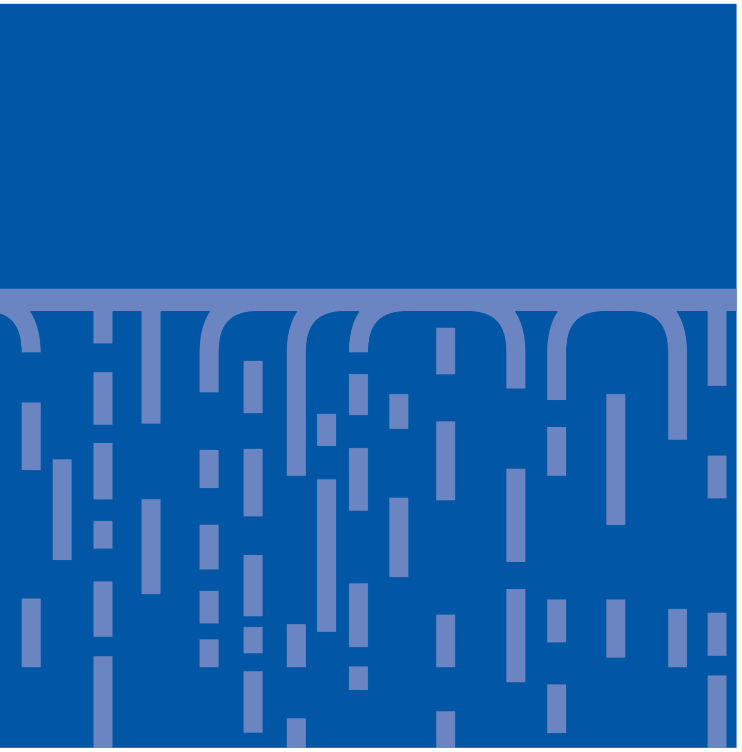
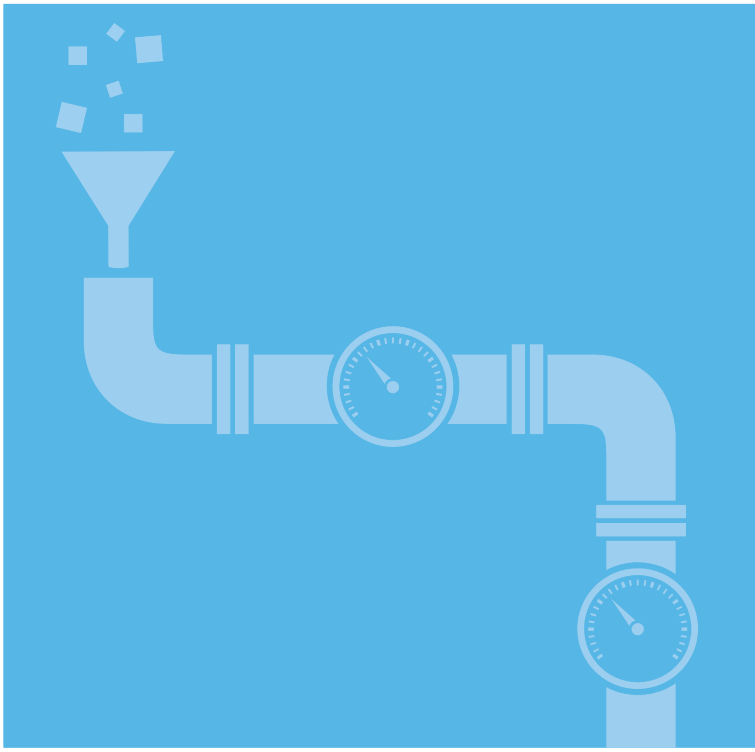
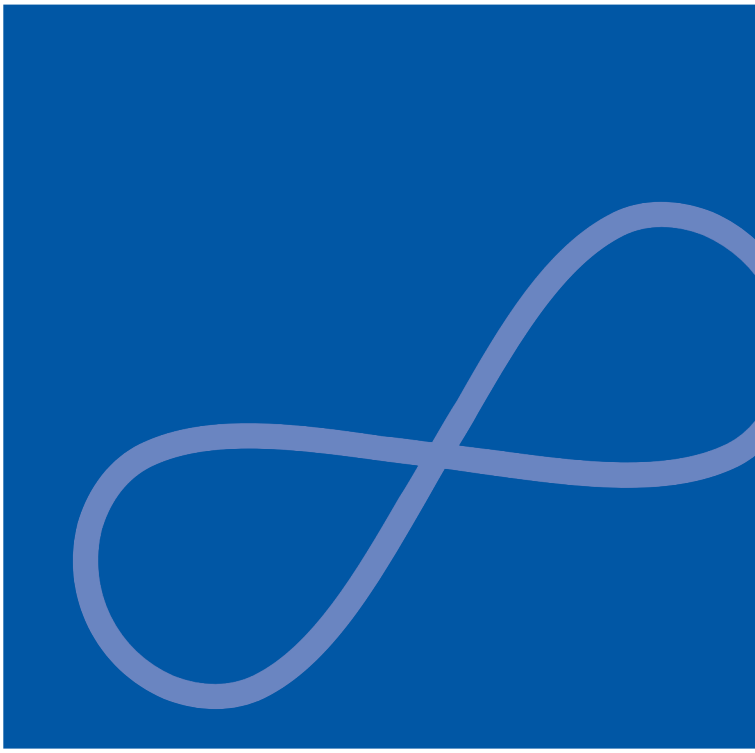
CONTINUOUS EVERYTHING

Een introductie







BART DE BEST

db metrics

DevOps
Continuous Everything
an introduction

The complete ABC of DevOps

Bart de Best

Edited by
Louis van Hemmen

Colophon

More information about this and other publications can be obtained from:

Leonon Media

(0)572 - 851 104

Common questions : info@leonon.nl
Sales questions : verkoop@leonon.nl
Manuscript / Author : redactie@leonon.nl

Cover design : Eric Coenders, IanusWeb, Nijmegen
Production : Printforce B.V., Culemborg

Title : DevOps Continuous Everything an introduction

Subtitle : The complete ABC of DevOps

Date : 3 August 2023

Author : Bart de Best

Publisher : Leonon Media

ISBN13 : 978 94 91480 287

Edition : First press, first edition, 3 August 2023

"We build our computer (systems)
the way we build our cities:
over time, without a plan, on top of ruins."

by Ellen Ullma

Table of Contents

1 INTRODUCTION 1
1.1 OBJECTIVE 1
1.2 TARGET GROUP 1
1.3 BACKGROUND 1
1.4 STRUCTURE 2
1.5 APPENDICES 3
1.6 READING GUIDELINES 3

2 CONTINUOUS PLANNING 5
2.1 BASIC CONCEPTS 5
2.2 BASIC TERMS 6
2.3 DEFINITION 7
2.4 PROBLEMS TO BE SOLVED 7
2.5 ARCHITECTURE MODELS 8

3 CONTINUOUS DESIGN 11
3.1 BASIC CONCEPTS 11
3.2 BASIC TERMS 12
3.3 DEFINITION 13
3.4 PROBLEMS TO BE SOLVED 13
3.5 ARCHITECTURE MODELS 14

4 CONTINUOUS TESTING 17
4.1 BASIS CONCEPTS 17
4.2 BASIC TERMS 17
4.3 DEFINITION 19
4.4 PROBLEMS TO BE SOLVED 20
4.5 ARCHITECTURE MODELS 20

5 CONTINUOUS INTEGRATION 23
5.1 BASIS CONCEPTS 23
5.2 BASIC CONCEPTS 25
5.3 DEFINITION 27
5.4 PROBLEMS TO BE SOLVED 27
5.5 ARCHITECTURE MODELS 28

6 CONTINUOUS DEPLOYMENT 31
6.1 BASIS CONCEPTS 31
6.2 BASIC TERMS 32
6.3 DEFINITION 34
6.4 PROBLEMS TO BE SOLVED 35
6.5 ARCHITECTURE MODELS 35

7 CONTINUOUS MONITORING 39
7.1 BASIC CONCEPTS 39
7.2 BASIC TERMS 41
7.3 DEFINITION 42
7.4 PROBLEMS TO BE SOLVED 42
7.5 ARCHITECTURE MODELS 43

8 CONTINUOUS LEARNING 49
8.1 BASIC CONCEPTS 49

8.2 BASIC TERMS 55
8.3 DEFINITION 57
8.4 PROBLEMS TO BE SOLVED 58
8.5 ARCHITECTURE MODELS 58

APPENDIX A, ABBREVIATIONS 65

APPENDIX B, INDEX 69

Figures

FIGURE 1-1, DEVOPS LEMNISCATE. 1
FIGURE 2-1, ROADMAP TO VALUE MODEL. 5
FIGURE 2-2, CONTINUOUS PLANNING MODEL. 6
FIGURE 2-3, BALANCED SCORE CARD [KAPLAN 2004]. 6
FIGURE 2-4, ROADMAP TO VALUE, BRON: [LAYTON 2017]. 8
FIGURE 2-5, CONTINUOUS PLANNING MODEL. 9
FIGURE 3-1, CONTINUOUS DESIGN PYRAMID. 11
FIGURE 3-2, NON CONTINUOUS DESIGN PYRAMID. 12
FIGURE 3-3, CONTINUOUS DESIGN PYRAMID WITH DELIVERABLES AND QUESTIONS TO BE ANSWERED. 14
FIGURE 4-1, IDEAL TEST PYRAMID. 21
FIGURE 4-2, NON-IDEAL TEST PYRAMID. 21
FIGURE 5-1, FROM SOURCE CODE TO BINARY CODE. 23
FIGURE 5-2, BUILDING A SOLUTION. 24
FIGURE 5-3, AGILE PROGRAMMING. 25
FIGURE 5-4, BASIC CONCEPTS OF CONTINUOUS INTEGRATION. 25
FIGURE 5-5, CLASS MODEL VERSION CONTROL. 28
FIGURE 6-1, DTAP-STREET. 31
FIGURE 6-2, CI/CD SECURE PIPELINE. 32
FIGURE 6-3, SOURCE CODE VERSUS OBJECT CODE. 33
FIGURE 6-4, REPOSITORIES. 34
FIGURE 6-5, CONTINUOUS DEPLOYMENT ROADMAP. 36
FIGURE 7-1, CONTINUOUS MONITORING GOVERNANCE MODEL. 39
FIGURE 7-2, CONTINUOUS MONITORING LAYER MODEL. 40
FIGURE 7-3, SOR AND SOE, BRON HSO THE RESULT COMPANY. 42
FIGURE 7-4, CONTINUOUS MONITORING GOVERNANCE MODEL. 44
FIGURE 7-5, CONTINUOUS MONITORING LAYER MODEL. 45
FIGURE 7-6, LEAD AND LAG PERFORMANCE INDICATOR CONTROL MODEL. 46
FIGURE 7-7, MONITOR MONITOR HIERARCHY. 47
FIGURE 8-1, CONTINUOUS LEARNING MODEL. 49
FIGURE 8-2, BLOOM'S TAXONOMY [BLOOM 1956]. 50
FIGURE 8-3, ENERGY LEVEL MODEL. 51
FIGURE 8-4, I-T-E SHAPED MODEL. 51
FIGURE 8-5, HIGH PERFORMANCE MODEL BASED ON [WESTRUM]. 52
FIGURE 8-6, SCHNEIDER CULTURE SYSTEMS MODEL. 53
FIGURE 8-7, COLOR MODEL OF DE CALUWÉ AND VERMAAK. 53
FIGURE 8-8, VALUE CHAIN OF PORTER, SOURCE: [PORTER 1998]. 56
FIGURE 8-9, RECURSIEVE VALUE CHAIN OF PORTER, SOURCE: [PORTER 1998]. 57
FIGURE 8-10, RECURSIEVE VALUE CHAIN OF PORTER, SOURCE: [PORTER 1998]. 57
FIGURE 8-11, CONTINUOUS LEARNING MODEL. 59
FIGURE 8-12, I-T-E SHAPED MODEL. 60
FIGURE 8-13, HIGH PERFORMANCE MODEL BASED ON[WESTRUM]. 62

Tables

TABLE 1-1, CONTINUOUS EVERYTHING ASPECTS. 2
TABLE 1-2, APPENDICES. 3
TABLE 2-1, COMMON PROBLEMS WHEN USING A PLANNING TOOL. 8
TABLE 3-1, COMMON PROBLEMS WHEN USING A DESIGN. 14
TABLE 4-1, COMMON PROBLEMS WHEN APPLYING TESTS. 20
TABLE 5-1, COMMON PROBLEMS WHEN APPLYING SOFTWARE DEVELOPMENT. 28

TABLE 6-1, COMMON ISSUES WHEN APPLYING CONTINUOUS DEPLOYMENT. 35
TABLE 7-1, COMMON PROBLEMS WHEN HANDLING A MONITOR FACILITY. 43
TABLE 7-2, EVENT CORRELATION WITH AI. 47
TABLE 8-1, COMMON ISSUES WHEN APPLYING CONTINUOUS LEARNING. 58
TABLE 8-2, CHARACTERISTICS AND BEHAVIORS IN I-T-E SHAPED PEOPLE. 61

Appendices

APPENDIX A, ABBREVIATIONS 65
APPENDIX B, INDEX 69

Introduction

Development & Operations, in short DevOps, has been the starting point for deepening our knowledge of Continuous Everything. This is with reference to the concepts of Continuous Integration/Continuous Deployment (CI/CD) that are frequently discussed in the concept of DevOps. The aspects of DevOps are related to the concept of Continuous and the steps in the development/management cycle (also known as the DevOps Lemniscate).

Understanding DevOps keeps companies busy to provide an optimal interpretation of the 'old' concepts of development and management. Unfortunately, no unambiguous elaboration of DevOps can be found in the literature or on the Internet. It quickly becomes apparent that DevOps is 'a philosophy'. In other words: not strictly defined and explainable and interpreted in several ways. Companies therefore struggle with this concept. The Concept Continuous Everything gives a simple and uniform structure to define the knowledge and knowhow of each Continuous Everything aspect like Continuous Integration and Continuous Deployment.

This book ‘Continuous Everything an introduction’ comprises seven aspects of Continuous Everything, namely Continuous Planning, Continuous Design, Continuous Testing, Continuous Integration, Continuous Deployment, Continuous Monitoring and Continuous Learning. This forms a compact book, in which a piece of knowledge and experience that Bart de Best has gathered in the field of Continuous Everything is disclosed.

This book contains a very detailed description of these Continuous Everything aspects of DevOps. This includes the various best practices that are put forward from practical experience in a theoretical context. This context makes it possible to relate the aspects to each other Continuous Everything aspects.

We are proud to have supported Bart with a small group of professionals in the development of all aspects of Continuous Everything. With Bart's unstoppable drive, there is now a very full toolbox with best practices for DevOps, of which this book is an introduction. In particular the coherence is a solid addition to the use of the concepts surrounding the aspects of DevOps.

Happy reading, flipping through the book, contemplating Continuous Everything!

Dr. Louis van Hemmen – BitAll b.v.

Preface

This book has been compiled from my experiences with Continuous Everything. This concept indicates two aspects of DevOps (Development & Operations), namely Continuous and Everything. The continuous nature of DevOps is mainly reflected in the high frequency of delivery and the fast feedback that is obtained as a result. Everything refers to the fact that not only software must be delivered Continuously, but that all aspects of computerisation must move along with it.

The goal of this book is to give an overview of the Continuous Everything aspects of both the development and operations part of DevOps. This is the basis of getting started with DevOps in a consistent and harmonious way by putting the DevOps puzzle together step by step. This book is a bundle of seven CE books namely Continuous Planning, Continuous Design, Continuous Testing, Continuous Integration, Continuous Deployment, Continuous Monitoring and Continuous Learning.

This is a snapshot of the best practices I am using right now. Given the speed at which the world of DevOps is developing and the need to give you as many images as possible with as little text as possible on how to deal with this area of Continuous Everything, I have decided to keep this book Agile. This means that in this book I briefly describe every aspect. I hereby share important insights that I have gained during my role as a consultant, trainer, coach, and examiner with regard to related work of this area. Where appropriate, I refer to sources that I myself have consulted for further training. I realise that these best practices will not apply to all information systems and that the approach is a snapshot that may be outdated due to the increasing speed of innovation.

I have already shared many of my experiences in the articles on www.ITpedia.nl. I have also translated the knowledge and skills into various training courses that I provide. These can be found at www.dbmetrics.nl.

I would like to express my sincere thanks to the following people for their inspiring contribution to this book and the great collaboration!

• D. (Dennis) Boersen	Argis IT Consultants
• F. (Freek) de Cloe	smartdocs.com
• J.A.E. (Jane) ten Have	-
• Dr. L.J.G.T. (Louis) van Hemmen	BitAll B.V.
• J.W. (Jan-Willem) Hordijk	Cloud Advisor - Nordcloud, an IBM company
• W. (Willem) Kok	Argis IT Consultants
• N (Niels) Talens	www.nielstalens.nl
• D. (Dennis) Wit	ING

I wish you a lot of fun reading this book and, above all, much success in applying this aspect of Continuous Everything within your own organisation.

If you have any questions or comments, please don't hesitate to contact me. A lot of time has gone into making this book as complete and consistent as possible. Should you nevertheless find shortcomings, I would appreciate it if you would inform me, so that these matters can be incorporated in the next edition.

Bart de Best, Zoetermeer.
bartb@dbmetrics.nl

1 Introduction

Reading guide:
The first section of this chapter sets out the purpose of this book (1.1). Then the target group (1.2) is named. Section 1.3 discusses the background of Continuous Everything and section 1.4 the structure and content of the book by briefly stating what is covered by each chapter. This chapter concludes with a discussion of the appendices (1.5) and a reading guide (1.6).

1.1 Objective

The primary objective of this book is to provide a Continuous Everything toolbox. This book discusses seven key Continuous Everything aspect areas. There are certainly many other aspect areas of Continuous Everything, but the ones selected in this book are a good foundation. The depth of the aspect areas has been kept limited because the purpose of this book is to provide an introduction. The book is intended as a first introduction for anyone dealing with DevOps.

1.2 Target group

The target group of Continuous Everything are all involved officials in the DevOps teams. This includes the architects, Dev engineers, Ops engineers, Product owners, Scrum masters, Agile Coaches, and representatives of the user organisation. This book is of course also very suitable for line managers, process owners, process managers, etcetera who are involved in the creation of information provision through a DevOps method. Finally, there is a target group that does not develop or manage, but that determines whether the value streams meet the required criteria. This target group includes quality employees and auditors. They can use this book to identify risks that need to be accepted or controlled.

1.3 Background

This book contains various methods and techniques to give content to Continuous Everything in a continuous way. The DevOps Lemniscate provides an overview of the key Continuous Everything aspect areas, as shown in Figure 1-1.

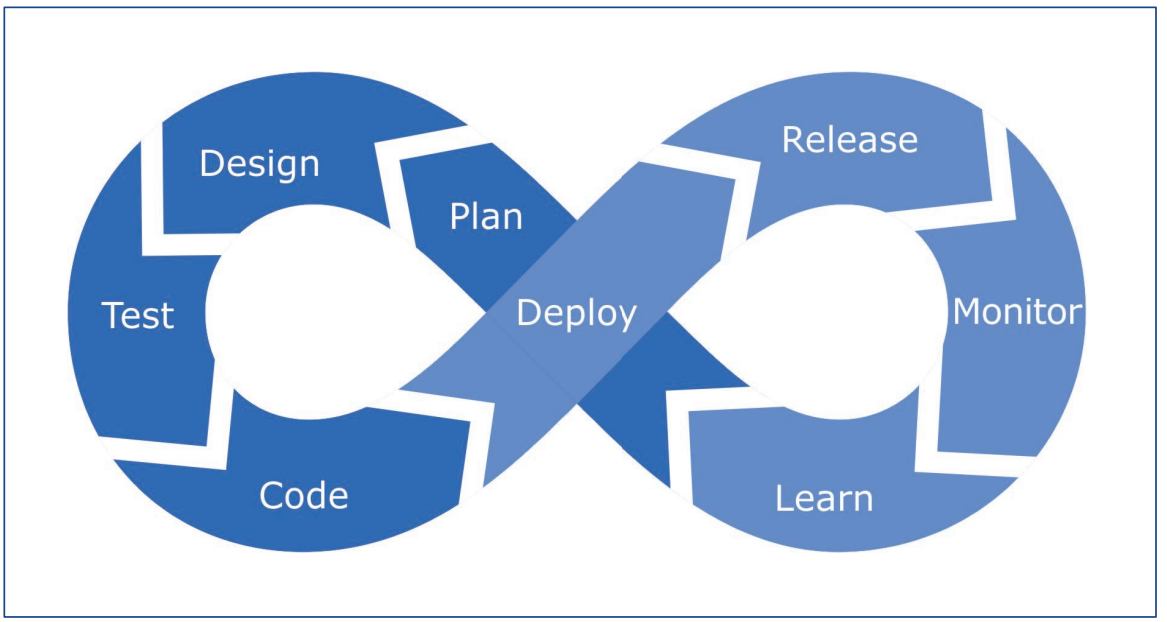


Figure 1-1, DevOps Lemniscate.

The DevOps Lemniscate provides an overview of the phases to be followed to continuously produce software. The DevOps Lemniscate is therefore a good basis for defining the concept of Continuous Everything (CE).

The CE concept describes all phases of the DevOps Lemniscate in the form of activities to be performed continuously. Table 1-1 shows the relationship between the steps of the DevOps Lemniscate and the Continuous Everything aspect areas.

Development		Operations	
1	Continuous Planning (Plan)	6	Continuous Deployment (Release)
2	Continuous Design (Design)	7	Continuous Monitoring (Monitor)
3	Continuous Testing (Test)	8	Continuous Learning (Learn)
4	Continuous Integration (Code)	9	Continuous Auditing (-)
5	Continuous Deployment (Deploy)	10	Continuous Assessment (-)

Table 1-1, Continuous Everything aspects.

Continuous Auditing (9) and Continuous Assessment (10) are not represented in the DevOps Lemniscate, as are other Continuous aspect areas such as Continuous Robotics and Continuous Growth. This is done to keep the DevOps Lemniscate uncomplicated.

The word 'Continuous' refers to a number of characteristics that indicate the work within a DevOps team. Firstly, the frequency of actions is higher than in traditional system development. This relates to both the construction and the deployment of what has been built. This can vary from minutes, hours, and days in deployment frequency. In addition, 'Continuous' refers to a holistic view of the work. For example, monitoring is not limited to the production environment, but all environments are monitored. Also, not only the products and services are monitored, but also value streams and even people's knowledge and skills. This is in line with the people, process, partner, and technology views of ITIL 4. Finally, the term 'Continuous' indicates that all phases of the DevOps Lemniscate are related to each other. For example, Continuous Testing is used in the steps 'Plan', 'Design', 'Code', 'Deploy' and 'Monitor'.

1.4 Structure

This book has been constructed by summarising seven previously published books in this book, namely:

- DevOps Continuous Planning
- DevOps Continuous Design
- DevOps Continuous Testing
- DevOps Continuous Integration
- DevOps Continuous Deployment
- DevOps Continuous Monitoring
- DevOps Continuous Learning

1.4.1 Hoofdstuk 2 - Continuous Planning

Continuous Planning is an approach to get a grip on changes that are made in the information provision in order to realise the outcome improvement of the business processes and thus achieve the business goals. The approach is aimed at multiple levels, whereby an Agile planning technique is provided for each level that refines the higher-level planning. In this way, planning can be made at a strategic, tactical, and operational level and in an Agile manner that creates as little overhead and as much value as possible. This book discusses the roadmap to value, the continuous planning model and the balanced scorecard.

1.4.2 Hoofdstuk 3 - Continuous Design

Continuous Design is an approach that aims to allow DevOps teams to briefly think in advance about the contours of the information system to be realised and to allow the design to grow during the Agile project (emerging design). This prevents interface risks and guarantees essential knowledge transfer to service management and compliancy with laws and regulations. Elements that guarantee the continuity of an organisation. This book discusses the Continuous Design pyramid model.

1.4.3 Hoofdstuk 4 - Continuous Testing

Continuous Testing is an approach that aims to provide rapid feedback in the software development process by defining the 'what' and 'how' questions as test cases before starting to build the solution. As a result, the concepts of requirements, test cases and acceptance criteria are integrated in one approach. This book discusses the ideal test pyramid.

1.4.4 Hoofdstuk 5 - Continuous Integration
Continuous Integration is a holistic Lean software development approach that aims to produce and put into production continuous software in an incremental and iterative way, with waste reduction as a high priority. The incremental and iterative method of Continuous Integration makes fast feedback possible because functionalities can be put into production earlier. This reduces waste because the corrective actions are faster because they are found earlier and can be solved quicker. This book discusses how to get from source code to binary code, interactive programming, version management and the plan do check act approach.

1.4.5 Hoofdstuk 6 - Continuous Deployment
Continuous Deployment is a holistic Lean production approach that aims to deploy and release continuous software in an incremental and iterative way, where time to market and high quality are of paramount importance. Continuous Deployment enables fast feedback because errors are detected earlier in production of the CI/CD secure pipeline. This makes repair actions quicker and cheaper, which leads to a waste reduction. This book describes the DTAP street, the difference between source code and object code, the CI/CD secure pipeline, the required repositories and the continuous deployment roadmap.

1.4.6 Hoofdstuk 7 - Continuous Monitoring
Continuous Monitoring is an approach to get a grip on both core value streams (business processes) and enable value streams that support these core value streams. Continuous Monitoring differs from classical monitoring because of the focus on outcome improvement and the holistic scope with which value streams are measured, i.e., the entire CI/CD secure pipeline for all four perspectives of PPPT: People, Process, Partners, and Technology. This makes it possible to map and eliminate or mitigate the bottlenecks in value streams. This book describes the continuous monitoring governance model, the continuous monitoring layer model, the difference between SOR, SOE and SOI; the lead and lag performance indicators control model and the monitor hierarchy model.

1.4.7 Hoofdstuk 8 - Continuous Learning
Continuous Learning is an approach to get a grip on the competences needed to realise your organisation's strategy. To this end, Continuous Learning offers Human Resource Management an approach that explores the organisational needs of competences step by step and converts these needs into competency profiles. A competence profile is defined here as the set of knowledge, skills, and behavior at a certain Bloom level that produces a certain result. Competence profiles are then merged into roles that in turn form functions. In this way an Agile job house is obtained. This book discusses the continuous learning model, the Bloom's taxonomy model, the energy level model, the I-T-E shaped model, the high-performance model based on Westrum, the Schneider Cultuursystemen model, the Colour model of De Caluwé and Vermaak, the value chain of Porter, Porter's recursive value chain and the continuous learning model.

1.5 Appendices
The appendices contain important information that helps to better understand Continuous Everything.

Appendix	Subject	Explanation
A	Abbreviations	Within the world of DevOps many abbreviations are used. Frequently used terms have been abbreviated for the readability of this book. The first time an abbreviation is used, it is shown in brackets behind the full term.
B	Index	The index includes references to terms used in this book.

Table 1-2, Appendices.

1.6 Reading guidelines
The number of abbreviations in this book is limited. However, terms that keep coming back are represented as abbreviations to increase readability. Appendix A lists these abbreviations.

Appendices

Appendix A, Abbreviations

Abbreviation	Meaning
%C/A	Percent Complete / Accurate
AWS	Amazon Web Services
BDD	Behavior Driven Development
BI	Business Intelligence
BOK	Body of Knowledge
BSC	Balanced Score Card
BVS	Business Value System
CA	Competitive Advantage
CA	Continuous Auditing
CAB	Change Advisory Board
CAMS	Culture, Automation, Measurement and Sharing
CD	Continuous Deployment
CE	Continuous Everything
CEM	Central Event Monitor
CEMLI	Configuration, Extension, Modification, Localisation, Integration
CEO	Chief Executive Officer
CFO	Chief Finance Officer
CI	Configuration Item
CI	Continuous Integration
CIA	Confidentiality, Integrity & Accessibility (or Availability)
CIO	Chief Information Officer
CL	Continuous Learning
CM	Continuous Monitoring
CMDB	Configuration Management DataBase
CMMI	Capability Maturity Model Integration
CMS	Configuration Management System
CN	Continuous desigN
CO	Continuous dOcumentation
CoC	Code of Conduct
CoP	Communities of Practice
CP	Continuous Planning
CPU	Central Processing Unit
CR	Competitive Response
CRAMM	CCTA Risk Assessment Method Methodology
CRC	Cyclic Redundancy Check
CS	Continuous aSsessment
CSF	Critical Success Factor
CT	Continuous Testing
CTO	Chief Technical Officer
CY	Continuous securitY
DevOps	Development & Operations
DML	Definitive Media Library

Abbreviation	Meaning
DNS	Domain Name System
DoD	Definition of Done
DoR	Definition of Ready
DTAP	Development, Test, Acceptance and Production
DU	Definitional Uncertainty
DVS	Development Value System
E2E	End-to-End
ERD	Entity Relation Diagram
ERP	Enterprise Resource Planning
ESA	Epic Solution Approach
ESB	Enterprise Service Bus
ETL	Extract Transform & Load
EUX	End User eXperience Monitoring
FAT	Functionele Acceptance Test
FSA	Feature Solution Approach
GCC	General Computer Controls
GDPR	General Data Protection Regulation
GIT	Global Information Tracker
GSA	Generic & Specific Acceptance Criteria
GUI	Graphical User Interface
GWT	Given-When-Then
HRM	Human Resource Management
HRR	Hand-off Readiness Review
IaC	Infrastructure as Code
ICT	Information Communication Technology
ID	Identifier
INVEST	Independent, Negotiable, Valuable, Estimatable, Small and Testable
IPOPS	Information assets, People, Organisation, Products, and services, Systems and processes
IR	Infrastructure Risk
ISAE	International Standard On Assurance Engagements
ISMS	Information Security Management System
ISO	Information Standardisation Organisation
ISVS	Information Security Value System
IT	Information Technology
ITIL	Information Technology Infrastructure Library
ITSM	Information Technology Service Management
JIT	Just In Time
JKK	Ji-Kotei-Kanketsu
JVM	Java Virtual Machine
KPI	Key Performance Indicator
LAN	Local Area Network
LCM	LifeCycle Management

Abbreviation	Meaning
LDAP	Lightweight Directory Access Protocol
LRR	Launch Readiness Review
LT	Lead Time
MASR	Modify, Avoid, Share, Retain
MFA	Multi Factor Authentication
MI	Management Information
MOF	Microsoft Operations Framework
MRI	Minimum Required Information
MT	Module Test
MTBF	Mean Time Between Failure
MTBSI	Mean Time Between System Incidents
MTTR	Mean Time To Repair
MVP	Minimal Viable Product
NC	Non-Conformity
NFR	Non-Functional Requirement
OAWOW	One Agile Way of Working
OLA	Operational Level Agreement
PAAS	Platform As A Service
PAT	Production Acceptance Test
PBI	Productie Backlog Item
PDCA	Plan Do Check Act
PESTLE	Political, Economic, Sociological, Technological, Legislative, Environmental
POR	Project or Organisational Risk
PPT	People, Process & Technology
PST	Performance StressTest
PT	Processing Time
QA	Quality Assurance
QC	Quality Control
RACI	Responsibility, Accountable, Consulted, and Informed
RASCI	Responsibility, Accountable, Supporting, Consulted and Informed
RBAC	Role Based Access Control
REST API	REpresentational State Transfer Application Programming Interface
ROI	Return On Investment
RUM	Real User Monitoring
S-CI	Software Configuration Item
SA	Strategic IS Architecture
SAFe	Scaled Agile Framework
SAT	Security Acceptance Test
SBAR	Situation, Background, Assessment, Recommendation
SBB	System Building Block
SBB-A	System Building Block Application
SBB-I	System Building Block Information

Abbreviation	Meaning
SBB-T	System Building Block Technology
SIT	System Integration test
SLA	Service Level Agreement
SM	Strategic Match
SMART	Specific, Measurable, Accountable, Realistic, Timely
SME	Subject Matter Expert
SNMP	Simple Network Management Protocol
SoA	Statement of Applicability
SoE	System of Engagement
SoI	Systems of Information
SoR	System of Records
SoX	Sarbanes Oxley
SQL	Structured Query Language
SRG	Standards Rules & Guidelines
SSL	Secure Sockets Layer
ST	System test
SVS	Service Value System
TCO	Total Cost of Ownership
TCP	Transmission Control Protocol
TDD	Test Driven Development
TFS	Team Foundation Server
TISO	Technical Information Security Officer
TOM	Target Operating Model
TPS	Toyota Production System
TTM	Time To Market
TU	Technical Uncertainty
UAT	User Acceptance Test
UML	Unified Modeling Language
UT	Unit Testing
UX design	User eXperience Design
VOIP	Voice over Internet Protocol
VSM	Value Stream Mapping
WAN	Wide Area Network
WIP	Work In Progress
WMI	Windows Management Instrumentation
WoW	Way of Working
XML	eXtensible Markup Language
XP	eXtreme Programming

Table A-1, Abbreviations.

.

Appendix B, Index

%

%C/A · 65

A

acceptance criterion · 20
acceptance environment · 18
Agile project · 2, 8
Agile Scrum · 5, 9, 52, 55, 61
Amazon Web Services · See AWS
anti-pattern · 11, 21, 35
application · 18, 19
architecture model · 9, 14, 43, 49, 56, 58
AWS · 65

B

Balanced Score Card · See BSC
Balanced scorecard · 5, 6, 7, 9, 58
BDD · 15, 65
Behavior Driven Development · See BDD
BI · 65
binary code · 23
binary repository · 34
black box · 17, 18, 19
Bloom · 50
Bloom level · 3
Bloom's taxonomy model · 49
Body of Knowledge · See BOK
BOK · 59, 65
bottleneck · 3, 9, 41, 43, 61
boundary · 12
BSC · 65
business
- case · 5, 8, 52
- service monitoring · 44
- view · 11

Business Intelligence · See BI
Business Value System · See BVS
BVS · 65

C

CA · 65
CAB · 65
CAMS · 65
Capability Maturity Model Integration · See CMMI
CCTA Risk Assessment Method Methodology · See CRAMM
CD · 17, 65
CE · 65
CEM · 65
CEMLI · 65
Central Event Monitor · See CEM
Central Processing Unit · See CPU
CEO · 65
CFO · 65
chain · 33, 41, 44, 55, 56, 57
Change Advisory Board · See CAB
Chief Executive Officer · See CEO
Chief Finance Officer · See CFO
Chief Information Officer · See CIO
Chief Technology Officer · See CTO
CI · 17, 65
CI/CD secure pipeline · 3, 7, 17, 20, 24, 31, 32, 34, 35, 42, 52, 61
CIA · 65
CIO · 65
CL · 65
CM · 65
CMDB · 65
CMMI · 65
CMS · 65
CN · 65
CO · 65
CoC · 65
Code of Conduct · See CoC
code view · 11, 40
communicate · 54
Communities of Practice · See CoP
competency profile · 3
Competitive Advantage · See CA
Competitive Response · See CR
Completeness / Accurateness · See %C/A
Confidentiality, Integrity & Accessibility · See CIA
Configuration Item · See CI
Configuration Management DataBase · See CMDB
Configuration Management System · See CMS
Configuration, Extention, Modification, Localisation, Integration · See CEMLI
Continuous
- Assessment · 2, 7, 13, 42, 58
- Auditing · 2
- Deployment · 2
- Design · 2
- Design Pyramid · 14
- Integration · 2
- Learning · 2
- Monitoring · 2
- Monitoring Layer model · 40, 41, 42, 45
- Planning · 2
- Planning model · 6, 9
- Testing · 2

Continuous aSsessment · See CS
Continuous Auditing · See CA
Continuous Deployment · See CD
Continuous desigN · See CN

Continuous dOcumentation · See CO
Continuous Everything · See CE
Continuous Integration · See CI
Continuous Learning · See CL
Continuous Monitoring · See CM
Continuous Planning · See CP
Continuous securitY · See CY
Continuous Testing · See CT
control model · 46
CoP · 65
core value stream · 39
countermeasure · 8, 19, 28, 35, 39
CP · 65
CPU · 65
CR · 65
CRAMM · 65
CRC · 65
Critical Success Factor · See CSF
CS · 65
CSF · 39, 43, 65
CT · 65
CTO · 65
Culture, Automation, Measurement and Sharing · See CAMS
customer perspective · 7
CY · 65
Cyclic Redundancy Check · See CRC

D

Definition of Done · See DoD
Definition of Ready · See DoR
Definitional Uncertainty · See DU
Definitive Media Library · See DML
deployment frequency · 2
design · 68
design view · 11
Dev engineer · 1, 32, 33
Development & Operations · See DevOps
Development Value System · See DVS
Development, Test, Acceptance and Production · See DTAP
DevOps · 65
- engineer · 7, 9, 26, 29, 40
- Lemniscate · 1, 2, 31
- method · 1
DML · 65
DNS · 66
DoD · 13, 20, 26, 66
Domain Name System · See DNS
DoR · 66
DTAP · 66
DU · 66
DVS · 56, 66

E

E2E · 66
emerging design · 2
End User eXperience Monitoring · See EUX
End-to-End · See E2E
enterprise architecture · 5, 8, 9, 12
Enterprise Resource Planning · See ERP
Enterprise Service Bus · See ESB
Entity Relation Diagram · See ERD
epic · 8, 14, 20, 28, 35, 66
Epic Solution Approach · See ESA
ERD · 66
ERP · 66
ESA · 66
ESB · 66
ETL · 66
EUX · 66
eXtensible Markup Language · See XML
Extract Transform & Load · See ETL
eXtreme Programming · See XP

F

fast feedback · 3, 20, 27, 29, 34, 35, 51
FAT · 18, 66
feature · 14, 24
Feature Solution Approach · See FSA
financial perspective · 7
FSA · 66
Functional Acceptance Test · See FAT

G

GAT · 18
GCC · 66
GDPR · 66
General Computer Controls · See GCC
General Data Protection Regulation · See GDPR
Generic & Specific Acceptance criteria · See GSA
Gherkin language · 13
Git · 26
GIT · 66
Given When Then · See GWT
Global Information Tracker · See GIT
governance · 78
Graphical User Interface · See GUI
green code · 28
GSA · 66
GUI · 66
GWT · 20, 66

H

Hand-off Readiness Review · See HRR
holistisch · 58
HRM · 50, 58, 59, 66
HRR · 66
Human Resource Management · See HRM

I

IaC · 66
ICT · 66
ID · 66
IDentifier · See ID
incident · 46
incidents · 35
Independent, Negotiable, Valuable, Estimatable, Small and Testable · See INVEST
Information assets, People, Organisation, Products and services, Systems and processes · See IPOPS
Information Communication Technology · See ICT
Information Security Management System · See ISMS
Information Security Value System · See ISVS
Information Standardisation Organisation · See ISO
Information Technology · See IT
Information Technology Infrastructure Library · See ITIL
Information Technology Service Management · See ITSM
Infrastructure as Code · See IaC
Infrastructure Risk · See IR
International Standard On Assurance Engagements · See ISAE
INVEST · 66
IPOPS · 66
IR · 66
ISAE · 66
ISMS · 66
ISO · 66
ISVS · 56, 66
IT · 66
ITIL · 66
ITIL 4 · 2, 57
ITSM · 66

J

Java Virtual Machine · See JVM
Ji-Kotei-Kanketsu · See, See JKK
JIT · 66
JKK · 66
Just In Time · See JIT
JVM · 66

K

Key Performance Indicator · See KPI
knowledge transfer · 2
KPI · 13, 39, 40, 43, 66

L

LAN · 66
Launch Readiness Review · See LRR
LCM · 66
LDAP · 67
Lead Time · See LT
LifeCycle Management · See LCM
Lightweight Directory Access Protocol · See LDAP
limitation · 43
Local Area Network · See LAN
LRR · 67
LT · 67

M

Management Information · See MI
MASR · 67
maturity · 12
Mean Time Between Failure · See MTBF
Mean Time Between System Incidents · See MTBSI
Mean Time To Repair · See MTTR
metadata · 48
MFA · 67
MI · 67
Microsoft Operations Framework · See MOF
migration path · 7
Minimal Viable Product · See MVP
Minimum Required Information · See MRI
mission · 9, 52, 62
Modify, Avoid, Share, Retain · *See* MASR
Module Test · See MT
MOF · 67
monitor facility · 43
MRI · 67
MT · 67
MTBF · 67
MTBSI · 67
MTTR · 67
Multi Factor Authentication · See MFA
MVP · 67

N

NC · 67
negotiate · 54
NFR · 67
Non Conformity · See NC
Non Functional Requirement · See NFR
non-ideal test pyramid · 21

O

OAWOW · 67
objectcode · 33
OLA · 67
One Agile Way of Working · See OAWOW

operating model · 57
Operational Level Agreement · See OLA
Ops engineer · 1, 33

P

PAAS · 67
PAT · 19, 67
pattern · 37
- Container pattern · 36
- dark launching · 37
- feature flag · 37
- forward release · 37
- full release · 37
- incremental · 37
PBI · 67
PDCA · 67
People, Process & Technology · See PPT
performance · 67
performance indicator · 7, 43
Performance StressTest · See PST
PESTLE · 67
Plan Do Check Act · See PDCA
Platform As A Service · See PAAS
Political, Economic, Sociological, Technological, Legislative, Environmental · See PESTLE
POR · 67
Porter · 56, 57
PPT · 7, 20, 27, 34, 42, 67
Processing Time · See PT
product
- backlog · 7
- roadmap · 5, 8
- vision · 5, 8, 9
Product Backlog Item · See PBI
Production Acceptance Test · See PAT
Project or Organisational Risk · See POR
PST · 18, 67
PT · 67

Q

QA · 67
QC · 67
Quality Assurance · See QA
Quality Control · See QC

R

RACI · 67
RASCI · 67
RBAC · 67
Real User Monitoring · See RUM
refactoring · 26
regression test · 20
release · 2
release plan · 5
release planning · 5, 8
REpresentational State Transfer Application Programming Interface · See REST API
requirement · 67
requirement view · 11, 40
Responsibility, Accountable, Consulted and Informed · See RACI
Responsibility, Accountable, Supporting, Consulted and Informed · See RASCI
REST-API · 67
Return On Investment · See ROI
roadmap · 36
roadmap to value · 5, 8
Roadmap to value · 5, 7, 8, 9
ROI · 67
Role-based access control · See RBAC
RUM · 67

S

SA · 67
SAFe · 67
Sarbanes Oxley · See SoX
SAT · 19, 67
SBAR · 67
SBB · 67, 68
SBB-A · 67
SBB-I · 67
SBB-T · 68
Scaled Agile Framework · See SAFe
S-CI · 67
Secure Sockets Layer · See SSL
Security Acceptance Test · See SAT
service · 67
Service Level Agreement · See SLA
Service Value System · See SVS
shift-left · 33
Simple Network Management Protocol · See SNMP
SIT · 18, 68
Situation, Background, Assessment, Recommendation · See SBAR
SLA · 17, 40, 41, 42, 46, 68
SLA norm · 17, 40, 41, 46
SM · 68
SMART · 68
SME · 68
SNMP · 68
SoA · 68
SoE · 35, 41, 68
Software Configuration Item · See S-CI
SoI · 41, 68
solution view · 11
SoR · 35, 41, 68
SoX · 68
Specific, Measurable, Accountable, Realistic, Timely · See SMART
sprint planning · 9
SQL · 68
SRG · 26, 68
SSL · 68
ST · 68
stakeholder · 5, 8, 12, 13, 14, 42, 55

Standard Rules & Guidelines · See SRG
Statement of Applicability · See SoA
Strategic IS Architecture · See SA
Strategic Match · See SM
strategie · 58
strategy · 3, 5, 7, 9, 17, 19, 37, 49, 53, 54, 58, 59
Structured Query Language · See SQL
Subject Matter Expert · See SME
SVS · 56, 57, 68
System Building Block · See SBB
System Building Block Application · See SBB-A
System Building Block Infrastructure · See SBB-I
System Building Block Technology · See SBB-T
System Integration Test · See SIT
System of Engagement · See SoE
System of Records · See SoR
System Test · See ST
Systems of Information · See SoI

T

Target Operating Model · See TOM
taxonomy · 49, 50
TCO · 68
TCP · 68
TDD · 13, 20, 29, 68
Team Foundation Server · See TFS
technical debt · 52
Technical Information Security Officer · See TISO
Technical Uncertainty · See TU
Test Driven Development · See TDD
test view · 11
TFS · 68
theme · 14
Time To Market · See TTM
TISO · 68
TOM · 68
Total Cost of Ownership · See TCO
Toyota Production System · See TPS
TPS · 56, 68
traceability · 14, 27
trage feedback · 13
Transmission Control Protocol · See TCP
TTM · 68
TU · 68

U

UAT · 68
UML · 68
Unified Modeling Language · See UML
Unit Test · See UT
Use Case · 13
Use Case Diagram · 12, 13
User Acceptance Test · See UAT
User eXperience Design · See UX design
UT · 68
UX design · 68

V

value chain · 55, 56, 57, 58, 59
value stream · 9, 68
Value Stream Canvas model · 12
Value Stream Mapping · See VSM
version control · 28
vision · 5, 7, 8, 9
V-model · 9
Voice over Internet Protocol · See VOIP
VOIP · 68
VSM · 68

W

WAN · 68
waste reduction · 3, 19, 20, 27, 34
Way of Working · See WoW
Westrum · 52, 58
Wide Area Network · See WAN
Windows Management Instrumentation · See WMI
WIP · 68
WMI · 68
Work In Progress · See WIP
WoW · 68

X

XML · 68
XP · 68

Epilogue

My experience is that the ideas I capture in an article or book continue to evolve. If you are going to work with a certain topic from this book in your own DevOps organisation, I advise you to contact me. Perhaps there are additional articles or experiences in this area that I can share with you. This also applies inversely proportionally. If you have any experiences that complement what is described in this book, I invite you to share them with me. You can reach me via my e-mail address bartb@dbmetrics.nl.

About the author

Drs. Ing. B. de Best RI has been working in ICT since 1985. He has mainly worked in the top 100 of Dutch business and government. He has held positions in all phases of system development, including operation and management, for 12 years. He then focused on the service management field. Currently, as a consultant, he fulfils all aspects of the knowledge lifecycle of service management, such as writing and providing training to ICT managers and service managers, advising management organisations in directing the management organisation, management design, improving management processes, outsourcing (parts of) the management organisation and reviewing and auditing management organisations. He graduated in management field at both HTS level and University level.

Other books by this author

Basiskennis IT

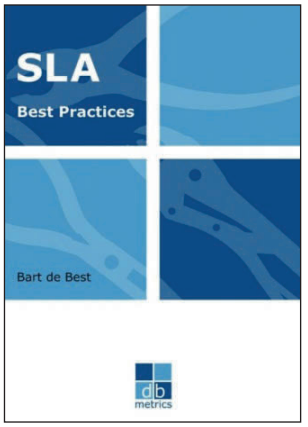
De eerste stap van een leven lang leren.

Het boek Basiskennis IT geeft een goede impressie wat dit vakgebied omvat. Zonder dat vele details worden besproken krijgt de lezer een uitleg van de meest essentiële begrippen en concepten van de IT. De doelgroep van dit boek zijn studenten, schoolverlaters en mensen die zich willen laten omscholen tot een beroep in de IT. Daartoe is het een heel nuttig middel als voorbereiding op IT trainingen.

De content bestaat uit het behandelen van IT begrippen uit vier perspectieven te weten het IT landschap, het ontwikkelen van software, het beheren van software en trends in de IT.

Hierbij worden tal van begrippen en concepten behandeld op het gebied van informatie, maatwerkprogrammatuur, systeemprogrammatuur, softwarepakketten, middleware, hardware, netwerk, processen, methoden en technieken. Op deze wijze bent u snel uw weg vinden in de wereld van IT, het begin van een leven lang leren.

Auteur	: Bart de Best
Uitgever	: Leonon Media, 2021
ISBN (NL)	: 978 94 92618 573



SLA Best Practices

Het volledige ABC van service level agreements.

Het belangrijkste bij het leveren van een service is dat de klant tevreden is over de geleverde prestaties. Door deze tevredenheid verkrijgt de leverancier heraankopen, wordt hij gepromote in de markt en is de continuïteit van het bedrijf geborgd. Wellicht nog het belangrijkste aspect van deze klanttevredenheid voor een leverancier is dat de betrokken medewerkers een drive krijgen om hun eigen kennis en kunde verder te ontwikkelen om nog meer klanten tevreden te stellen. Dit boek beschrijft de best practices om erachter te komen wat de Prestatie-Indicatoren (PI's) zijn die gemeten moeten worden om de tevredenheid van de klant te borgen.

Het tweede deel beschrijft de documenten die van toepassing zijn om de afspraken in vast te leggen. Het opstellen, afspreken, bewaken en evalueren van serviceafspraken is een vak op zich. Het derde deel geeft de gereedschappen om hier adequaat invulling aan te geven. De werkzaamheden rond serviceafspraken herhalen zich in de tijd. Deel vier van dit boek beschrijft hoe deze werkzaamheden in een proces gevat kunnen worden en hoe dit proces het beste in de organisatie kan worden vormgegeven. Tot slot geeft bespreekt dit boek een aantal raakvlakken van serviceafspraken en een tweetal artikelen met SLA best practices.

Auteur	: Bart de Best
Uitgever	: Leonon Media, 2011
ISBN (NL)	: 978 90 7150 1456

Cloud SLA
The best practices of cloud service level agreements

More and more organisations are opting to replace traditional ICT services with cloud services. Drawing up effective SLAs for traditional ICT services is a real challenge for many organisations. With the advent of cloud services, this initially seems much simpler, but soon the difficult questions such as data ownership, information links and security are addressed. This book describes what cloud services are. The risks that organisations run when entering into contracts and SLAs are discussed. Based on a long list of risks and countermeasures, this book also provides recommendations for the design and content of the various service level management documents for cloud services.
This book first defines the term 'cloud' and then describes various aspects such as cloud patterns and the role of a cloud broker. The core of the book concerns the discussion of contract aspects, service documents, service designs, risks, SLAs, and cloud governance. To enable the reader to immediately get started with cloud SLAs, the book also includes checklists of the following documents: Underpinning Contract (UC), Service Level Agreement (SLA), File Financial Agreements (DFA), Dossier Agreements and Procedures (DAP), External Spec Sheets (ESS) and Internal Spec Sheets (ISS).

Author : Bart de Best
Publisher : Leonon Media, 2014
ISBN (NL) : 978 90 7150 1739
ISBN (UK) : 978 94 9261 8009

SLA Templates
A complete set of SLA templates

The most important thing in providing a service is that the customer is satisfied with the delivered performance. With this satisfaction, the supplier gets re-purchasing's, promotions in the market and is the continuity of the company ensured. Perhaps the most important aspect of this customer satisfaction for a supplier is that the employees in question get a drive to further develop their own knowledge and skills to satisfy even more customers. This book describes the templates for Service Level Agreements in order to agree with the customer on the required service levels. This book gives both a template and an explanation for this template for all common service level management documents.

The following templates are included in this book:

- Service Level Agreement (SLA)
- Underpinning Contract (UC)
- Operational Level Agreement (OLA)
- Document Agreement and Procedures (DAP)
- Document Financial Agreements (DFA)
- Service Catalogue
- External Spec Sheet (ESS)
- Internal Spec Sheet (ISS)
- Service Quality Plan (SQP)
- Service Improvement Program (SQP)

Author : Bart de Best
Publisher : Leonon Media, 2017
ISBN (UK) : 978 94 92618 030
ISBN (Pocket Guide) : 978 94 92618 320

ICT Prestatie-indicatoren

De beheerorganisatie meetbaar gemaakt.

De laatste jaren is het maken van concrete afspraken over de ICT-serviceverlening steeds belangrijker geworden. Belangrijke oorzaken hiervoor zijn onder meer de stringentere wet- en regelgeving, de hogere eisen die gesteld worden vanuit regievoering over uitbestede services en de toegenomen complexiteit van informatiesystemen. Om op de gewenste servicenormen te kunnen sturen, is het belangrijk om een Performance Measurement System (PMS) te ontwikkelen. Daarmee kunnen niet alleen de te leveren ICT-services worden gemeten, maar tevens de benodigde ICT-organisatie om de ICT-services te verlenen.

Het meten van prestaties is alleen zinvol als bekend is wat de doelen zijn van de opdrachtgever. Daarom start dit boek met het beschrijven van de bestuurlijke behoefte van een organisatie en de wijze waarop deze vertaald kunnen worden naar een doeltreffend PMS. Het PMS is hierbij samengesteld uit een meetinstrument voor de vakgebieden service management, project management en human resource management. Voor elk van deze gebieden zijn tevens tal van prestatie-indicatoren benoemd. Hiermee vormt dit boek een onmisbaar instrument voor zowel ICT-managers, kwaliteitsmanagers, auditors, service managers, project managers, programma managers, proces managers, als human resource managers.

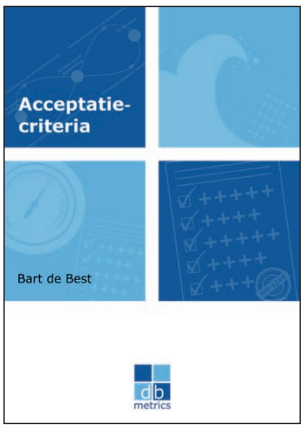
Auteur	: Bart de Best
Uitgever	: Leonon Media, 2011
ISBN (NL)	: 978 90 7150 1470

Quality Control & Assurance

Kwaliteit op maat.

De business stelt steeds hogere eisen aan de ICT-services die ICT-organisaties leveren. Niet alleen nemen de eisen van de overheid toe in de vorm van wet- en regelgeving, ook de dynamiek van de markt wordt hoger en de levenscyclus van business producten korter. De reactie van veel ICT-organisaties hierop is het hanteren van kwaliteitsmodellen zoals COBIT, ITIL, TOGAF en dergelijke. Helaas verzandt het toepassen van de best practices van deze modellen vaak omdat het model als doel wordt verklaard, hierdoor ontstaat veel overhead. Nut en noodzaak worden niet onderscheiden. In het beste geval is de borging van kwaliteit een golfbeweging met pieken en dalen waarop maar weinig grip op te krijgen is. Dit boek bespreekt op welke wijze de keuze voor kwaliteit concreet en kwantitatief gemaakt kan worden alsmede hoe de kwaliteit in de ICT-organisatie verankerd kan worden. De voorgestelde aanpak omvat zowel Quality Control (opzet en bestaan) als Quality Assurance (werking) voor ICT-processen. Hierbij worden de eisen die aan de ICT-organisatie worden gesteld vertaald naar procesrequirements (opzet) en worden deze binnen ICT-processen geborgd (bestaan). Periodiek worden deze gemeten (werking). Door requirements te classificeren naar tijd, geld, risicobeheersing en volwassenheid kan het management een bewuste keuze maken voor de toepassing van requirements. Hierdoor wordt kwaliteit meetbaar en blijft de overhead beperkt. Dit boek is een onmisbaar instrument voor kwaliteitsmanagers, auditors, lijnmanagers en proces managers.

Auteur	: Bart de Best
Uitgever	: Leonon Media, 2012
ISBN (NL)	: 978 90 7150 1531

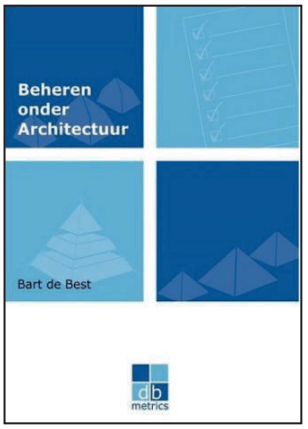


Acceptatiecriteria

Naar een effectieve en efficiënte acceptatie van producten en services in de informatietechnologie.

Acceptatiecriteria zijn een meetinstrument voor zowel gebruikers als beheerders om te bepalen of nieuwe of gewijzigde informatiesystemen voldoen aan de afgesproken requirements ten aanzien van functionaliteit, kwaliteit en beheerbaarheid. Er komt heel wat bij kijken om acceptatiecriteria te verankeren in beheerprocessen en systeemontwikkelingsprojecten. Het opstellen en het hanteren van acceptatiecriteria voor ICT-producten en ICT-services geschiedt bij veel organisaties met wisselend succes. Vaak worden acceptatiecriteria wel opgesteld, maar niet effectief gebruikt en verworden ze tot een noodzakelijk kwaad zonder kwaliteitsborgende werking. Dit boek geeft een analyse van de oorzaken van dit falen van de kwaliteitsbewaking. Als remedie worden drie stappenplannen geboden voor het afleiden, toepassen en invoeren van acceptatiecriteria. De doelgroep van dit boek omvat alle partijen die betrokken zijn bij de acceptatie van ICT-producten en ICT-services: de klanten, de leveranciers en de beheerders. Ook is er nog een doelgroep die niet accepteert, maar vaststelt of correct is geaccepteerd; hiertoe behoren kwaliteitsmanagers en auditors die het boek als normenkader kunnen gebruiken. In dit boek is een aantal casussen opgenomen die diverse manieren laten zien voor het effectief en efficiënt omgaan met acceptatiecriteria.

Auteur : Bart de Best
Uitgever : Leonon Media, 2014
ISBN (NL) : 978 90 7150 1784



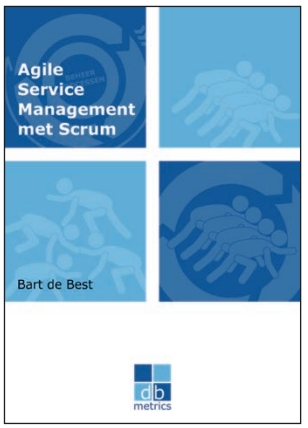
Beheren onder Architectuur

Het richting geven aan de inrichting van beheerorganisaties.

Veel organisaties zijn al jaren bezig met het vormgeven van de beheerorganisatie door vanaf de werkvloer te kijken wat er fout gaat en op basis daarvan verbetervoorstellen te formuleren. Hierbij wordt meestal gebruik gemaakt van beheermodellen, zoals ITIL, ASL en BiSL, omdat deze veel best practices bevatten. Deze bottom-up benadering werkt een lange tijd goed. De afstemming van de beheerorganisatie-inrichting op de behoefte van de business is daarmee echter nog geen feit. Het wezenlijke verschil met een top-down benadering is dat er eerst een kader gesteld wordt dat richting geeft aan de inrichting van de beheerorganisatie.

Dit kader bestaat uit beleidsuitgangspunten, architectuurprincipes en -modellen. Deze richtinggevendheid is ook van toe passing op de projectorganisatie waarin de producten en services worden vormgegeven die beheerd moeten gaan worden. Het eerste deel van dit boek positioneert dit gedachtegoed binnen de wereld van de informatievoorzieningsarchitectuur. Het tweede deel beschrijft een stappenplan om invulling te geven aan dit gedachtegoed aan de hand van vele best practices en checklists. Het derde deel beschrijft hoe beheren onder architectuur in de organisatie kan worden ingebed. Tot slot geeft het vierde deel een negental casussen van organisaties die het aangereikte stappenplan al hebben toegepast.

Auteur : Bart de Best
Uitgever : Leonon Media, 2017
ISBN (NL) : 978 90 7150 1913



Agile Service Management with scrum

Towards a healthy balance between the dynamics of development and the stability of information management.

The application of Agile software development is booming. The terms Scrum and Kanban are already established in many organisations. Agile software development sets different requirements for the implementation of software management. Many organisations are therefore busy considering this new challenge. Especially the interaction between the Scrum development process and the management of the software that the Scrum development process has produced is an important aspect area. This book discusses precisely this interaction.

Examples of topics that are discussed are the service portfolio, SLAs and the handling of incidents and change requests. This book first defines the risk areas when introducing Scrum and Kanban. After that, the various Agile concepts and concepts are discussed. The implementation of Agile service management is described at both organisational and process level. The relevant risks have been identified for each management process. It is also indicated how this can be implemented within the context of scrum.

Author	: Bart de Best
Publisher	: Leonon Media, 2014 (NL), 2018 (UK)
ISBN (NL)	: 978 90 7150 1807
ISBN (UK)	: 978 94 9261 8085

Agile Service Management with Scrum in Practice

Towards a healthy balance between the dynamics of development and the stability of information management.

Many companies are in the process of applying Agile software development in the form of Scrum or Kanban or have already started using the new development process. Sooner or later, the question arises as to how this development process relates to the management processes. This interface has already been examined in the book 'Agile Service Management with scrum' and a number of risks per management process have been identified. Countermeasures that can be taken are also defined. These risks were presented in a survey of ten organisations, and they were asked how they dealt with these risks.

It was also investigated which Agile aspects are applied and in particular those of Scrum or Kanban. Finally, each organisation performed a maturity assessment for both the Agile development process and the change management process. This book is the report on the research into the collaboration of Agile software development and management processes in practice. The target audience of this book includes all parties involved in the application of Agile software development and who would like to know how colleagues have designed this crucial interface for successful service provision. This book also provides a brief description of each organisation about the way in which the Agile development process is designed.

Author	: Bart de Best
Publisher	: Leonon Media, 2015 (NL), 2018 (UK)
ISBN (NL)	: 978 90 7150 1845
ISBN (UK)	: 978 94 9261 8177

DevOps Best Practices

Best Practices for DevOps

In recent years, many organisations have experienced the benefits of using Agile approaches such as Scrum and Kanban. The software is delivered faster whilst quality increases and costs decrease. The fact that many organisations that applied the Agile approach did not take into account the traditional service management techniques, in terms of information management, application management and infrastructure management, is a major disadvantage. The solution to this problem has been found in the Dev (Development) Ops (Operations) approach. Both worlds are merged into one team, thus sharing the knowledge and skills. This book is about sharing knowledge on how teams work together.

For each aspect of the DevOps process best practices are given in 30 separate articles. The covered aspects are Plan, Code, Build, Test, Release, Deploy, Operate and Monitor. Each article starts with the definition of the specifically used terms and one or more concepts. The body of each article is kept simple, short, and easy to read.

Author : Bart de Best
Publisher : Leonon Media, 2017 (UK), 2018 (UK)
ISBN (NL) : 978 94 92618 078
ISBN (Pocket Guide) : 978 94 92618 306

DevOps Architecture

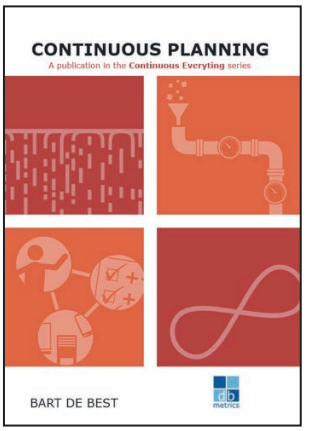
DevOps Architecture Best Practices

The world of systems development is changing at a rapid pace. In addition, Development (Dev) and Operations (Ops) are increasingly integrated so that solutions can be offered to the customer faster and of better quality. The question is how within this new view of DevOps there room is for Agile architecture. This book answers this question by providing many examples of architectural principles and models that guide the organisation and operation of a DevOps organisation. Throughout the book, as much as possible per paragraph, an explanation is given based on an imaginary company Assuritas.

This book consists of several parts, which makes the book modular. So, it does not have to be read from A to Z. The brief outline of the case company is followed by a discussion of the DevOps organisation from an architectural perspective. Then the DevOps management facility is discussed. Both treatises are made transparent based on the case company. After discussing the integration of the Dev and Ops roles, there are two useful analysis tools to determine the maturity of DevOps. The book concludes with a case in which the choice for Agile documentation is made based on architectural principles and models. This work on DevOps architecture is an indispensable tool in the design and implementation of a DevOps service organisation.

Author : Bart de Best
Publisher : Leonon Media, 2019
ISBN (NL) : 978 94 92618 061
ISBN (UK) : 978 90 71501 579

Continuous Everything books

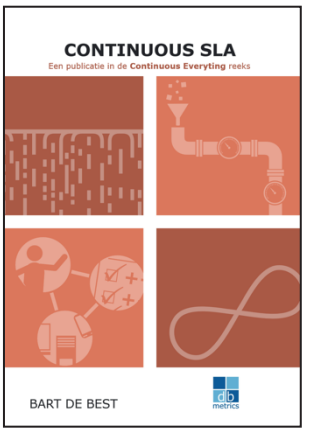


Continuous Planning

A publication in the Continuous Everything series.

Continuous Planning is an approach to get a grip on changes that are made in the information provision in order to realise the outcome improvement of the business processes and thus achieve the business goals. The approach is aimed at multiple levels, whereby an Agile planning technique is provided for each level that refines the higher-level planning. In this way, planning can be made at a strategic, tactical, and operational level and in an Agile manner that creates as little overhead as possible and as much value as possible. This book is a publication in the continuous everything series. The content consists of a discussion of planning techniques such as the balanced scorecard, enterprise architecture, product vision, roadmap, epic one pager, product backlog management, release planning and sprint planning. It also indicates how these techniques are related to each other. In addition, this book indicates how to set up continuous planning in your organisation based on the change manager paradigm and architecture principles and models. With this integral Agile approach to planning, you have a powerful tool at your disposal to systematically approach your organisation's strategy and thereby realise your business goals.

Author	: Bart de Best
Publisher	: Leonon Media, 2022
ISBN (NL)	: 978 94 92618 504
ISBN (UK)	: 978 94 92618 726



Continuous SLA

A publication in the Continuous Everything series.

Continuous SLA focuses on recognising risks that can harm the outcome of business processes (core value streams). These risks arise as a result of new construction and maintenance of information systems through Agile teams. Within the concept of Continuous SLA, these risks are analysed from different perspectives and provided with countermeasures by the DevOps team, also known as SLA controls. By making these SLA controls measurable, they become suitable planning objects that can be placed on the product backlog.

This book is a publication in the continuous everything series. The content consists of the discussion of techniques to identify and manage risks such as the use of Lean indicators, value stream mapping and information, application and technical architecture building blocks. In addition to the core value streams, the enable value streams such as management, information security and development value streams are also examined for risks that directly or indirectly harm the outcome. The recognised SLA controls are anchored in the Agile way of working by deepening the collaboration between, among others, the product owner and service level manager. This integrated approach to SLA controls makes it possible to get a grip on quality in Agile projects.

Auteur	: Bart de Best
Uitgever	: Leonon Media, 2023
ISBN (NL)	: 978 94 91480 263
ISBN (UK)	: 978 94 91480 256

Continuous Design

A publication in the Continuous Everything series.

Continuous Design is an approach that aims to allow DevOps teams to briefly think in advance about the contours of the information system to be realised and to allow the design to grow during the Agile project (emerging design). This prevents interface risks and guarantees essential knowledge transfer to support management and compliance with legislation and regulations. Elements that guarantee the continuity of an organisation. This book is a publication in the continuous everything series. The content consists of the continuous design pyramid model in which the following design views are defined: business, solution, design, requirements, test, and code view.

The continuous design encompasses the entire lifecycle of the information system. The first three views are completed based on modern design techniques such as value stream mapping and use cases. However, the emphasis of the effective application of a continuous design lies in the realisation of the information system, namely by integrating the design in the Behavior Driven Development and Test-Driven Development as well as in continuous documentation. With this Agile approach to design you have a powerful tool at your disposal to get a grip on an Agile development project.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 481
ISBN (UK) : 978 94 92618 702

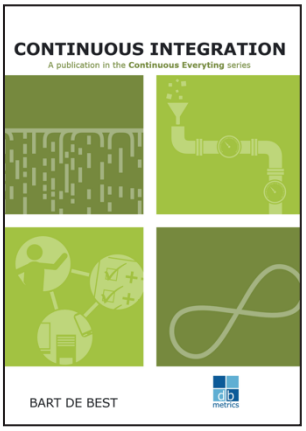
Continuous Testing

A publication in the Continuous Everything series.

Continuous Testing is an approach that aims to provide rapid feedback in the software development process by defining the 'what' and 'how' questions as test cases before starting to build the solution. As a result, the concepts of requirements, test cases and acceptance criteria are integrated in one approach. The term 'continuous' refers to the application of test management in all phases of the deployment pipeline, from requirements to production. The term 'continuous' also includes the aspects People, Process and Technology. This makes test management holistic. This book is a publication in the continuous everything series. The content consists of treating continuous testing based on a definition, business case, architecture, design, and best practices.

Concepts discussed are: the change paradigm, the ideal test pyramid, test metadata, Behavior Driven Development (BDD), Test Driven Development (TDD), test policies, test techniques, test tools and the role of unit test cases in continuous testing. In this way you are quickly up to date in the field of DevOps developments and in the field of continuous testing.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 450
ISBN (UK) : 978 94 92618 672



Continuous Integration

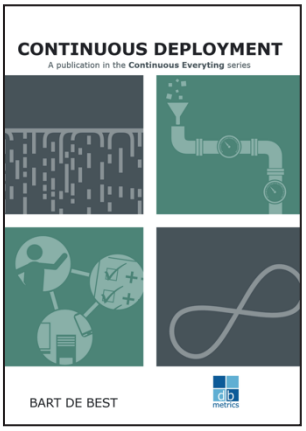
A publication in the Continuous Everything series.

Continuous Integration is a holistic Lean software development approach that aims to produce and put into production continuous software in an incremental and iterative way, where waste reduction is of paramount importance.

The word 'holistic' refers to the PPT concepts: People (multiple expert), Process (knowledge of business and management processes) and Technology (application and infrastructure programming). The incremental and iterative method makes fast feedback possible because functionalities can be put into production earlier. This reduces waste because defects are found earlier and can be repaired faster.

This book is a publication in the continuous everything series. The content consists of treating continuous integration based on a definition, business case, architecture, design, and best practices. Concepts discussed here are the change paradigm, the application of continuous integration, use of repositories, code quality, green code, green build, refactoring security-based development, and built-in failure mode. In this way you are quickly up to date in the field of DevOps developments with regard to continuous integration.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 467
ISBN (UK) : 978 94 92618 689



Continuous Deployment

A publication in the Continuous Everything series.

Continuous Deployment is a holistic Lean production approach that aims to deploy and release continuous software in an incremental and iterative way, where time to market and high quality are of paramount importance. The word 'holistic' refers to the PPT concepts: People (multiple expert), Process (knowledge of business and management processes) and Technology (application and infrastructure programming. The incremental and iterative deployments enable fast feedback because errors are more likely to are observed in production of the CI/CD secure pipeline, making recovery actions faster and cheaper, leading to a waste reduction.

This book is a publication in the continuous everything series. The content consists of treating continuous deployment based on a definition, business case, architecture, design, and best practices. Concepts that are discussed here are the change paradigm, the application of continuous deployment, a step-by-step plan for the systematic arrangement of continuous deployment and many patterns to allow deployments to take place. In this way you are quickly up to date in the field of DevOps developments in the field of continuous deployment.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 511
ISBN (UK) : 978 94 92618 733

Continuous Monitoring

A publication in the Continuous Everything series.

Continuous Monitoring is an approach to get a grip on both core value streams (business processes) and enable value streams that support these core value streams. Continuous monitoring differs from classical monitoring by its focus on outcome improvement and the holistic scope with which value streams are measured, i.e. the entire CI/CD secure pipeline for all three perspectives of PPT: People, Process and Technology.

The approach includes People, Process and Technology, which makes it possible to identify and eliminate or mitigate the bottlenecks in your value streams.

This book is a publication in the continuous everything series. The content consists of a discussion of the monitor functions defined in the continuous monitoring layer model. This layer model classifies the monitoring tools available on the market. Each monitor archetype is defined in this book in terms of definition, objective, measurement attributes, requirements, examples, and best practices. This book also indicates how to set up continuous monitoring in your organisation based on the change manager paradigm and architecture principles and models. With this integral agile approach to monitoring you have a powerful tool at your disposal to set up the controls for the control of your value streams.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 498
ISBN (UK) : 978 94 92618 719

Continuous Learning

A publication in the Continuous Everything series.

Continuous Learning is an approach to get a grip on the competences needed to realise your organisation's strategy. To this end, continuous learning offers Human Resource Management an approach that explores the organisational needs and competences step by step and converts these needs into competency profiles.

A competency profile is defined here as the set of knowledge, skills and behavior at a certain Bloom level that produces a certain result. Competency profiles are then merged into roles that in turn form functions. In this way an Agile job house is obtained. This book is a publication in the continuous everything series.

The content consists of a discussion of the continuous learning model that helps you to translate a value chain strategy step by step into a personal roadmap for employees. This book also indicates how to organise Continuous Learning in your organisation based on the paradigm of the change manager and architecture principles and models. With this agile approach to HRM you have a powerful tool to get the competences to the desired level of your organisation.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 528
ISBN (UK) : 978 94 92618 740

Continuous Assessment

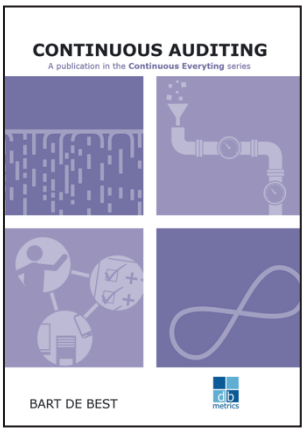
A publication in the Continuous Everything series.

Continuous Assessment is an approach that aims to allow DevOps teams to continuously develop in terms of knowledge and skills in the field of business, development, operations, and security. This book provides a tool to make the DevOps teams aware where they stand in terms of development and what next steps they can take to develop. This book is a publication in the continuous everything series.

The content consists of the business case for continuous assessment, the architecture of the two assessment models and the assessment questionnaires.

The DevOps Cube model is based on the idea that DevOps can be viewed from six different perspectives of a cube, namely: 'Flow', 'Feedback', 'continuous learning', 'Governance', 'Pipeline' and 'QA'. The DevOps CE model is based on the continuous everything perspectives, namely: 'continuous integration', 'continuous deployment', 'continuous testing', 'continuous monitoring', continuous documentation' and 'continuous learning'. This book is an excellent mirror for any DevOps team that wants to quickly form a complete picture of DevOps best practices to be adopted.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 474
ISBN (UK) : 978 94 92618 696



Continuous Auditing

A publication in the Continuous Everything series.

Continuous Auditing is an approach that aims to enable DevOps teams to demonstrate in a short cyclical way that they are in control when realizing, putting into production, and managing the new or modified products and services at a rapid pace.

As a result, compliance risks are prevented by already thinking about which risks to mitigate or eliminate from the requirements and the design based on them.

This book is a publication in the continuous everything series.

The content consists of an explanation of the continuous auditing pyramid model that describes the six steps to give substance to continuous auditing, namely: determining scope, determining goals, identifying risks, realizing controls, setting up monitoring facilities and demonstrating effectiveness of controls.

The Continuous Auditing concept thus encompasses the entire lifecycle of risk management. As a result, the risks are continuously under control. With this Agile approach of auditing, you have a powerful tool to get a grip on the compliancy of your Agile system development and management.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 542
ISBN (UK) : 978 94 92618 757

Continuous Security

A publication in the Continuous Everything series.

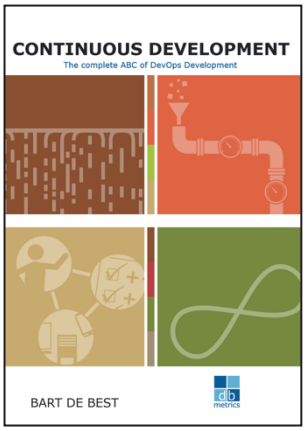
Continuous security is an approach that aims to keep an organisation in control from three perspectives:

- The business perspective: Business value streams are in control of the identified risks by continuously testing the effectiveness of the controls deployed and recording evidence.
- The development perspective: Development value streams are in control by integrally including the non-functional requirements for information security in the development.
- The operations perspective: Operations value streams are in control for the production of the new and changed ICT services through an adequate design of the CI/CD secure pipeline in which controls automatically test the non-functional requirements.

This book is a publication in the continuous everything series. The content consists of a discussion of the application of ISO 27001 on the basis of three sets of security practices, namely Governance, Risk and Quality. The practices are provided with a definition and objective. In addition, examples and best practices are given.

The continuous security concept is designed to be used in Agile Scrum (development) and DevOps (Development & Operations) environments. To this end, it connects seamlessly to common Agile management models. This Agile approach to information security provides you with a powerful tool to get a grip on the compliance of your Agile system development and management.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 91480 171
ISBN (UK) : 978 94 91480 188



Continuous Development

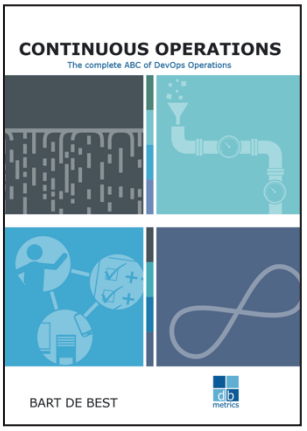
A publication in the Continuous Everything series.

Continuous Everything is the collective name for all Continuous developments that are currently going on in the DevOps world. By placing these under one heading, structure can be applied to individual developments and best practices can be defined on the basis of patterns.

The term 'Continuous' includes the terms: outcome driven development, incremental & iterative working, waste reduction through a Lean approach, holistic working by including people, process, partner & technology in the scope and giving continuous attention to a deliverable (product or service) across the entire lifecycle from an end-to-end approach.

This book is a collection of four Continuous Everything books, namely: Continuous Planning, Continuous Design, Continuous Testing and Continuous Integration. For each Continuous Everything aspect area it is indicated how to organise it in your organisation based on the change manager paradigm and architecture principles and models. The best practices are also discussed per aspect area. With this book in hand, you have a powerful tool to further your DevOps skills.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 641
ISBN (UK) : 978 94 92618 764



Continuous Operations

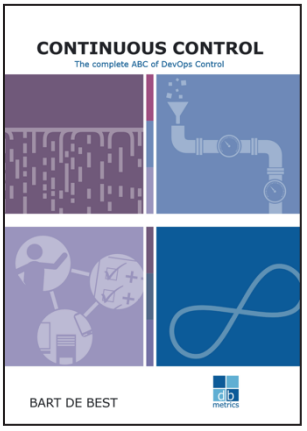
A publication in the Continuous Everything series.

Continuous Everything is the collective name for all Continuous developments that are currently going on in the DevOps world. By placing these under one heading, structure can be applied to individual developments and best practices can be defined on the basis of patterns.

The term 'Continuous' includes the terms: outcome driven development, incremental & iterative working, waste reduction through a Lean approach, holistic working by including people, process, partner & technology in the scope and giving continuous attention to a deliverable (product or service) across the entire lifecycle from an end-to-end approach.

This book is a collection of four Continuous Everything books, namely: Continuous Deployment, Continuous Monitoring, Continuous Learning and Continuous Assessment. For each Continuous Everything aspect area it is indicated how to organise it in your organisation based on the change manager paradigm and architecture principles and models. The best practices are also discussed per aspect area. With this book in hand, you have a powerful tool to further your DevOps skills.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 658
ISBN (UK) : 978 94 92618 771



Continuous Control

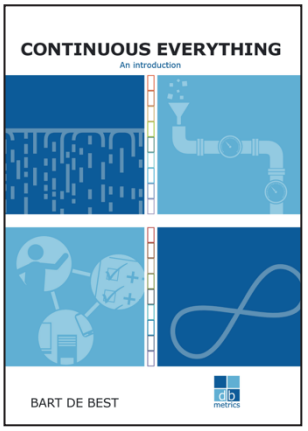
A publication in the Continuous Everything series.

Continuous Everything is the collective name for all Continuous developments that are currently going on in the DevOps world. By placing these under one heading, structure can be applied to individual developments and best practices can be defined on the basis of patterns.

The term 'Continuous' includes the terms: outcome driven development, incremental & iterative working, waste reduction through a Lean approach, holistic working by including people, process, partner & technology in the scope and giving continuous attention to a deliverable product or service across the entire lifecycle from an end-to-end approach.

This book is a collection of three Continuous Everything books, namely: Continuous Assessment, Continuous Security, Continuous Audit. For each Continuous Everything aspect area it is indicated how to organise it in your organisation based on the change manager paradigm and architecture principles and models. The best practices are also discussed per aspect area. With this book in hand, you have a powerful tool to further your DevOps skills.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 91480 195
ISBN (UK) : 978 94 91480 201



Continuous Everything an introduction

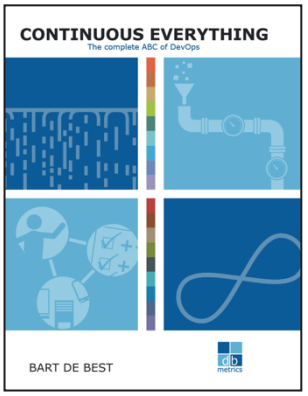
A publication in the Continuous Everything series.

Continuous Everything is the collective name for all Continuous developments that are currently going on in the DevOps world. By placing these under one heading, structure can be applied to individual developments and best practices can be defined on the basis of patterns.

The term 'Continuous' includes the terms: outcome driven development, incremental & iterative working, waste reduction through a Lean approach, holistic working by including people, process, partner & technology in the scope and giving continuous attention to a deliverable product or service across the entire lifecycle from an end-to-end approach.

This book is an introduction to Continuous Everything aspects, namely: Continuous Planning, Continuous Design, Continuous Testing, Continuous Integration, Continuous Deployment, Continuous Monitoring and Continuous Learning. For each Continuous Everything aspect area the following topics are explained: the basic concepts, the definition, the problems to be solved and the most important models. With this book in hand you have a good overview of what Continuous Everything entails.

Author : Bart de Best
Publisher : Leonon Media, 2023
ISBN (NL) : 978 94 91480 270
ISBN (UK) : 978 94 91480 287



Continuous Everything

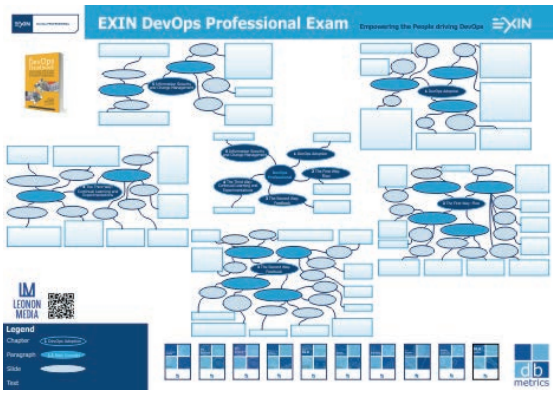
A publication in the Continuous Everything series.

Continuous Everything is the collective name for all Continuous developments that are currently going on in the DevOps world. By placing these under one heading, structure can be applied to individual developments and best practices can be defined on the basis of patterns.

The term 'Continuous' includes the terms: outcome driven development, incremental & iterative working, waste reduction through a Lean approach, holistic working by including people, process, partner & technology in the scope and giving continuous attention to a deliverable product or service across the entire lifecycle from an end-to-end approach.

This book is a collection of eight Continuous Everything books, namely: Continuous Planning, Continuous Design, Continuous Testing, Continuous Integration, Continuous Deployment, Continuous Monitoring, Continuous Learning and Continuous Assessment. For each Continuous Everything aspect area it is indicated how to organise it in your organisation based on the change manager paradigm and architecture principles and models. The best practices are also discussed per aspect area. With this book in hand, you have a powerful tool to further your DevOps skills.

Author : Bart de Best
Publisher : Leonon Media, 2022
ISBN (NL) : 978 94 92618 597
ISBN (UK) : 978 94 92618 665



Author : Bart de Best
Publisher : Leonon Media, 2018
Ordering : info@leonon.nl

DevOps Poster

DevOps Professional Exam Poster

This poster lists all the DevOps terms that a student must learn in order to pass the exam of DevOps Professional of Exin. This poster can be ordered at info@leonon.nl.

The subjects on the poster are based on the basic training material of Exin. Since there are many terms to be learned, this poster will help to learn them by reviewing them all at once daily.

CONTINUOUS EVERYTHING

Een introductie

Bart de Best

Continuous Everything is de verzamelnaam van alle Continuous ontwikkelingen die er momenteel gaande zijn in de DevOps wereld.

Door deze onder één noemer te laten vallen kan er structuur worden aangebracht aan de individuele ontwikkelingen en kunnen op basis van patterns best practices worden gedefinieerd.

Het begrip 'Continuous' omvat de termen: outcome driven development, incrementeel & iteratief werken, waste reductie door een Lean aanpak, holistisch werken door people, process, partner & technology in de scope mee te nemen en continue aandacht te geven aan een op te leveren product of service in de hele levenscyclus vanuit een end-to-end benadering.

Dit boek is een introductie van Continuous Everything aspecten te weten: Continuous Planning, Continuous Design, Continuous Testing, Continuous Integration, Continuous Deployment, Continuous Monitoring en Continuous Learning. Voor elk Continuous Everything aspectgebied wordt behandeld wat de basisconcepten zijn, wat de definitie is, wat de op te lossen problemen zijn en worden de belangrijkste modellen besproken.

Met dit boek in de hand heeft u goed overzicht wat Continuous Everything inhoudt.

db metrics

ISBN 978-9-491480-27-0

9 789491 480270 >