30-Day Curiosity Quest

Instructions:

1. Each day, write down **one curiosity-driven question** that came to mind.
2. Record how you solved it or found the answer:

- **Self-Research** – Google, books, courses, AI tools
- **Asked a Peer** – Colleague, teammate, mentor
- **Asked a Leader** – Manager, senior professional, expert

3. Upload your **work-in-progress tracker** to the LMS at the end of **7 days**.
4. Continue the challenge for **30 days** and upload your **completed tracker** at the end of the challenge.

Example:

Date	Question	How I Found the Answer	Key Learning
DD/MM	What is the best way to optimize a database query?	Self-Research (Google)	Indexing improves query speed
DD/MM	How do senior developers handle code reviews?	Asked a Peer	Focus on clarity, maintainability, and logic

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30-Day Curiosity Tracker

Day&Date	Curiosity Question	How I Found the Answer (Self-Research / Peer / Leader)	Key Learning
Day 1	What should I focus on while reviewing a lengthy PR?	Asked a Leader	Improved PR review skills
Day 2	How can I improve the performance of a .NET API?	Self-Research (Google, Docs)	Optimized API response times using caching and async methods
Day 3	What are the best practices for handling large messages in RabbitMQ?	Self-Research (Official Docs, Blogs)	Using message compression and batching reduces overhead
Day 4	How does AWS IAM role chaining work?	Asked a Peer	IAM role chaining allows temporary access without storing credentials
Day 5	What is the difference between a factory pattern and a strategy pattern?	Self-Research (Books, Tutorials)	Factory pattern is for object creation; strategy pattern is for behavior changes
Day 6	How can I optimize queries in Snowflake?	Self-Research (Google, Official Docs)	Using clustering and query optimization boosts performance

Day 7	**How does MassTransit handle retries and fault handling?**	**Asked a Peer**	**MassTransit handles retries via middleware, reducing failure rates**
Day 8	**Review & Upload: Work-in-progress tracker uploaded to LMS**		
Day 9	**What are the key differences between SQL Server and PostgreSQL?**	**Self-Research (Comparison Blogs)**	**PostgreSQL supports JSONB, which is useful for flexible schemas**
Day 10	**How do microservices communicate efficiently in a distributed system?**	**Asked a Leader**	**Event-driven systems improve scalability but require careful orchestration**
Day 11	**What are the best logging strategies for .NET applications?**	**Self-Research (Logging Framework Docs)**	**Structured logging and correlation IDs help trace issues**
Day 12	**How do I debug a failing AWS Lambda function?**	**Self-Research (AWS Docs, Debugging Guide)**	**AWS CloudWatch logs help analyze Lambda failures**
Day 13	**What are the advantages of using Redis for caching?**	**Self-Research (Technical Articles, Blogs)**	**Redis improves response time by reducing database calls**
Day 14	**Midway Check-in: Reflect on progress so far**		

Day 15	**How does dependency injection improve code maintainability?**	**Self-Research (Design Pattern Guides)**	**Dependency injection makes code loosely coupled and testable**
Day 16	**What are the security best practices for .NET applications?**	**Self-Research (Security Best Practices)**	**Using OWASP guidelines ensures application security**
Day 17	**How do I troubleshoot performance issues in an ASP.NET Core app?**	**Asked a Peer**	**Profiling tools help identify bottlenecks**
Day 18	**What are the benefits of using Kubernetes for container orchestration?**	**Self-Research (Kubernetes Docs)**	**Kubernetes automates container management and scaling**
Day 19	**How do I analyze slow queries in SQL Server?**	**Self-Research (SQL Server Performance Guides)**	**Query execution plans help diagnose slow queries**
Day 20	**What are the best ways to handle concurrency in C#?**	**Self-Research (Concurrency Docs)**	**Optimistic locking and concurrent queues prevent data conflicts**
Day 21	**How does GraphQL differ from REST API?**	**Self-Research (GraphQL Docs, API Guides)**	**GraphQL offers flexibility but requires careful query management**
Day 22	**What are the key concepts behind event-driven architecture?**	**Asked a Leader**	**Event-driven architecture improves modularity**

Day 23	**How do I properly configure AWS S3 permissions?**	**Self-Research (AWS Documentation)**	**IAM policies should follow the principle of least privilege**
Day 24	**What are the advantages of using Elasticsearch for searching?**	**Self-Research (Elasticsearch Docs, Case Studies)**	**Elasticsearch improves search speed using inverted indexes**
Day 25	**How do I efficiently handle pagination in APIs?**	**Asked a Peer**	**Using cursor-based pagination improves performance**
Day 26	**What are the trade-offs between using a monolithic vs microservices architecture?**	**Self-Research (Architecture Blogs)**	**Monolithic architecture is simpler, but microservices offer scalability**
Day 27	**How can I improve unit testing strategies in .NET?**	**Asked a Peer**	**Unit testing improves maintainability and reduces regression**
Day 28	**What is the impact of index fragmentation in databases?**	**Self-Research (Database Performance Blogs)**	**Defragmenting indexes improves query speed**
Day 29	**How does OAuth 2.0 work in authentication?**	**Self-Research (OAuth 2.0 Docs)**	**OAuth 2.0 provides secure access control for APIs**
Day 30	**How do I ensure high availability in cloud-based applications?**	**Self-Research (Cloud Computing Best Practices)**	**Load balancing and failover strategies ensure high availability**

Final Reflection & Upload	**Final Reflection & Upload: Completed tracker uploaded to LMS**		

Tip: If a task feels too big, break it down into a smaller, achievable step. 😊