**Week 1: Foundations and Core Skills**

**Day 1-2: Introduction to SSIS and ETL Concepts**

* **Objective:** Understand the basics of ETL, SSIS architecture, and key SSIS tools.
* **Topics:**
  + Overview of ETL (Extract, Transform, Load) processes
  + SSIS architecture, components, and use cases
* **Resources:**
  + Microsoft Docs: [SSIS Overview](https://learn.microsoft.com/en-us/sql/integration-services/)
  + Introductory YouTube videos on ETL and SSIS
* **Practice:**
  + Install SQL Server Data Tools (SSDT) and set up SSIS in Visual Studio.
  + Familiarize yourself with the SSIS interface.

**Day 3-4: Building Your First SSIS Package**

* **Objective:** Create a simple ETL package in SSIS to load data from a source to a destination.
* **Topics:**
  + Creating a new SSIS project and package
  + Adding data sources (e.g., flat files, SQL Server databases)
  + Using Data Flow Tasks for data extraction, transformation, and loading
* **Practice:**
  + Create a package that imports data from a flat file into a SQL Server table.
* **Resources:**
  + Microsoft Docs: [Create a Simple ETL Package](https://learn.microsoft.com/en-us/sql/integration-services/tutorial-sql-server-integration-services-ssis)

**Day 5-6: Control Flow and Data Flow Tasks**

* **Objective:** Master the basics of control flow and data flow tasks.
* **Topics:**
  + Control Flow vs. Data Flow
  + Common tasks: Execute SQL Task, File System Task, Data Flow Task
* **Practice:**
  + Build a package that combines control flow tasks with a data flow task for a more comprehensive ETL process.
* **Resources:**
  + Articles or videos covering Control Flow and Data Flow in SSIS

**Day 7: Variables and Expressions**

* **Objective:** Learn to use variables and expressions for dynamic data handling.
* **Topics:**
  + Setting and configuring variables
  + Using expressions in properties for dynamic control
* **Practice:**
  + Create a package using variables to dynamically change data flow properties, such as file paths or connection strings.

**Week 2: Advanced Features and Real-World Scenarios**

**Day 8-9: Data Transformations**

* **Objective:** Use transformations to manipulate and prepare data in SSIS.
* **Topics:**
  + Common transformations: Lookup, Derived Column, Aggregate, Sort, Conditional Split
* **Practice:**
  + Create an ETL package with at least three transformations to process and clean data.
* **Resources:**
  + Transformation tutorials on YouTube or online courses like LinkedIn Learning or Pluralsight

**Day 10: Error Handling and Logging**

* **Objective:** Set up error handling and logging in SSIS for effective monitoring.
* **Topics:**
  + Configuring error outputs and data redirection
  + Using logging to capture package execution details
* **Practice:**
  + Create a package that includes error handling for failed records and logs important information.
* **Resources:**
  + Microsoft Docs: [Logging in SSIS](https://learn.microsoft.com/en-us/sql/integration-services/performance/logging-in-integration-services)

**Day 11-12: SSIS Deployment and Configuration**

* **Objective:** Learn to deploy and configure SSIS packages in a production environment.
* **Topics:**
  + SSIS deployment models: Package Deployment and Project Deployment
  + Using SQL Server Agent for scheduling packages
* **Practice:**
  + Deploy an SSIS package to a test environment and schedule it to run at a specific time.
* **Resources:**
  + Articles and videos on SSIS deployment and SQL Server Agent integration

**Day 13: Performance Tuning and Optimization**

* **Objective:** Understand and apply SSIS performance tuning techniques.
* **Topics:**
  + Buffer management, data flow tuning, and parallelism
* **Practice:**
  + Optimize an existing SSIS package for better performance.
* **Resources:**
  + Microsoft Docs and blog posts on SSIS performance tuning tips

**Day 14: Project Capstone**

* **Objective:** Complete a comprehensive ETL project to reinforce learned concepts.
* **Project:**
  + Design a full ETL process that involves data extraction, transformation, error handling, logging, and deployment.
  + Use as many SSIS features as possible, like variables, expressions, transformations, and scheduling.
* **Deliverable:** Document your project, including an explanation of each step, and any challenges faced and solved.