

## Windows Windows 10 IoT Platform Overview Microsoft

Create fast, scalable, and high-performance applications with C# and ASP.NET Core

About This Book Get first-principle coverage of the latest ASP.NET Core MVC Find out how to bring together the capabilities and features of both Angular 2 and ASP.NET Core Discover common areas you might encounter performance problems with and areas you don't need to worry about Who This Book Is For This book is for developers who want to learn to build web applications using ASP.NET Core, those who want to make a career building web applications using Microsoft technology, and those who are working on other web frameworks and want to learn ASP.NET Core. What You Will Learn Get to know the concepts of ASP.NET MVC Create a Controller with action methods Build a view using several features of the Razor View engine Construct a Model for ASP.NET Core MVC application Find out how the features of ASP.NET Core and Angular 2 perfectly complement each other Handle requests and actions using server-side and client-side Routing Create a Data Model using Entity Framework Core Learn how to use Angular 2 components and master directives Improve performance at the network level and I/O level, and how to optimize the application as a whole Monitor performance as part of Continuous Integration and regression testing In Detail ASP.NET Core is the new, open source, and cross-platform, web-application framework from Microsoft. ASP.NET Core MVC helps you build robust web applications using the Model-View-Controller design. This guide will help you in building applications that can be deployed on non-Windows platforms such as Linux. Starting with an overview of the MVC pattern, you will quickly dive into the aspects that you need to know to get started with ASP.NET. You will learn about the core architecture of model, view, and control. Integrating your application with Bootstrap, validating user input, interacting with databases, and deploying your application are some of the things that you will learn to execute with this fast-paced guide. You will test your knowledge as you build a fully working sample application using the skills you've learned throughout the book. Moving forward, this guide will teach you to combine the impressive capabilities of ASP.NET Core and Angular 2. Not only will you learn how Angular 2 can complement your .NET skills and toolkit, you'll also learn everything you need to build a complete, dynamic single-page application. Find out how to get your data model in place and manage an API, before styling and designing your frontend for an exceptional user experience. You will find out how to optimize your application for SEO, identify and secure vulnerabilities, and how to successfully deploy and maintain your application. From here, you will delve into the latest frameworks and software design patterns to improve your application performance. The course offers premium, highly practical content on the recently released ASP.NET Core, and includes material from the following Packt books: Learning ASP.NET Core MVC Programming, ASP.NET Core and Angular 2, and ASP.NET Core 1.0 High Performance. Style and approach This learning path takes a first-principles approach to help you understand and implement ASP.NET MVC solutions.

Use this collection of best practices and tips for assessing the health of a solution. This book provides detailed techniques and instructions to quickly diagnose aspects of your Azure cloud solutions. The initial chapters of this book introduce you to the many facets of Microsoft Azure, explain why and how building for the cloud differs from on-premise

development, and outline the need for a comprehensive strategy to debugging and profiling in Azure. You learn the major types of blades (FaaS, SaaS, PaaS, IaaS), how different views can be created for different scenarios, and you will become familiar with the Favorites section, Cost Management & Billing blade, support, and Cloud Shell. You also will know how to leverage Application Insights for application performance management, in order to achieve a seamless cloud development experience. Application Insights, Log Analytics, and database storage topics are covered. The authors further guide you on identity security with Azure AD and continuous delivery with CI and CD covered in detail along with the capabilities of Azure DevOps. And you are exposed to external tooling and trouble shooting in a production environment. After reading this book, you will be able to apply methods to key Azure services, including App Service (Web Apps, Function Apps, and Logic Apps), Cloud Services, Azure Container Service, Azure Active Directory, Azure Storage, Azure SQL Database, Cosmos DB, Log Analytics, and many more. What You Will Learn Debug and manage the performance of your applications Leverage Application Insights for application performance management Extend and automate CI/CD with the help of various build tools, including Azure DevOps, TeamCity, and Cake bootstrapper Who This Book Is For Application developers, designers, and DevOps personnel who want to find a one-stop shop in best practices for managing their application's performance in the cloud and for debugging the issues accordingly

Over 50 recipes to drive IoT innovation with Microsoft Azure About This Book Build secure and scalable IoT solutions with Azure IoT platform Learn techniques to build end-to-end IoT solutions leveraging the Azure IoT platform Filled with practical recipes to help you increase connectivity and automation across IoT devices Who This Book Is For If you are an application developer and want to build robust and secure IoT solution for your organization using Azure IoT, then this book is for you. What You Will Learn Build IoT Solutions using Azure IoT & Services Learn device configuration and communication protocols Understand IoT Suite and Pre-configured solutions Manage Secure Device communications Understand Device management, alerts Introduction with IoT Analytics, reference IoT Architectures Reference Architectures from Industry Pre-Configured IoT Suite solutions In Detail Microsoft's end-to-end IoT platform is the most complete IoT offering, empowering enterprises to build and realize value from IoT solutions efficiently. It is important to develop robust and reliable solutions for your organization to leverage IoT services. This book focuses on how to start building custom solutions using the IoT hub or the preconfigured solution of Azure IoT suite. As a developer, you will be taught how to connect multiple devices to the Azure IoT hub, develop, manage the IoT hub service and integrate the hub with cloud. We will be covering REST APIs along with HTTP, MQTT and AMQP protocols. It also helps you learn Pre-Configured IoT Suite solution. Moving ahead we will be covering topics like:-Process device-to-cloud messages and cloud-to-device messages using .Net-Direct methods and device management-Query Language, Azure IoT SDK for .Net-Creating and managing, Securing IoT hub, IoT Suite and many more. We will be using windows 10 IoT core, Visual Studio, universal Windows platform. At the end, we will take you through IoT analytics and provide a demo of connecting real device with Azure IoT. Style and approach A set of exciting recipes of using Microsoft Azure IoT more effectively.

As industries are rapidly being digitalized and information is being more heavily stored and transmitted online, the security of information has become a top priority in securing the use of online networks as a safe and effective platform. With the vast and diverse potential of artificial intelligence (AI) applications, it has become easier than ever to identify cyber vulnerabilities, potential threats, and the identification of solutions to these unique problems. The latest tools and technologies for AI applications have untapped potential that conventional systems and human security systems cannot meet, leading AI to be a frontrunner in the fight against malware, cyber-attacks, and various security issues. However, even with the tremendous progress AI has made within the sphere of security, it's important to understand the impacts, implications, and critical issues and challenges of AI applications along with the many benefits and emerging trends in this essential field of security-based research. Research Anthology on Artificial Intelligence Applications in Security seeks to address the fundamental advancements and technologies being used in AI applications for the security of digital data and information. The included chapters cover a wide range of topics related to AI in security stemming from the development and design of these applications, the latest tools and technologies, as well as the utilization of AI and what challenges and impacts have been discovered along the way. This resource work is a critical exploration of the latest research on security and an overview of how AI has impacted the field and will continue to advance as an essential tool for security, safety, and privacy online. This book is ideally intended for cyber security analysts, computer engineers, IT specialists, practitioners, stakeholders, researchers, academicians, and students interested in AI applications in the realm of security research.

Internet of Things: Principles and Paradigms captures the state-of-the-art research in Internet of Things, its applications, architectures, and technologies. The book identifies potential future directions and technologies that facilitate insight into numerous scientific, business, and consumer applications. The Internet of Things (IoT) paradigm promises to make any electronic devices part of the Internet environment. This new paradigm opens the doors to new innovations and interactions between people and things that will enhance the quality of life and utilization of scarce resources. To help realize the full potential of IoT, the book addresses its numerous challenges and develops the conceptual and technological solutions for tackling them. These challenges include the development of scalable architecture, moving from closed systems to open systems, designing interaction protocols, autonomic management, and the privacy and ethical issues around data sensing, storage, and processing.

Addresses the main concepts and features of the IoT paradigm  
Describes different architectures for managing IoT platforms  
Provides insight on trust, security, and privacy in IoT environments  
Describes data management techniques applied to the IoT environment  
Examines the key enablers and solutions to enable practical IoT systems  
Looks at the key developments that support next generation IoT platforms  
Includes input from expert contributors from both academia and industry on building and deploying IoT platforms and applications

In this eBook, Onuora Amobi, former Microsoft MVP for Windows and the editor of [www.windows10update.com](http://www.windows10update.com) introduces the reader to Microsoft's newest ecosystem - Windows 10. The author meticulously starts at the beginning and guides you through the evolution of Windows from Windows 7, Microsoft's culture and what it has taken to

get Microsoft to this point. Some of what you'll learn: The evolution of Microsoft – Why Windows 10 was necessary. The new CEO – Satya Nadella's philosophy and how it's driving this change Windows 9 – what happened? How come Microsoft skipped this number? Windows 10 – not just a desktop upgrade – a complete ecosystem. Why this is important to know. Just how many versions of Windows 10 are there? Universal Applications are coming – how this will make your life easier. How developing for Windows products is about to get a lot easier. Cortana – Microsoft's new virtual assistant and how it could change computing. Project Spartan – How Microsoft is attempting to make browsing the web easier. Microsoft's role in the "Internet of Things" What happened to Windows RT? and much much more... Windows 10 is Microsoft's most ambitious undertaking and you will learn exactly how this new Operating System may change the face of computing forever.

This book helps you to get started with Windows 10 IoT Core for Raspberry Pi 3 board.

The following is highlight topic of this book: \* Introduction to Raspberry Pi 3 and Windows 10 \* Deploying Windows IoT Core on Raspberry Pi 3 \* Running and Configuring Windows 10 IoT Core \* Hello World - LED Blinking \* Raspberry Pi GPIO Programming \* Working with I2C/TWI Protocol \* Working with SPI Protocol \* Working with UART

Windows 10 core will run on PCs, tablets, Windows Phones and even the Xbox at some point in the future. This book was written to help anyone who wants to get started with Windows 10 core for Raspberry Pi 2. It describes all the basic elements of Windows 10 core for Raspberry Pi 2 with step-by-step approach. Program samples with C# are be provided to illustrate how to develop program for Windows 10 core. The following is a list of highlight topic in this book:\* Introduction to Raspberry Pi and Windows 10\* Deploying Windows 10 on Raspberry Pi 2\* Running and Configuring Windows 10 for Raspberry Pi\* Hello World - LED Blinking\* Raspberry Pi GPIO Programming\* Working with I2C/TWI Protocol\* Working with SPI Protocol

The book, now in its Fifth Edition, aims to provide a practical view of GNU/Linux and Windows 7, 8 and 10, covering different design considerations and patterns of use. The section on concepts covers fundamental principles, such as file systems, process management, memory management, input-output, resource sharing, inter-process communication (IPC), distributed computing, OS security, real-time and microkernel design. This thoroughly revised edition comes with a description of an instructional OS to support teaching of OS and also covers Android, currently the most popular OS for handheld systems. Basically, this text enables students to learn by practicing with the examples and doing exercises. NEW TO THE FIFTH EDITION • Includes the details on Windows 7, 8 and 10 • Describes an Instructional Operating System (PintOS), FEDORA and Android • The following additional material related to the book is available at [www.phindia.com/bhatt](http://www.phindia.com/bhatt). o Source Code Control System in UNIX o X- Windows in UNIX o System Administration in UNIX o VxWorks Operating System (full chapter) o OS for handheld systems, excluding Android o The student projects o Questions for practice for selected chapters TARGET AUDIENCE • BE/B.Tech (Computer Science and Engineering and Information Technology) • M.Sc. (Computer Science) BCA/MCA

Build intelligent and smart conversational interfaces using Microsoft Bot Framework About This Book Develop various real-world intelligent bots from scratch using



Microsoft Bot Framework Integrate your bots with most popular conversation platforms such as Skype, Slack, and Facebook Messenger Flaunt your bot building skills in your organization by thoroughly understanding and implementing the bot development concepts such as messages (rich text and pictures), dialogs, and third-party authentication and calling Who This Book Is For This book is for developers who are keen on building powerful services with great and interactive bot interface. Experience with C# is needed. What You Will Learn Set up a development environment and install all the required software to get started programming a bot Publish a bot to Slack, Skype, and the Facebook Messenger platform Develop a fully functional weather bot that communicates the current weather in a given city Help your bot identify the intent of a text with the help of LUIS in order to make decisions Integrate an API into your bot development Build an IVR solution Explore the concept of MicroServices and see how MicroServices can be used in bot development Develop an IoT project, deploy it, and connect it to a bot In Detail Bots help users to use the language as a UI and interact with the applications from any platform. This book teaches you how to develop real-world bots using Microsoft Bot Framework. The book starts with setting up the Microsoft Bot Framework development environment and emulator, and moves on to building the first bot using Connector and Builder SDK. Explore how to register, connect, test, and publish your bot to the Slack, Skype, and Facebook Messenger platforms. Throughout this book, you will build different types of bots from simple to complex, such as a weather bot, a natural speech and intent processing bot, an Interactive Voice Response (IVR) bot for a bank, a facial expression recognition bot, and more from scratch. These bots were designed and developed to teach you concepts such as text detection, implementing LUIS dialogs, Cortana Intelligence Services, third-party authentication, Rich Text format, Bot State Service, and microServices so you can practice working with the standard development tools such as Visual Studio, Bot Emulator, and Azure. Style and approach This step-by-step guide takes a learn-while-doing approach, delivering the practical knowledge and experience you need to design and build real-world Bots. The concepts come to you on an as-needed basis while developing a bot so you increase your programming knowledge and experience at the same time. Develop AI-powered apps and games for HoloLens and mixed reality headsets This is a complete guide to programming AI-powered mixed reality apps with the Windows Mixed Reality platform. Step by step, Dawid Borycki guides you through every type of mixed reality development, from simple 2D to cutting-edge apps for Microsoft HoloLens and immersive headsets. First, you'll learn to write UWP 2D apps that adapt for any Windows 10 device, transfer camera images to machine learning services, and use mobile sensor readings to control headset content. Then, building on these skills, you'll master every facet of building cross-platform 3D apps that link augmented reality content to real objects. Advanced Microsoft technology expert Dawid Borycki shows how to: Set up a mixed reality development environment with all the tools you'll need, including HoloLens and Mixed Reality simulators Write Universal Windows 2D apps for all Windows 10 devices, and adjust their views and capabilities to specific hardware Render media streams, acquire video from world-facing cameras, and detect human faces in those images Generate descriptions of what the user sees, and present them via text or speech Build AI-powered voice-controlled apps with Microsoft Cognitive Services (MCS) Master core concepts and techniques for building 3D mixed reality

apps with Unity Format 3D objects with materials to create holograms Add interactions to holograms based on user input Integrate HoloLens capabilities, including air gestures, spatial sound, and mapping

Master powerful techniques and approaches for securing IoT systems of all kinds—current and emerging Internet of Things (IoT) technology adoption is accelerating, but IoT presents complex new security challenges. Fortunately, IoT standards and standardized architectures are emerging to help technical professionals systematically harden their IoT environments. In *Orchestrating and Automating Security for the Internet of Things*, three Cisco experts show how to safeguard current and future IoT systems by delivering security through new NFV and SDN architectures and related IoT security standards. The authors first review the current state of IoT networks and architectures, identifying key security risks associated with nonstandardized early deployments and showing how early adopters have attempted to respond. Next, they introduce more mature architectures built around NFV and SDN. You'll discover why these lend themselves well to IoT and IoT security, and master advanced approaches for protecting them. Finally, the authors preview future approaches to improving IoT security and present real-world use case examples. This is an indispensable resource for all technical and security professionals, business security and risk managers, and consultants who are responsible for systems that incorporate or utilize IoT devices, or expect to be responsible for them.

- Understand the challenges involved in securing current IoT networks and architectures
- Master IoT security fundamentals, standards, and modern best practices
- Systematically plan for IoT security
- Leverage Software-Defined Networking (SDN) and Network Function Virtualization (NFV) to harden IoT networks
- Deploy the advanced IoT platform, and use MANO to manage and orchestrate virtualized network functions
- Implement platform security services including identity, authentication, authorization, and accounting
- Detect threats and protect data in IoT environments
- Secure IoT in the context of remote access and VPNs
- Safeguard the IoT platform itself
- Explore use cases ranging from smart cities and advanced energy systems to the connected car
- Preview evolving concepts that will shape the future of IoT security

Learn how to build a game using Platino Studio. Follow step-by-step basics to create an app, and then add different functionalities and game logic. With *Beginning Platino Game Engine* you will be able to develop UWP apps using the Processing JS language. You also will be introduced to Temboo and extending the processing language to IoT. What You'll Learn: Develop using the Platino game engine Build UWP apps using the Processing JS language Extend the processing language to IoT with Temboo Who Is this Book for: Indie game developers, app developers interested in games, and students new to the Platino game engine and perhaps new to game development.

This book focuses on the emerging advances in distributed communication systems, big data, intelligent computing and Internet of Things, presenting state-of-the-art research in frameworks, algorithms, methodologies, techniques and applications associated with data engineering and wireless distributed communication technologies. In addition, it discusses potential topics like performance analysis, wireless communication networks, data security and privacy, human computer interaction, 5G Networks, and smart automated systems, which will provide insights for the evolving

data communication technologies. In a nutshell, this proceedings book compiles novel and high-quality research that offers innovative solutions for communications in IoT networks.

The definitive guide—fully updated for Windows 10 and Windows Server 2016 Delve inside Windows architecture and internals, and see how core components work behind the scenes. Led by a team of internals experts, this classic guide has been fully updated for Windows 10 and Windows Server 2016. Whether you are a developer or an IT professional, you'll get critical, insider perspectives on how Windows operates. And through hands-on experiments, you'll experience its internal behavior firsthand—knowledge you can apply to improve application design, debugging, system performance, and support. This book will help you:

- Understand the Windows system architecture and its most important entities, such as processes and threads
- Examine how processes manage resources and threads scheduled for execution inside processes
- Observe how Windows manages virtual and physical memory
- Dig into the Windows I/O system and see how device drivers work and integrate with the rest of the system
- Go inside the Windows security model to see how it manages access, auditing, and authorization, and learn about the new mechanisms in Windows 10 and Server 2016

Manage and control Internet-connected devices from Windows and Raspberry Pi. Master the Windows 10 IoT Core application programming interface and feature set to develop Internet of Things applications on the Raspberry Pi using your Windows and .NET programming skills. New in this edition is coverage of enterprise-level tools and features in the Windows 10 IoT Enterprise server operating system, allowing you to manage IoT solutions having large numbers of devices and to deploy applications to enterprise-grade hardware. Windows 10 for the Internet of Things presents a set of example projects covering a wide range of techniques designed specifically to jump start your own Internet of Things creativity. You'll learn everything you need to know about Windows IoT Core to develop Windows and IoT applications that run on single board computers such as the Raspberry Pi. You'll learn to develop for the Raspberry PI using native Windows and all the related programming skills that you have built up from developing desktop and mobile applications. This book provides just the help you need to get started in putting your Windows skills to use in a burgeoning new world of development for small devices that are ubiquitously connected to the Internet. What You Will Learn Know Windows 10 on the Raspberry Pi Read sensor data and control actuators Connect to and transmit data into the cloud Remotely control your devices from any Windows device Develop IOT applications under Windows using C#, C++, and Visual Basic Store your IOT data in a database for later analysis Who This Book Is For Developers and enthusiasts wanting to take their skills in Windows development and connect everyday devices to the Internet by developing for Windows 10 IoT Core. Readers learn to develop in C#, C++, and Visual Basic using Visual Studio, for deployment on devices such as the Raspberry Pi.

This book constitutes the refereed proceedings of the Tenth International KES Conference on Intelligent Interactive Multimedia Systems and Services: IIMSS-17. It includes 57 full papers organized into topical sections, ranging from visual data processing to big data analytics, and from multimedia to intelligent and cognitive systems. The conference took place as part of the Smart Digital Futures 2017 multi-

theme conference, held in Vilamoura, Algarve, Portugal on 21–23 June 2017, which brings together AMSTA, IDT, InHorizons, InMed, SEEL and IIMSS in one venue. It provided an international forum for researchers and scientists to share their work and experiences in the field of multimedia and intelligent interactive systems and services. Conquer today's Windows 10—from the inside out! Dive into Windows 10—and really put your Windows expertise to work. Focusing on Windows 10's newest, most powerful, and most innovative features, this supremely organized reference packs hundreds of timesaving solutions, up-to-date tips, and workarounds. From the new Timeline to key improvements in Microsoft Edge, Cortana, security, and virtualization, you'll discover how experts tackle today's essential tasks. Adapt to faster change in today's era of "Windows as a service," as you challenge yourself to new levels of mastery.

- Install, configure, and personalize the latest versions of Windows 10
- Manage Windows reliability, security, and feature updates in any environment
- Maximize your productivity with Windows 10's growing library of built-in apps
- Pinpoint information fast with advanced Windows Search and Cortana techniques
- Discover major Microsoft Edge enhancements, from extensions to accessibility
- Use Cortana to perform tasks, set reminders, retrieve data, and get instant answers to pressing questions
- Secure devices, data, and identities, and block malware and intruders
- Safeguard your business with BYOD work accounts, Windows Hello, biometrics, and Azure AD
- Deploy, use, and manage Universal Windows Platform (UWP) apps
- Store, sync, and share content with OneDrive and OneDrive for Business
- Collaborate more efficiently with the Windows 10 Mail, Calendar, and Skype apps
- Seamlessly manage both physical and virtual storage
- Optimize performance and battery life and troubleshoot crashes

Get a head start evaluating Windows 10—with technical insights from award-winning journalist and Windows expert Ed Bott. This guide introduces new features and capabilities, providing a practical, high-level overview for IT professionals ready to begin deployment planning now. This edition was written after the release of Windows 10 version 1511 in November 2015 and includes all of its enterprise-focused features. The goal of this book is to help you sort out what's new in Windows 10, with a special emphasis on features that are different from the Windows versions you and your organization are using today, starting with an overview of the operating system, describing the many changes to the user experience, and diving deep into deployment and management tools where it's necessary.

The industrial internet is a new and upcoming technology that is changing the practices of organizations and corporations everywhere. Through research and application, opportunities can arise from implementing these new systems and devices. The Internet of Things in the Modern Business Environment is an essential reference source for the latest scholarly research on varying aspects of the interworking of smart devices within a business setting and explores the impact of these devices on company operations and models. Featuring extensive coverage on a broad range of topics such as supply chain management, information sharing, and data analytics, this publication is ideally designed for



researchers, managers, and students seeking current research on the expansion of technology in commerce.

A complete, detailed Windows 10 reference for beginners and power users alike Windows 10 Bible is one of the most thorough references on the market with complete coverage of Windows 10. Whether you're a beginner seeking guidance or a power-user looking for fresh tips and tricks, this book contains everything you could ever hope to know about the Windows operating system. You will get the insider guidance of a Microsoft support manager as you discover everything there is to know about Windows customization, content management, networking, hardware, performance, security, and more. Step-by-step instructions walk you through new and important procedures, and screen shots help you stay on track every step of the way. Whether you're starting from scratch or just looking to become more proficient, this guide is your ideal solution. You'll learn just what Windows can do, and how to take full advantage so you can get more done faster. Go beyond the desktop to personalize the system Manage your content, media, software, and security Eliminate issues related to printing, faxing, and scanning Fine-tune performance, connect to a network, work with the cloud, and more Whether you want a complete basic introduction or the nitty-gritty detail, Windows 10 Bible has you covered.

Enhance Windows security and protect your systems and servers from various cyber attacks Key Features Protect your device using a zero-trust approach and advanced security techniques Implement efficient security measures using Microsoft Intune, Configuration Manager, and Azure solutions Understand how to create cyber-threat defense solutions effectively Book Description Are you looking for effective ways to protect Windows-based systems from being compromised by unauthorized users? Mastering Windows Security and Hardening is a detailed guide that helps you gain expertise when implementing efficient security measures and creating robust defense solutions. We will begin with an introduction to Windows security fundamentals, baselining, and the importance of building a baseline for an organization. As you advance, you will learn how to effectively secure and harden your Windows-based system, protect identities, and even manage access. In the concluding chapters, the book will take you through testing, monitoring, and security operations. In addition to this, you'll be equipped with the tools you need to ensure compliance and continuous monitoring through security operations. By the end of this book, you'll have developed a full understanding of the processes and tools involved in securing and hardening your Windows environment. What you will learn Understand baselining and learn the best practices for building a baseline Get to grips with identity management and access management on Windows-based systems Delve into the device administration and remote management of Windows-based systems Explore security tips to harden your Windows server and keep clients secure Audit, assess, and test to ensure controls are successfully applied and enforced Monitor and report activities to stay on top of vulnerabilities Who this

book is for This book is for system administrators, cybersecurity and technology professionals, solutions architects, or anyone interested in learning how to secure their Windows-based systems. A basic understanding of Windows security concepts, Intune, Configuration Manager, Windows PowerShell, and Microsoft Azure will help you get the best out of this book.

Augment your IoT skills with the help of engaging and enlightening tutorials designed for Raspberry Pi 3 Key Features Design and implement state-of-the-art solutions for the Internet of Things Build complex projects using motions detectors, controllers, sensors, and Raspberry Pi 3 A hands-on guide that provides interoperable solutions for sensors, actuators, and controllers Book Description The Internet of Things (IoT) is the fastest growing technology market. Industries are embracing IoT technologies to improve operational expenses, product life, and people's well-being. Mastering Internet of Things starts by presenting IoT fundamentals and the smart city. You will learn the important technologies and protocols that are used for the Internet of Things, their features, corresponding security implications, and practical examples on how to use them. This book focuses on creating applications and services for the Internet of Things. Further, you will learn to create applications and services for the Internet of Things. You will be discover various interesting projects and understand how to publish sensor data, control devices, and react to asynchronous events using the XMPP protocol. The book also introduces chat, to interact with your devices. You will learn how to automate your tasks by using Internet of Things Service Platforms as the base for an application. You will understand the subject of privacy, requirements they should be familiar with, and how to avoid violating any of the important new regulations being introduced. At the end of the book, you will have mastered creating open, interoperable and secure networks of things, protecting the privacy and integrity of your users and their information. What you will learn Create your own project, run and debug it Master different communication patterns using the MQTT, HTTP, CoAP, LWM2M and XMPP protocols Build trust-based as hoc networks for open, secure and interoperable communication Explore the IoT Service Platform Manage the entire product life cycle of devices Understand and set up the security and privacy features required for your system Master interoperability, and how it is solved in the realms of HTTP, CoAP, LWM2M and XMPP Who this book is for If you're a developer or electronic engineer and are curious about the Internet of Things, this is the book for you. With only a rudimentary understanding of electronics and Raspberry Pi 3, and some programming experience using managed code, such as C# or Java, you will be taught to develop state-of-the-art solutions for the Internet of Things.

Manage and control Internet-connected devices from Windows and Raspberry Pi. Master the Windows IoT Core application programming interface and feature set to develop Internet of Things applications on the Raspberry Pi using your Windows and .NET programming skills. Windows 10 for the Internet of Things

presents a set of example projects covering a wide range of techniques designed specifically to jump start your own Internet of Things creativity. You'll learn everything you need to know about Windows IoT Core in order to develop Windows and IoT applications that run on the Pi. Microsoft's release of Windows IoT Core is groundbreaking in how it makes the Raspberry Pi and Internet of Things programming accessible to Windows developers. Now it's possible to develop for the Raspberry Pi using native Windows and all the related programming skills that Windows programmers have learned from developing desktop and mobile applications. Windows 10 becomes a gateway by which many can experience hardware and Internet of Things development who may never have had the opportunity otherwise. However, even savvy Windows programmers require help to get started with hardware development. This book, *Windows 10 for the Internet of Things*, provides just the help you need to get started in putting your Windows skills to use in a burgeoning new world of development for small devices that are ubiquitously connected to the Internet. **What You Will Learn** Learn Windows 10 on the Raspberry Pi Read sensor data and control actuators Connect to and transmit data into the cloud Remotely control your devices from any web browser Develop IOT applications under Windows using C# and Python Store your IOT data in a database for later analysis **Who This Book Is For** Developers and enthusiasts wanting to take their skills in Windows development and jump on board one of the largest and fastest growing trends to hit the technology world in years – that of connecting everyday devices to the Internet. This book shows how to develop for Microsoft's operating-system for devices, Windows 10 IoT Core. Readers learn to develop in C# and Python using Visual Studio, for deployment on devices such as the Raspberry Pi and the Arduino.

Prepare for Microsoft Exam MD-101—and help demonstrate your real-world mastery of skills and knowledge required to manage modern Windows 10 desktops. Designed for Windows administrators, *Exam Ref* focuses on the critical thinking and decision-making acumen needed for success at the Microsoft Certified Associate level. Focus on the expertise measured by these objectives: Deploy and update operating systems Manage policies and profiles Manage and protect devices Manage apps and data **This Microsoft Exam Ref:** Organizes its coverage by exam objectives Features strategic, what-if scenarios to challenge you Assumes you have experience deploying, configuring, securing, managing, and monitoring devices and client applications in an enterprise environment **About the Exam** Exam MD-101 focuses on knowledge needed to plan and implement Windows 10 with dynamic deployment or Windows Autopilot; upgrade devices to Windows 10; manage updates and device authentication; plan and implement co-management; implement conditional access and compliance policies; configure device profiles; manage user profiles; manage Windows Defender; manage Intune device enrollment and inventory; monitor devices; deploy/update applications, and implement Mobile Application Management

(MAM). About Microsoft Certification Passing this exam and Exam MD-100 Windows 10 fulfills your requirements for the Microsoft 365 Certified: Modern Desktop Administrator Associate certification credential, demonstrating your ability to install Windows 10 operating systems and deploy and manage modern desktops and devices in an enterprise environment. See full details at: [microsoft.com/learn](https://microsoft.com/learn)

Agriculture 5.0: Artificial Intelligence, IoT & Machine Learning provides an interdisciplinary, integrative overview of latest development in the domain of smart farming. It shows how the traditional farming practices are being enhanced and modified by automation and introduction of modern scalable technological solutions that cut down on risks, enhance sustainability, and deliver predictive decisions to the grower, in order to make agriculture more productive. An elaborative approach has been used to highlight the applicability and adoption of key technologies and techniques such as WSN, IoT, AI and ML in agronomic activities ranging from collection of information, analysing and drawing meaningful insights from the information which is more accurate, timely and reliable. It synthesizes interdisciplinary theory, concepts, definitions, models and findings involved in complex global sustainability problem-solving, making it an essential guide and reference. It includes real-world examples and applications making the book accessible to a broader interdisciplinary readership. This book clarifies how the birth of smart and intelligent agriculture is being nurtured and driven by the deployment of tiny sensors or AI/ML enabled UAV's or low powered Internet of Things setups for the sensing, monitoring, collection, processing and storing of the information over the cloud platforms. This book is ideal for researchers, academics, post-graduate students and practitioners of agricultural universities, who want to embrace new agricultural technologies for Determination of site-specific crop requirements, future farming strategies related to controlling of chemical sprays, yield, price assessments with the help of AI/ML driven intelligent decision support systems and use of agri-robots for sowing and harvesting. The book will be covering and exploring the applications and some case studies of each technology, that have heavily made impact as grand successes. The main aim of the book is to give the readers immense insights into the impact and scope of WSN, IoT, AI and ML in the growth of intelligent digital farming and Agriculture revolution 5.0. The book also focuses on feasibility of precision farming and the problems faced during adoption of precision farming techniques, its potential in India and various policy measures taken all over the world. The reader can find a description of different decision support tools like crop simulation models, their types, and application in PA. Features: Detailed description of the latest tools and technologies available for the Agriculture 5.0. Elaborative information for different type of hardware, platforms and machine learning techniques for use in smart farming. Elucidates various types of predictive modeling techniques available for intelligent and accurate agricultural decision making from real time collected information for site specific precision



farming. Information about different type of regulations and policies made by all over the world for the motivation farmers and innovators to invest and adopt the AI and ML enabled tools and farming systems for sustainable production. This book provides a comprehensive and consistent introduction to the Internet of Things. Hot topics, including the European privacy legislation GDPR, and homomorphic encryption are explained. For each topic, the reader gets a theoretical introduction and an overview, backed by programming examples. For demonstration, the authors use the IoT platform VICINITY, which is open-source, free, and offers leading standards for privacy. Presents readers with a coherent single-source introduction into the IoT; Introduces selected, hot-topics of IoT, including GDPR (European legislation on data protection), and homomorphic encryption; Provides coding examples for most topics that allow the reader to kick-start his own IoT applications, smart services, etc.

Your all-inclusive guide to Windows 10 Anniversary Edition Windows 10 Bible, Anniversary Update presents the ultimate reference for enterprise and professional Windows 10 Anniversary Update users. From setup and settings to networking and the daily workflow, this book provides expert guidance on all aspects of the OS. Read from beginning to end for a comprehensive tour of all of the nooks and crannies, or dip in as needed to find quick answers to your most pressing issues—formatted as a reference divided into mini-tutorials, this guide delves deep into the Windows 10 Anniversary Update to walk you through every inch of functionality. Personalize your settings, desktop, and security to augment the way you work; configure Windows 10 for enterprise with remote access, groups, and Hyper-V; set up a private network for two or 20 computers, and manage security to keep your content safe—everything you need to know is explained here. This book provides clear, authoritative guidance toward every aspect of the old and new to help you take advantage of everything Windows 10 Anniversary Update has to offer. Customize your Windows 10 Anniversary Update experience Install and remove hardware and software Set up your network and configure security Manage content, connect to printers, and troubleshoot issues Clear your to-do list faster than ever with Cortana voice commands, Windows Ink, Windows Hello, and a cross-platform capability that allows you to integrate a range of platforms including tablets, phones, Raspberry Pi, and even Xbox. Even if you're an experienced user, you're probably missing out on some very cool features—let the Windows 10 Bible, Anniversary Update fill the gaps and take your Windows 10 experience to the next level.

Take a deep dive into the concepts of machine learning as they apply to contemporary business and management. You will learn how machine learning techniques are used to solve fundamental and complex problems in society and industry. Machine Learning for Decision Makers serves as an excellent resource for establishing the relationship of machine learning with IoT, big data, and cognitive and cloud computing to give you an overview of how these modern areas of computing relate to each other. This book introduces a collection of the most important concepts of machine learning and sets them in context with other vital technologies that decision makers need to know about. These concepts span the process from envisioning the problem to applying machine-learning techniques to your particular situation. This discussion also provides an insight to help deploy the results to improve decision-making. The book uses case studies and jargon busting to help you grasp the theory of machine learning quickly. You'll soon gain the big picture of machine learning and how it fits with other cutting-edge IT services. This knowledge will give you confidence in your decisions for the future of your business. What You Will Learn Discover the machine learning, big data, and cloud and cognitive computing technology stack Gain insights into machine learning concepts and

practices Understand business and enterprise decision-making using machine learning Absorb machine-learning best practices Who This Book Is For Managers tasked with making key decisions who want to learn how and when machine learning and related technologies can help them.

Even though blockchain technology was originally created as a ledger system for bitcoin to operate on, using it for areas other than cryptocurrency has become increasingly popular as of late. The transparency and security provided by blockchain technology is challenging innovation in a variety of businesses and is being applied in fields that include accounting and finance, supply chain management, and education. With the ability to perform such tasks as tracking fraud and securing the distribution of medical records, this technology is key to the advancement of many industries.

The **Research Anthology on Blockchain Technology in Business, Healthcare, Education, and Government** is a vital reference source that examines the latest scholarly material on trends, techniques, and uses of blockchain technology applications in a variety of industries, and how this technology can further transparency and security. Highlighting a range of topics such as cryptography, smart contracts, and decentralized blockchain, this multi-volume book is ideally designed for academics, researchers, industry leaders, managers, healthcare professionals, IT consultants, engineers, programmers, practitioners, government officials, policymakers, and students.

Learn how to develop web applications that deploy cross-platform and are optimized for high performance using ASP.NET Core 2 About This Book Master high-level web app performance improvement techniques using ASP.NET Core 2.0 Find the right balance between premature optimization and inefficient code Design workflows that run asynchronously and are resilient to transient performance issues Who This Book Is For This book is aimed for readers who can build a web application and have some experience with ASP.NET or some other web application framework (such as Ruby on Rails or Django). They can be people who are happy learning details independently but who struggle to discover the topics that they should be researching. The reader should be interested in improving the performance of their web app and in learning about ASP.NET Core and modern C#. What You Will Learn Understand ASP.NET Core 2 and how it differs from its predecessor Address performance issues at the early stages of development Set up development environments on Windows, Mac, and Linux Measure, profile and find the most significant problems Identify the differences between development workstations and production infrastructures, and how these can exacerbate problems Boost the performance of your application but with an eye to how it affects complexity and maintenance Explore a few cutting-edge techniques such as advanced hashing and custom transports In Detail The ASP.NET Core 2 framework is used to develop high-performance and cross-platform web applications. It is built on .NET Core 2 and includes significantly more framework APIs than version 1. This book addresses high-level performance improvement techniques. It starts by showing you how to locate and measure problems and then shows you how to solve some of the most common ones. Next, it shows you how to get started with ASP.NET Core 2 on Windows, Mac, Linux, and with Docker containers. The book illustrates what problems can occur as latency increases when deploying to a cloud infrastructure. It also shows you how to optimize C# code and choose the best data structures for the job. It covers new features in C# 6 and 7, along with parallel programming and distributed architectures. By the end of this book, you will be fixing latency issues and optimizing performance problems, but you will also know how this affects the complexity and

maintenance of your application. Finally, we will explore a few highly advanced techniques for further optimization. Style and approach A step-by-step practical guide filled with real-world use cases and examples

Businesses are looking for methods to incorporate social entrepreneurship in order to generate a positive return to society. Social enterprises have the ability to improve societies through altruistic work to create sustainable work environments for future entrepreneurs and their communities. *Social Entrepreneurship: Concepts, Methodologies, Tools, and Applications* is a useful scholarly resource that examines the broad topic of social entrepreneurship by looking at relevant theoretical frameworks and fundamental terms. It also addresses the challenges and solutions social entrepreneurs face as they address their corporate social responsibility in an effort to redefine the goals of today's enterprises and enhance the potential for growth and change in every community. Highlighting a range of topics such as the social economy, corporate social responsibility, and competitive advantage, this multi-volume book is ideally designed for business professionals, entrepreneurs, start-up companies, academics, and graduate-level students in the fields of economics, business administration, sociology, education, politics, and international relations.

This new edition covers the Fall Creators Update to Windows 10. Do more in less time! Experienced with Windows? Don't let Windows 10 make you feel like a beginner again! This book is packed with intensely useful knowledge, tips, and shortcuts you just won't find anywhere else. It's the fastest, best way to master Windows 10's full power, revamped interface, and new tools—from the reconfigured Start menu to the Cortana personal assistant. This friendly, expert guide will make Windows 10 way more productive, painless, and fun, whether you're running it on a computer or a tablet...at home, at work, on the road, anywhere! · Take a quick guided tour of everything that's new in Windows 10 · Get the most out of Edge, Microsoft's modern web browser · Navigate the Windows 10 interface (and customize it to make yourself more comfortable) · Discover hidden shortcuts and timesavers you'd never find on your own · Quickly locate and use files, media, apps, websites, and management tools · Connect reliably and safely to networks, the Internet, and Wi-Fi hotspots · Increase your efficiency by taking advantage of Windows 10's virtual desktops · Maximize the performance and reliability of your hardware and storage devices · Set up a safe and effective network for your home or office · Systematically protect yourself from viruses, spyware, snoops, fraud, and spam · Use the most convenient and efficient interface for every task: keyboard, touch, pen, or voice · Discover tweaks and customizations that are actually worth the effort · Get more out of your Windows 10 laptop or tablet on the road · Remotely use your Windows 10 computer and data from anywhere on earth · Access even more power with Windows 10's command-line utilities · Use Hyper-V, the subsystem for Linux, and Windows containers to run other operating systems alongside Windows · Troubleshoot the most common Windows 10 problems—and the toughest ones This book is part of Que's Content Update Program (CUP), which provides content updates to certain books for major technology changes. As Microsoft® makes significant updates to Windows 10, sections of this book will be updated or new sections will be added to match the updates to the software. The updates will be delivered to you via the free Web Edition of this book. For more information, go to [informit.com/cup](http://informit.com/cup).

Over 50 new and improved recipes to put Visual Studio 2015 to work in your crucial development projects About This Book Get to grips with all the new Visual Studio 2015 features regardless of your preferred programming language Apply Visual Studio to all areas of development: writing, debugging, and application lifecycle maintenance Straightforward and hands-on advice for building both Windows and Android apps Who This Book Is For If you are a developer excited about the new features introduced in Visual Studio 2015, then no matter what your programming language of choice is, *Visual Studio 2015 Cookbook* is for you. You should have a good knowledge of working with previous versions of Visual Studio to benefit

from the recipes in this book. What You Will Learn Customize the editor's new abilities to fit your development style Create apps for Windows Use Visual Studio to debug parallel and concurrent programs Integrate .NET Framework 4.6 effectively Put TypeScript to work in your web applications Develop modern C++11 with Visual Studio 2015 Protect and manage your source code with Team Foundation Server In Detail Visual Studio 2015 is the premier tool for developers targeting the Microsoft platform. Learning how to effectively use this technology can enhance your productivity while simplifying your most common tasks, allowing you more time to focus on your project. Visual Studio 2015 is packed with improvements that increase productivity, and this book walks you through each one in succession to help you smooth your workflow and get more accomplished. From customization and the interface to code snippets and debugging, the Visual Studio upgrade expands your options — and this book is your fast-track guide to getting on board quickly. Visual Studio 2015 Cookbook will introduce you to all the new areas of Visual Studio and how they can quickly be put to use to improve your everyday development tasks. With this book, you will learn not only what VS2015 offers, but what it takes to put it to work for your projects. Style and approach This book is a practical guide to using Visual Studio 2015 and will help you become familiar with the improvements made in previous versions. Each recipe provides a hands-on approach to the new features with step-by-step instructions on how to increase your productivity.

This book is a practical guide to solving the everyday problems encountered when building apps for Windows 10 devices, including desktops, laptops, tablets, and phones, using HTML5, CSS3 and JavaScript. Each recipe includes a concise statement of the problem and the approach you should take in order to solve it. A full code solution is also given, along with an in-depth explanation, so you can build on your development knowledge while you work on your application. The majority of recipes can be used with the Universal Windows app template, designed to help you build one consistent user experience across devices. These are supplemented with recipes for adapting your app to different devices, screen sizes and sensor availability. You'll also find out how to deploy and publish your apps in the Windows Store. Learn how to: Make use of the latest Universal Windows app features, alongside customizations for specific platforms and screen sizes. Bring your apps to life with live tiles, notifications, and sharing. Prepare your app to adapt to your users' different cultural and business environments using globalization and localization APIs and best practices. Understand the certification process and publish your app to the Windows Store, with the option to pay once, install anywhere. This book is suitable for anyone developing for Windows and Windows Mobile. Readers should be comfortable working with HTML and JavaScript. No previous experience with Microsoft technologies or languages is needed in order to use this book.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Conquer today's Windows 10—from the inside out! Dive into Windows 10—and really put your Windows expertise to work. Focusing on the most powerful and innovative features of Windows 10, this supremely organized reference packs hundreds of timesaving solutions, tips, and workarounds—all fully reflecting the major Windows 10 Anniversary Update. From new Cortana and Microsoft Edge enhancements to the latest security and virtualization features, you'll discover how experts tackle today's essential tasks—and challenge yourself to new levels of mastery. Install, configure, and personalize the newest versions of Windows 10 Understand Microsoft's revamped activation and upgrade processes Discover major Microsoft Edge enhancements, including new support for extensions Use today's improved Cortana services to perform tasks, set reminders, and retrieve information Make the most of the improved ink, voice, touch, and gesture support in Windows 10 Help secure Windows 10 in business with Windows Hello and Azure AD Deploy, use, and manage new Universal Windows Platform (UWP) apps Take



advantage of new entertainment options, including Groove Music Pass subscriptions and connections to your Xbox One console Manage files in the cloud with Microsoft OneDrive and OneDrive for Business Use the improved Windows 10 Mail and Calendar apps and the new Skype app Fine-tune performance and troubleshoot crashes Master high-efficiency tools for managing Windows 10 in the enterprise Leverage advanced Hyper-V features, including Secure Boot, TPMs, nested virtualization, and containers In addition, this book is part of the Current Book Service from Microsoft Press. Books in this program will receive periodic updates to address significant software changes for 12 to 18 months following the original publication date via a free Web Edition. Learn more at <https://www.microsoftpressstore.com/cbs>.

A valuable guide for new and experienced readers, featuring the complex and massive world of IoT and IoT-based solutions.

Develop Windows 10 applications faster and more efficiently using the Universal Windows Platform. You will use Xamarin to create apps for macOS, iOS, and Android devices. Building Apps for the Universal Windows Platform is a complete guide covering PCs, tablets, phones, and other devices such as HoloLens. You will use Windows 10 to develop apps for desktop, mobile, holographic, wearable, and IoT devices. You will reuse code to easily create cross-platform apps. What You Will Learn Design and develop apps using Visual Studio and Blend Create Cortana-enabled apps for a hands-free experience Build IoT apps and apps for wearables such as the Microsoft HoloLens Monitor apps post-publication to gain insights from actionable data using Windows Store Analytics and Azure Who This Book Is For Professional developers working independently or in a team on Windows 10 applications, and students coming into the world of software development

Programming for the Internet of Things Using Windows 10 IoT Core and Azure IoT Suite Microsoft Press

Emphasizing XAML and C#, this book provides readers with all the tools, ideas, and inspiration to begin Windows Universal App development for Windows 10. Real World Windows 10 Development addresses developers who want to break into this market by providing detailed explanations of the various aspects of Universal App development. Written by authors with deep knowledge in Windows 10 universal app development, you will learn how to make the most of the Windows 10 SDK to build applications that can be published on IoT devices, phones, tablets, laptops, desktops, Xbox, HoloLens, and the Surface Hub. Readers will learn how to: Extend the appeal of their native, web-based, or universal apps with media, shell integration, and inter-app communications Build adaptive user interfaces that scale to the screen dimensions they are displayed on Monetize your apps Introduce mapping What if you already have pre-existing software in the form of native win32 applications or a website? Real World Windows 10 Development tackles this by providing detailed tutorials on the approaches used to leverage your existing code investment. Finally, Real World Windows 10 Development provides a step-by-step walk through of the various approaches developers can use to distribute their universal apps. In this book, you'll get: Detailed descriptions of Windows 10 app development Samples emphasizing the use of XAML/C# Adherence to Windows 10 guidelines for successful app acceptance

Rapidly implement Internet of Things solutions Creating programs for the Internet of Things offers you an opportunity to build and program custom devices whose functionality is limited only by your imagination. This book teaches you to do exactly that, with solutions presented in a step-by-step format. When you read this book, you

not only learn the fundamentals of device programming, you will also be ready to write code for revolutionizing devices and robots. You don't need to be an expert in low-level programming to benefit from this book. It explains basic concepts and programming techniques before diving into the more complicated topics. Each of the book's chapters and appendices contains a suitable level of detail to help you quickly master device programming. MCP Dawid Borycki shows you how to: Build Universal Windows Platform (UWP) applications that target interconnected embedded devices Design and implement background apps for seamless integration with hardware components Use intrinsic UWP functionality to detect and track human faces Build artificial auditory, visual, and learning systems Process audio signals to blink LEDs to the rhythm of music Use OpenCV to develop custom image-processing algorithms Communicate with external devices by using serial, USB, Wi-Fi, and AllJoyn connectivity Design and implement applications to control DC, stepper, and servo motors for robotics Use Microsoft Cognitive Services to detect human emotions Build predictive analysis and preventive maintenance systems by using the Azure IoT Suite

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