. | <https://www.linkedin.com/learning/sql-data-reporting-and-analysis-18082247/don-t-let-your-reporting-system-hold-you-back> |
|  | SSAS |  |  | SQL Server Analysis Services    *From <*[*https://www.linkedin.com/learning/sql-server-analysis-services/scalable-data-modeling-with-analysis-services-tabular?u=49050689*](https://www.linkedin.com/learning/sql-server-analysis-services/scalable-data-modeling-with-analysis-services-tabular?u=49050689)*>* | <https://www.linkedin.com/learning/sql-server-analysis-services/scalable-data-modeling-with-analysis-services-tabular?u=49050689> |
| Oracle Courses: |  |  |  |  |  |
| # | Name | Time | Level | Description | website |
| 1 | Oracle Database 12c: Basic SQL | 3h 10m | Beginner | This training course is appropriate for beginning database developers with no prior experience with SQL or Oracle. | <https://www.linkedin.com/learning/oracle-database-12c-basic-sql/welcome> |
| 2 | Oracle Database 12c: SQL Fundamentals: |  | Beginner |  |  |
| 3 | Oracle Database 19c: Basic SQL | 3h 35m | Intermediate | This course focuses on the latest version of Oracle's database, providing up-to-date training on SQL basics and database management within Oracle 19c. | <https://www.linkedin.com/learning/oracle-database-19c-basic-sql/learning-oracle-database-sql-why-19c> |
|  |  |  |  |  |  |
| SQL Server |  |  |  |  |  |
| 1 | SQL for Data Analysis | 1h 10m | Intermediate | This course is integrated with GitHub Codespaces, an instant cloud developer environment that offers all the functionality of your favorite IDE without the need for any local machine setup. With GitHub Codespaces, you can get hands-on practice from any machine, at any time—all while using a tool that you’ll likely encounter in the workplace. Check out both Codespaces videos to learn how to get started. | <https://www.linkedin.com/learning/sql-for-data-analysis-22645200/using-sql-for-data-analysis> |
| 2 | SQL Server: Reporting Services | 3h 30m | Advanced | Discover how to build, edit, and publish interactive reports using Reporting Services in SQL Server. In this course, author Adam Wilbert shows how to create, format, and share reports that leverage a variety of data sources. | <https://www.linkedin.com/learning/sql-server-reporting-services/present-sql-data-with-reporting-services> |
| 3 | SQL Server Integration Services | 2h 28m | Advanced | SQL Server Integration Services (SSIS) is one of the core add-on components to SQL Server. With SSIS, professionals can create automated workflows that streamline the process of consolidating data from a wide variety of sources. Through a process called ETL—extract, transform, and load—you can ingest and move data between systems such as other databases, flat data files, and even online repositories. In this course, Adam Wilbert helps you get up and running with SSIS. Adam shows how to work with different control flow tasks, data sources, connections, and transformations. Plus, see how to add variables to control package execution, run packages with T-SQL, and more. | <https://www.linkedin.com/learning/sql-server-integration-services-2/integrate-your-data-with-sql-server-integration-services-ssis> |
| 4 | Microsoft SQL Server 2022 Essential Training | 5h 23m | Beginner | Microsoft SQL Server 2022 Essential Training | <https://www.linkedin.com/learning/microsoft-sql-server-2022-essential-training/create-databases-with-sql-server-2022> |
|  |  |  |  |  |  |
| Learn about spatial data |  |  |  |  |  |
| 1 | Latitude and Longitude with the Geography Data Type | 2m | N/A |  | <https://www.youtube.com/watch?v=gVneM-ImN9A&list=PL_jn5jikluSL-r5HJuhr5nTQ3iT_8sINU> |
| 2 | Query Spatial Data for Nearest Neighbor | N/A | N/A | Nearest Neighbor queries are used to find the closest spatial objects to a specific spatial object. For example a store locater for a Web site often must find the closest store locations to a customer location. | <https://learn.microsoft.com/en-us/sql/relational-databases/spatial/query-spatial-data-for-nearest-neighbor?view=sql-server-ver16> |
| Learn about Data warehouse |  |  |  |  |  |
|  | DW1 |  |  |  | <https://www.linkedin.com/learning/implementing-a-data-warehouse-with-microsoft-sql-server-2012/welcome?u=49050689> |
|  | DW2 |  |  |  | <https://www.linkedin.com/learning/implementing-a-data-warehouse-sql-server-2019/store-information-in-a-data-warehouse?u=49050689> |

Report writer

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| VCSQL Courses |  |  |  |  |  |
| # | Name | Time | Level | Description | website |
| 1 | SQL Essential Training | 4h 34m | Beginner | This course provides a solid foundation in SQL, covering basic queries, data manipulation, and data retrieval from databases. It's designed for absolute beginners and gradually introduces more complex concepts. | <https://www.linkedin.com/learning/sql-essential-training-20685933/the-data-driven-world-19067626> |
| 2 | Learning SQL Programming | 1hr 48m | Beginner | Focused on practical applications, this course teaches you how to write SQL queries to retrieve, manipulate, and analyze data effectively. It’s great for those who want to apply SQL in a real-world context. | <https://www.linkedin.com/learning/learning-sql-programming-8382385> |
| 3 | SQL: Data Reporting and Analysis: | 2h 32m | Intermediate | This course is tailored for those who want to use SQL for business analysis, helping you extract and analyze data from databases for reporting purposes. | <https://www.linkedin.com/learning/sql-data-reporting-and-analysis-18082247/don-t-let-your-reporting-system-hold-you-back> |
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|  |  |  |  |  |  |
| SQL Server |  |  |  |  |  |
| 1 | SQL for Data Analysis | 1h 10m | Intermediate | This course is integrated with GitHub Codespaces, an instant cloud developer environment that offers all the functionality of your favorite IDE without the need for any local machine setup. With GitHub Codespaces, you can get hands-on practice from any machine, at any time—all while using a tool that you’ll likely encounter in the workplace. Check out both Codespaces videos to learn how to get started. | <https://www.linkedin.com/learning/sql-for-data-analysis-22645200/using-sql-for-data-analysis> |
| 2 | SQL Server: Reporting Services | 3h 30m | Advanced | Discover how to build, edit, and publish interactive reports using Reporting Services in SQL Server. In this course, author Adam Wilbert shows how to create, format, and share reports that leverage a variety of data sources. | <https://www.linkedin.com/learning/sql-server-reporting-services/present-sql-data-with-reporting-services> |
| 3 |  |  |  |  |  |
| 4 | Microsoft SQL Server 2022 Essential Training | 5h 23m | Beginner | Microsoft SQL Server 2022 Essential Training | <https://www.linkedin.com/learning/microsoft-sql-server-2022-essential-training/create-databases-with-sql-server-2022> |
|  |  |  |  |  |  |
| Learn about spatial data |  |  |  |  |  |
| 1 | Latitude and Longitude with the Geography Data Type | 2m | N/A |  | <https://www.youtube.com/watch?v=gVneM-ImN9A&list=PL_jn5jikluSL-r5HJuhr5nTQ3iT_8sINU> |
| 2 | Query Spatial Data for Nearest Neighbor | N/A | N/A | Nearest Neighbor queries are used to find the closest spatial objects to a specific spatial object. For example a store locater for a Web site often must find the closest store locations to a customer location. | <https://learn.microsoft.com/en-us/sql/relational-databases/spatial/query-spatial-data-for-nearest-neighbor?view=sql-server-ver16> |
| Reporting Courses |  |  |  |  |  |
|  | PowerBI |  |  | data analysis by leveraging Microsoft Power BI,    *From <*[*https://www.linkedin.com/learning/paths/explore-a-career-as-a-power-bi-specialist?u=49050689*](https://www.linkedin.com/learning/paths/explore-a-career-as-a-power-bi-specialist?u=49050689)*>* | <https://www.linkedin.com/learning/paths/explore-a-career-as-a-power-bi-specialist?u=49050689> |
|  | PowerBI |  |  | **Prepare for the Power BI Data Analyst Associate (PL-300) Certification**    *From <*[*https://www.linkedin.com/learning/paths/prepare-for-the-power-bi-data-analyst-associate-pl-300-certification?u=49050689*](https://www.linkedin.com/learning/paths/prepare-for-the-power-bi-data-analyst-associate-pl-300-certification?u=49050689)*>* | <https://www.linkedin.com/learning/paths/prepare-for-the-power-bi-data-analyst-associate-pl-300-certification?u=49050689> |
|  | **Tableau** |  |  | **Tableau**  Prepare for certifications from Tableau with our expert-led training courses and learning paths.    *From <*[*https://www.linkedin.com/learning/topics/tableau-20259762?u=49050689*](https://www.linkedin.com/learning/topics/tableau-20259762?u=49050689)*>* | <https://www.linkedin.com/learning/tableau-certified-data-analyst-cert-prep/preparing-for-the-tableau-data-analyst-exam?u=49050689> |
|  | BusinessObjects |  |  | SAP BusinessObjects BI tools and covers the fundamentals of reporting and analysis. |  |
|  | BusinessObjects |  |  | SAP Web Intelligence for creating and analyzing reports |  |

BA

**Getting Started as a Business Analyst**

<https://www.linkedin.com/learning/paths/getting-started-as-a-business-analyst?u=49050689>

**Improve Your Business Analysis Skills**

<https://www.linkedin.com/learning/paths/improve-your-business-analysis-skills?u=49050689>

[Business Analysis: Essential Tools and Techniques](https://www.linkedin.com/learning/business-analysis-essential-tools-and-techniques?u=49050689)

[*https://www.linkedin.com/learning/business-analysis-essential-tools-and-techniques/three-essential-business-analysis-techniques-everyone-should-know?u=49050689*](https://www.linkedin.com/learning/business-analysis-essential-tools-and-techniques/three-essential-business-analysis-techniques-everyone-should-know?u=49050689)

Taking the Certified Business Analysis Professional™ (CBAP®) exam

<https://www.linkedin.com/learning/studying-for-the-certified-business-analysis-professional-cbap/cbap-and-your-career?u=49050689>

Other

<https://www.linkedin.com/learning/business-analysis-foundations-competencies/welcome-to-business-analysis-competencies-16436628?u=49050689>

**Additional Certification(paid one)**

<https://www.iiba.org/business-analysis-certifications/ecba/>

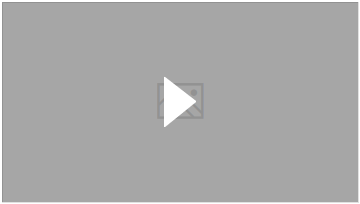
**Additional Certification(Free)**

Use this link for Prince2 certification for free

<https://simpli-web.app.link/e/Y1zh7JVKXMb>

CRM Certification

[Zoho CRM Training Masterclass | From Beginner To Power User | 2024](https://youtu.be/TmJyPwliaao?si=MTievelrKVIVP0gh)



Prince 2 foundation

BABOK

ITIL Foundation

HUMAN ECENTRIC DESIGN

DIFFERENT METHODLOGIES

IIBA – ONLINE COURSE (\*\*)

Developers:

**Developers**

S2 Individual checkout code from git and run the app

Create one folder for group and create development folder and all developers work on that code

S2: three apis each and develop front end with Reach, Vue and Angular

Use third party library - kendoUI

Do some learning\cources on

S3

Build dedicated app with a nice UI and a theme based (like bookstore, movie ticket booking)

Choose alternative front end (react, vue or Angular) from last week

Choose a nice css library for beautification

Try creating three apis with form validation on the screen

If possible try the below in the same app or separate app

FluentValidation <https://www.youtube.com/results?search_query=fluentvalidation>

<https://docs.fluentvalidation.net/en/latest/built-in-validators.html>

Fluent migrator - <https://fluentmigrator.github.io/articles/quickstart.html?tabs=runner-in-process>

Fluent migrator - there are some videos on tube on how to use it

Thrid party JS libraries - try these in separate apps

<https://www.telerik.com/kendo-ui>

<https://js.devexpress.com/>

Research on - Active directory & ldap queries, IIS, containers, message queue

Code templates in c# for - reading a file, sending a file , reading csv, sending a list as excel/csv, putting message in message queue, reading from MQ, sending email, asnyc calls, calling a web api from within a c# code

And the below sql cources

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SQL Essential Training | 4h 34m | Beginner | This course provides a solid foundation in SQL, covering basic queries, data manipulation, and data retrieval from databases. It's designed for absolute beginners and gradually introduces more complex concepts. | <https://www.linkedin.com/learning/sql-essential-training-20685933/the-data-driven-world-19067626> |
| Learning SQL Programming | 1hr 48m | Beginner | Focused on practical applications, this course teaches you how to write SQL queries to retrieve, manipulate, and analyze data effectively. It’s great for those who want to apply SQL in a real-world context. | <https://www.linkedin.com/learning/learning-sql-programming-8382385> |

And in future

console apps, windows scheduled jobs AD, sql server admin, AAG, ldap querry

Testers

**Do a course for ISTQB, ITIL foundation**

**Testing Methodologies:**

* **Manual Testing:** Learn how to test software manually to identify defects and ensure its functionality.
* **Automated Testing:** Familiarize yourself with tools and frameworks for automated testing to increase efficiency.
* **Testing Types:**
  + **Functional Testing:** Ensure that the software functions according to its specifications.
  + **Non-Functional Testing:** Test aspects like performance, security, usability, and compatibility.
  + **Regression Testing:** Verify that new changes don't negatively impact existing functionalities.
  + **User Acceptance Testing (UAT):** Validate that the software meets user expectations.
* **Defect Tracking:** Understand how to identify, report, and track defects using tools like Jira, Bugzilla, or similar systems.
* **Test Case Design:** Learn to create effective test cases that cover different scenarios and use cases.
* **API Testing:** Gain knowledge of testing application programming interfaces (APIs) using tools like Postman or Insomnia.
* **Database Testing:** Understand how to test the integrity, accuracy, and performance of databases.
* **Test Automation:** Familiarity with testing frameworks like Selenium, Cypress, or TestNG for automating repetitive test cases.

**Manual Testing:**

* Basic testing concepts (e.g., test cases, test plans)
* Functional and non-functional testing
* Exploratory testing
* Smoke and sanity testing
* User acceptance testing (UAT)
* Black box vs. white box testing

Setup tools and hello world test using Selenium, postman, soapUI and jMeter, LoadRunner

S3:

API testing And Automation - Test automation frameworks (e.g., Page Object Model, Data-Driven Testing)

Performance Testing - Load, stress topics and how to ?

S4: Jira, TestRail using tools to manage test cases and tracking

**Tools and Technologies:**

* **Testing Tools:**
  + **Selenium:** For web application automation testing.
  + **Jenkins:** For continuous integration and automated testing.
  + **Postman:** For API testing and exploring.
  + **Jira or Trello:** For defect tracking and project management.
* **Version Control Platforms:** Utilize Git and platforms like GitHub or GitLab for version control and collaborative development.
* **Virtualization:** Familiarize yourself with tools like VirtualBox or VMware for creating testing environments.
* **Browser Developer Tools:** Understand how to use browser developer tools for troubleshooting web applications.
* **Test Management Tools:** Tools like TestRail for organizing, managing, and tracking test cases and test results.
* **Load Testing Tools:** For performance testing, tools like JMeter or Gatling can be beneficial.