

# ASP.NET CORE APPLICATION DEVELOPMENT BUILDING AN APPLICATION IN FOUR SPRINTS

## EBOOK DESCRIPTION: ASP.NET CORE APPLICATION DEVELOPMENT: BUILDING AN APPLICATION IN FOUR SPRINTS

THIS EBOOK PROVIDES A PRACTICAL, HANDS-ON GUIDE TO BUILDING A REAL-WORLD ASP.NET CORE APPLICATION FROM START TO FINISH WITHIN A STRUCTURED FOUR-SPRINT AGILE FRAMEWORK. IT'S IDEAL FOR DEVELOPERS WITH SOME C# AND .NET EXPERIENCE LOOKING TO BUILD ROBUST, SCALABLE WEB APPLICATIONS USING THE LATEST TECHNOLOGIES. THE BOOK GOES BEYOND THEORETICAL CONCEPTS, EMPHASIZING PRACTICAL IMPLEMENTATION AND BEST PRACTICES THROUGHOUT THE DEVELOPMENT LIFECYCLE. READERS WILL GAIN VALUABLE EXPERIENCE IN PLANNING, DESIGNING, CODING, TESTING, AND DEPLOYING AN ASP.NET CORE APPLICATION, LEARNING TO MANAGE TIME EFFECTIVELY AND DELIVER WORKING SOFTWARE ITERATIVELY. THE FOCUS ON A SPRINT-BASED APPROACH EMPHASIZES AGILE METHODOLOGIES, CRUCIAL FOR MODERN SOFTWARE DEVELOPMENT, ENSURING A FASTER TIME TO MARKET AND INCREASED ADAPTABILITY TO CHANGING REQUIREMENTS. THIS BOOK IS SIGNIFICANT BECAUSE IT BRIDGES THE GAP BETWEEN THEORETICAL KNOWLEDGE AND PRACTICAL APPLICATION, EMPOWERING DEVELOPERS TO BUILD FUNCTIONAL AND MAINTAINABLE APPLICATIONS EFFICIENTLY. ITS RELEVANCE LIES IN ITS FOCUS ON ASP.NET CORE, A LEADING FRAMEWORK FOR BUILDING MODERN WEB APPLICATIONS, AND ITS ADOPTION OF AN INDUSTRY-STANDARD AGILE DEVELOPMENT METHODOLOGY.

## EBOOK TITLE: AGILE ASP.NET CORE: A FOUR-SPRINT JOURNEY

OUTLINE:

INTRODUCTION: WHAT IS ASP.NET CORE? WHY AGILE? SETTING THE STAGE FOR SUCCESS.

SPRINT 1: PROJECT SETUP & CORE FEATURES: PLANNING, DATABASE DESIGN, SETTING UP THE DEVELOPMENT ENVIRONMENT, IMPLEMENTING BASIC CRUD OPERATIONS.

SPRINT 2: ENHANCING FUNCTIONALITY: IMPLEMENTING USER AUTHENTICATION, ADDING ADVANCED FEATURES (E.G., SEARCH, FILTERING, REPORTING), TESTING IMPROVEMENTS.

SPRINT 3: REFINEMENT & OPTIMIZATION: IMPROVING USER INTERFACE, PERFORMANCE OPTIMIZATION, SECURITY HARDENING, IMPLEMENTING LOGGING AND MONITORING.

SPRINT 4: DEPLOYMENT & MAINTENANCE: DEPLOYMENT STRATEGIES, SETTING UP CONTINUOUS INTEGRATION/CONTINUOUS DEPLOYMENT (CI/CD), POST-DEPLOYMENT MONITORING AND MAINTENANCE.

CONCLUSION: RECAP, LESSONS LEARNED, FUTURE ENHANCEMENTS, AND RESOURCES FOR CONTINUED LEARNING.

## ARTICLE: AGILE ASP.NET CORE: A FOUR-SPRINT JOURNEY

### INTRODUCTION: LAYING THE FOUNDATION FOR AGILE ASP.NET CORE DEVELOPMENT

CHOOSING THE RIGHT TECHNOLOGY STACK AND METHODOLOGY IS CRUCIAL FOR SUCCESSFUL SOFTWARE DEVELOPMENT. THIS EBOOK FOCUSES ON BUILDING AN ASP.NET CORE APPLICATION USING AN AGILE, SPRINT-BASED APPROACH. ASP.NET CORE, A FREE AND OPEN-SOURCE, HIGH-PERFORMANCE FRAMEWORK FOR BUILDING WEB APPLICATIONS, PROVIDES A ROBUST PLATFORM FOR BUILDING MODERN, SCALABLE APPLICATIONS. AGILE METHODOLOGIES, SUCH AS SCRUM, EMPHASIZE ITERATIVE DEVELOPMENT, COLLABORATION, AND CONTINUOUS IMPROVEMENT. COMBINING THESE TWO ALLOWS FOR FASTER DEVELOPMENT CYCLES, INCREASED FLEXIBILITY, AND HIGHER CUSTOMER SATISFACTION.

THIS INTRODUCTORY CHAPTER SETS THE STAGE BY EXPLAINING THE FUNDAMENTALS OF BOTH ASP.NET CORE AND AGILE PRINCIPLES. WE'LL COVER KEY CONCEPTS LIKE:

UNDERSTANDING ASP.NET CORE: WE'LL EXPLORE ITS ARCHITECTURE, KEY FEATURES (LIKE MVC, RAZOR PAGES, AND DEPENDENCY INJECTION), AND ITS ADVANTAGES OVER PREVIOUS .NET FRAMEWORKS.

**THE AGILE MINDSET:** WE'LL DISCUSS CORE AGILE PRINCIPLES, INCLUDING ITERATIVE DEVELOPMENT, INCREMENTAL DELIVERY, AND THE IMPORTANCE OF FEEDBACK. WE'LL ALSO BRIEFLY INTRODUCE SCRUM, A POPULAR AGILE FRAMEWORK, AND ITS KEY ELEMENTS (SPRINTS, BACKLOG, DAILY STAND-UPS, ETC.).

**PROJECT PLANNING:** THIS SECTION WILL COVER THE INITIAL STEPS INVOLVED IN PLANNING AN ASP.NET CORE PROJECT USING AN AGILE METHODOLOGY. THIS INCLUDES DEFINING USER STORIES, CREATING A PRODUCT BACKLOG, AND ESTIMATING EFFORT.

**SETTING UP THE DEVELOPMENT ENVIRONMENT:** WE'LL GUIDE YOU THROUGH SETTING UP YOUR DEVELOPMENT ENVIRONMENT, INCLUDING INSTALLING VISUAL STUDIO, CONFIGURING THE NECESSARY SDKS, AND CREATING YOUR FIRST ASP.NET CORE PROJECT.

## SPRINT 1: BUILDING THE CORE FUNCTIONALITY

THIS SPRINT FOCUSES ON LAYING THE GROUNDWORK FOR YOUR APPLICATION. WE'LL CONCENTRATE ON ESTABLISHING THE CORE FEATURES, DESIGNING THE DATABASE, AND IMPLEMENTING BASIC CRUD (CREATE, READ, UPDATE, DELETE) OPERATIONS. KEY TASKS INCLUDE:

**DATABASE DESIGN:** WE'LL EXPLORE DATABASE DESIGN PRINCIPLES AND CHOOSE A SUITABLE DATABASE SYSTEM (E.G., SQL SERVER, POSTGRESQL). WE WILL THEN DESIGN THE DATABASE SCHEMA BASED ON THE PROJECT REQUIREMENTS.

**ENTITY FRAMEWORK CORE:** WE'LL LEVERAGE ENTITY FRAMEWORK CORE (EF CORE), AN ORM (OBJECT-RELATIONAL MAPPER) THAT SIMPLIFIES DATABASE INTERACTIONS, TO CREATE MODELS REPRESENTING OUR DATA.

**API DESIGN AND IMPLEMENTATION:** WE'LL DESIGN AND IMPLEMENT RESTFUL APIS USING ASP.NET CORE MVC CONTROLLERS. THESE APIS WILL HANDLE CRUD OPERATIONS FOR OUR CORE DATA.

**BASIC USER INTERFACE (UI):** A SIMPLE, FUNCTIONAL UI WILL BE CREATED USING RAZOR PAGES OR MVC VIEWS. THIS UI WILL ALLOW USERS TO INTERACT WITH THE CORE FEATURES OF THE APPLICATION.

**TESTING:** WE'LL INTRODUCE UNIT TESTING USING FRAMEWORKS LIKE XUNIT AND MOQ, ENSURING THE CODE QUALITY AND FUNCTIONALITY.

## SPRINT 2: ENHANCING FUNCTIONALITY AND USER EXPERIENCE

WITH THE CORE FEATURES ESTABLISHED, SPRINT 2 FOCUSES ON ENHANCING THE APPLICATION'S FUNCTIONALITY AND USER EXPERIENCE. KEY IMPROVEMENTS INCLUDE:

**USER AUTHENTICATION AND AUTHORIZATION:** WE'LL IMPLEMENT SECURE USER AUTHENTICATION AND AUTHORIZATION USING ASP.NET CORE IDENTITY OR EXTERNAL AUTHENTICATION PROVIDERS.

**ADVANCED FEATURES:** WE'LL ADD MORE SOPHISTICATED FEATURES BASED ON THE PROJECT BACKLOG, SUCH AS SEARCHING, FILTERING, SORTING, AND REPORTING CAPABILITIES.

**UI ENHANCEMENTS:** WE'LL IMPROVE THE USER INTERFACE, FOCUSING ON USER-FRIENDLINESS, AESTHETICS, AND RESPONSIVENESS. WE MAY INCORPORATE CLIENT-SIDE FRAMEWORKS LIKE JAVASCRIPT AND CSS FOR IMPROVED INTERACTIVITY.

**IMPROVED TESTING:** WE'LL EXPAND OUR TESTING STRATEGY TO INCLUDE INTEGRATION TESTS AND POTENTIALLY UI TESTS, ENSURING THAT DIFFERENT PARTS OF THE APPLICATION WORK TOGETHER SEAMLESSLY.

## SPRINT 3: REFINEMENT, OPTIMIZATION, AND SECURITY

SPRINT 3 CONCENTRATES ON REFINING THE APPLICATION, OPTIMIZING ITS PERFORMANCE, AND ENHANCING SECURITY. THIS INVOLVES:

**PERFORMANCE OPTIMIZATION:** WE'LL ANALYZE AND OPTIMIZE THE APPLICATION'S PERFORMANCE, FOCUSING ON AREAS LIKE DATABASE QUERIES, API CALLS, AND CACHING MECHANISMS.

**SECURITY HARDENING:** WE'LL IMPLEMENT ROBUST SECURITY MEASURES, INCLUDING INPUT VALIDATION, OUTPUT ENCODING, AND PROTECTION AGAINST COMMON WEB VULNERABILITIES (E.G., SQL INJECTION, CROSS-SITE SCRIPTING).

**LOGGING AND MONITORING:** WE'LL INTEGRATE LOGGING AND MONITORING TOOLS TO TRACK APPLICATION PERFORMANCE AND IDENTIFY POTENTIAL ISSUES.

**UI POLISHING:** FURTHER UI ENHANCEMENTS WILL BE MADE BASED ON USER FEEDBACK AND TESTING RESULTS.

## SPRINT 4: DEPLOYMENT AND MAINTENANCE

THE FINAL SPRINT FOCUSES ON DEPLOYING THE APPLICATION AND ESTABLISHING A MAINTENANCE PLAN.

DEPLOYMENT STRATEGIES: WE'LL EXPLORE VARIOUS DEPLOYMENT STRATEGIES, SUCH AS DEPLOYING TO AZURE, AWS, OR A LOCAL SERVER.

CI/CD IMPLEMENTATION: WE'LL SET UP A CI/CD PIPELINE TO AUTOMATE THE BUILD, TEST, AND DEPLOYMENT PROCESSES.

POST-DEPLOYMENT MONITORING: WE'LL ESTABLISH PROCEDURES FOR MONITORING THE APPLICATION'S PERFORMANCE AND STABILITY AFTER DEPLOYMENT.

MAINTENANCE PLAN: WE'LL DEFINE A PLAN FOR ONGOING MAINTENANCE, INCLUDING BUG FIXES, UPDATES, AND FUTURE FEATURE ADDITIONS.

## CONCLUSION: LESSONS LEARNED AND FUTURE DIRECTIONS

THIS CONCLUDING CHAPTER SUMMARIZES THE KEY TAKEAWAYS FROM THE FOUR-SPRINT JOURNEY. WE'LL REVIEW THE CHALLENGES FACED, THE SOLUTIONS IMPLEMENTED, AND THE LESSONS LEARNED THROUGHOUT THE DEVELOPMENT PROCESS. WE'LL ALSO DISCUSS POTENTIAL FUTURE ENHANCEMENTS AND PROVIDE RESOURCES FOR CONTINUED LEARNING IN ASP.NET CORE AND AGILE DEVELOPMENT.

## FAQs:

1. WHAT PRIOR KNOWLEDGE IS REQUIRED FOR THIS EBOOK? BASIC C# PROGRAMMING SKILLS AND FAMILIARITY WITH .NET ARE RECOMMENDED.
2. WHAT TYPE OF APPLICATION WILL BE BUILT? A SAMPLE WEB APPLICATION, THE SPECIFICS OF WHICH WILL BE DEFINED EARLY IN THE PROCESS.
3. WHAT DATABASE WILL BE USED? THE CHOICE OF DATABASE (SQL SERVER, POSTGRESQL, ETC.) WILL BE DISCUSSED, AND ENTITY FRAMEWORK CORE WILL BE USED FOR DATA ACCESS.
4. WHAT TESTING METHODOLOGIES WILL BE COVERED? UNIT TESTING, INTEGRATION TESTING, AND POTENTIALLY UI TESTING WILL BE DISCUSSED AND IMPLEMENTED.
5. WHAT DEPLOYMENT METHODS WILL BE COVERED? VARIOUS DEPLOYMENT OPTIONS, INCLUDING CLOUD DEPLOYMENTS (AZURE, AWS), WILL BE EXPLORED.
6. IS THIS EBOOK SUITABLE FOR BEGINNERS? WHILE SOME PRIOR .NET EXPERIENCE IS HELPFUL, THE BOOK IS STRUCTURED TO GUIDE BEGINNERS THROUGH THE PROCESS.
7. WHAT TOOLS AND TECHNOLOGIES ARE USED? VISUAL STUDIO, ASP.NET CORE, ENTITY FRAMEWORK CORE, AND VARIOUS TESTING AND DEPLOYMENT TOOLS.
8. WILL SOURCE CODE BE PROVIDED? YES, THE EBOOK WILL INCLUDE SAMPLE CODE AND PROJECT TEMPLATES.
9. WHAT IF I HAVE QUESTIONS AFTER READING THE EBOOK? ADDITIONAL SUPPORT AND RESOURCES WILL BE PROVIDED.

## RELATED ARTICLES:

1. BUILDING RESTFUL APIs WITH ASP.NET CORE: EXPLORES THE CREATION OF ROBUST AND SCALABLE RESTFUL APIs USING ASP.NET CORE MVC.

2. MASTERING ENTITY FRAMEWORK CORE: A DEEP DIVE INTO ENTITY FRAMEWORK CORE, COVERING ADVANCED FEATURES AND BEST PRACTICES.
3. IMPLEMENTING USER AUTHENTICATION IN ASP.NET CORE: A DETAILED GUIDE TO SECURING ASP.NET CORE APPLICATIONS WITH VARIOUS AUTHENTICATION METHODS.
4. AGILE SOFTWARE DEVELOPMENT BEST PRACTICES: EXPLORES AGILE METHODOLOGIES IN DETAIL, FOCUSING ON SCRUM AND KANBAN.
5. DEPLOYING ASP.NET CORE APPLICATIONS TO AZURE: A STEP-BY-STEP GUIDE TO DEPLOYING ASP.NET CORE APPLICATIONS TO THE MICROSOFT AZURE CLOUD PLATFORM.
6. PERFORMANCE OPTIMIZATION TECHNIQUES FOR ASP.NET CORE: COVERS VARIOUS TECHNIQUES FOR IMPROVING THE PERFORMANCE OF ASP.NET CORE APPLICATIONS.
7. SECURING ASP.NET CORE APPLICATIONS FROM COMMON VULNERABILITIES: FOCUSES ON PREVENTING COMMON WEB VULNERABILITIES, SUCH AS SQL INJECTION AND CROSS-SITE SCRIPTING.
8. INTRODUCTION TO CI/CD FOR ASP.NET CORE: A BEGINNER-FRIENDLY GUIDE TO SETTING UP A CONTINUOUS INTEGRATION AND CONTINUOUS DELIVERY PIPELINE.
9. TESTING STRATEGIES FOR ASP.NET CORE APPLICATIONS: A COMPREHENSIVE OVERVIEW OF DIFFERENT TESTING TECHNIQUES, INCLUDING UNIT TESTING, INTEGRATION TESTING, AND UI TESTING.

## ADDITIONAL RESOURCES

### WOODLAND PARK ZOO | OPENCARRY.ORG - A RIGHT UNEX...

MAR 6, 2009 · IN 2002, THE CITY OF SEATTLE TRANSFERRED MANAGEMENT AND FINANCIAL RESPONSIBILITY OF WOODLAND PARK ZOO TO THE WOODLAND PARK ZOOLOGICAL ...

### WOODLAND PARK ZOO | PAGE 3 | OPENCARRY.ORG - A RIGHT UNEX...

MAR 5, 2009 · THE WAY I SEE IT, ANY REGULATION OR ATTEMPT BY THEM TO PROHIBIT FIREARMS IN THE ZOO IS A LEGAL NULLITY. WHILE THEY MAY TRY TO CLAIM ...

### IN YOUR STATE: CAN YOU CARRY IN A PUBLIC ZOO? - OPENCARRY.ORG

NOV 17, 2015 · THE ZOO HAS ALREADY CLAIMED THE "END OF THE WORLD" IF CARRY WAS ALLOWED IN THE ZOO - WHICH BEGS THE QUESTION " CAN ONE CARRY (CC OR OC) ...

### BINDER PARK ZOO; LEAVE YOUR GUN IN THE CAR...

JUN 27, 2010 · THE FAMILY AND I WENT TO BINDER PARK ZOO (BATTLE CREEK MI.) THIS WEEKEND. IT IS A GREAT ZOO AND WE GLADLY MAKE THE DRIVE. I HAD NOT OC'D THERE ...

### COS & WOODLAND PARK - ANYTHING NEW? | OPENCARRY.O...

NOV 6, 2014 · PLANNING FOR A TRIP TO COS AND WOODLAND PARK. FROM WHAT I'VE READ HERE, IT LOOKS LIKE OC IS A NON-ISSUE MOST PLACES IN COS AND TELLER ...

### DW/SERVICE, DARMOWY ZDALNY PULPIT, GODNY ZASTĘPICA KOMERCYJNEGO TEAMVIEWER...

AUG 17, 2018 · CZY DW/SERVICE TO DARMOWY ZDALNY PULPIT, KTÓRY MOŻE ZASTĘPIĆ TEAMVIEWER? JAKIE MA FUNKCJE, TAKIE JAK TRANSFER PLIKÓW I DOSTĘP Z PRZEGLĄDARKI? ...

### DW/SERVICE.NET - DARMOWY ZAMIENNIK KOMERCYJNEGO TEAMVIEWERA VS EKR...

APR 29, 2019 · CZEŚĆ ! CZY KTOŚ Z WAS MIAŁ DOŚWIADCZENIA Z DW/SERVICE JAKO ZAMIENNIKIEM TEAMVIEWER NA UBUNTU 18.04? PROBLEM Z BRAKIEM DOSTĘPU DO PULPITU BEZ ...

### ALTERNATYWA DLA TEAMVIEWER - POSZUKIWANIE OPROGRAMOWANIA

JUL 31, 2018 · WITAM, JUŻ JAKIŚ CZAS TEMU PISAŁEM I SZUKAM DARMOWEJ ALTERNATYWY DLA TEAMVIEWERA, Z CIEKAWYCH PROPOZYCJI KTÓRE NIE WYMAGAJĄ PUBLICZNEGO ADRESU IP ...

DOSTĘP DO PROGRAMU FIRMOWEGO PRZESIEŁ PRYWATNIE - PYTANIA O VPN...

JUN 10, 2021 · JAK SKONFIGUROWAĆ DOSTĘP DO PROGRAMU FIRMOWEGO ZDALNIE PRZESIEŁ PUTTY MOŻE POMÓC W POŁĄCZENIU Z SERWEREM? SZUKAM EFEKTYWNEGO ROZWIĄZANIA BEZ ...

doPDF 7.3.379 - DARMOWY KONWERTER PLIKÓW W PDF DO UŻYTKU KOMERCYJNEGO

MAY 3, 2025 · doPDF 7.3.379 TO DARMOWY KONWERTER PDF, KTERY DZIAŁA JAKO WIRTUALNA DRUKARKA. UMOŻLIWIŁOBY ONO TWORZENIE PLIKÓW W PDF Z KĄDEKGO PROGRAMU. SPRAWDŹ JEGO ...

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