

Michael Missbach
George Anderson

Fifth Edition

Thoroughly updated
and expanded.
Includes new
coverage of HANA,
simplified finance,
and SAP's SaaS
solutions

Sams **Teach Yourself**

SAP

in **24**
Hours

SAMS

FREE SAMPLE CHAPTER

SHARE WITH OTHERS



Michael Missbach
George Anderson

Sams **Teach Yourself**

SAP

Fifth Edition

in **24**
Hours

SAMS

800 East 96th Street, Indianapolis, Indiana, 46240 USA

Sams Teach Yourself SAP in 24 Hours, Fifth Edition

Copyright © 2016 by Pearson Education, Inc.

All rights reserved. No part of this book shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. No patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this book, the publisher and author assume no responsibility for errors or omissions. Nor is any liability assumed for damages resulting from the use of the information contained herein.

ISBN-13: 978-0-672-33740-6

ISBN-10: 0-672-33740-1

Library of Congress Control Number: 2015910544

Printed in the United States of America

First Printing September 2015

Trademarks

All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. Sams Publishing cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark.

Warning and Disclaimer

Every effort has been made to make this book as complete and as accurate as possible, but no warranty or fitness is implied. The information provided is on an “as is” basis. The authors and the publisher shall have neither liability nor responsibility to any person or entity with respect to any loss or damages arising from the information contained in this book or from the use of programs accompanying it.

Special Sales

For information about buying this title in bulk quantities, or for special sales opportunities (which may include electronic versions; custom cover designs; and content particular to your business, training goals, marketing focus, or branding interests), please contact our corporate sales department at corpsales@pearsoned.com or (800) 382-3419.

For government sales inquiries, please contact governmentsales@pearsoned.com.

For questions about sales outside the U.S., please contact international@pearsoned.com.

Editor-in-Chief

Mark Taub

Executive Editor

Laura Lewin

Development Editor

Sheri Replin

Managing Editor

Kristy Hart

Project Editor

Elaine Wiley

Copy Editor

Kitty Wilson

Indexer

Lisa Stumpf

Proofreader

Laura Hernandez

Technical Editors

Andreas Jenzer

Jeff Davis

Editorial Assistant

Olivia Basegio

Cover Designer

Mark Shirar

Compositor

Nonie Ratcliff

Contents at a Glance

Introduction	1
Part I: Introduction to SAP	
HOUR 1 SAP Explained	7
2 SAP Business Basics	17
3 SAP Technology Basics	31
4 SAP Project Basics	51
Part II: SAP Applications and Components	
HOUR 5 Overview of SAP Applications and Components	69
6 SAP NetWeaver and HANA	87
7 SAP ERP and Business Suite	109
8 SAP on the Cloud and New SAP Solutions	129
Part III: SAP for Business Users	
HOUR 9 A Business User's Perspective on Using SAP	149
10 Using SAP's Traditional and New User Interfaces	161
11 Using SAP ERP to Do Your Job	179
12 Using Other SAP Business Suite Applications	197
13 Using SAP for Reporting	205
14 Using Simplified Finance and Office Integration	221
Part IV: SAP for IT Professionals	
HOUR 15 An SAP Project Manager's Perspective	245
16 A Technology Professional's Perspective on SAP	265
17 An SAP Developer's Perspective	287
18 SAP Installation and Implementation	303
19 SAP and the Cloud	325
20 SAP System Administration and Management	345
21 SAP Enhancements, Upgrades, and More	359

Part V: SAP Careers

HOURL 22	SAP Careers for the Business User.....	373
23	SAP Careers for the IT Professional.....	389
24	Other Resources and Closing Thoughts.....	399
APPENDIX A	Case Study Answers.....	411
	Index.....	425

Table of Contents

Introduction	1
Part I: Introduction to SAP	
HOURL 1: SAP Explained	7
Overview of SAP: The Company	7
SAP Business Applications	9
Connecting the Dots	11
Summary	14
Case Study: Hour 1	14
HOURL 2: SAP Business Basics	17
The SAP Business Roadmap	17
SAP's Purpose: To Run the Business	19
Other Perspectives: Mapping Business Needs to SAP Applications	23
A Sampling of SAP Business Processes	26
Summary	28
Case Study: Hour 2	29
HOURL 3: SAP Technology Basics	31
SAP Technology	31
What Is the Best Platform for SAP?	37
Memory: Fast but Volatile	40
Storage: Hard Disks and Other Disks	40
SAP System Landscapes	42
Database Basics for SAP	45
Future Developments	47
Summary	48
Case Study: Hour 3	48

HOURL 4: SAP Project Basics	51
Running an SAP Project: The Basics	51
First Steps in Pursuing an SAP Project	52
The SAP Project Lifecycle	54
Organizing a Project by Tasks	59
Organizing a Project by Roles	61
Summary	65
Case Study: Hour 4	65
 Part II: SAP Applications and Components	
HOURL 5: Overview of SAP Applications and Components	69
A Real-Time Vision	69
SAP Business Suite Components	72
SAP NetWeaver Components	75
Small and Medium Enterprises	76
SAP Business One	78
SAP Business ByDesign	79
SAP All-in-One	81
Selecting the “Best” SME Solution	83
Choosing SAP SME Offerings over Business Suite	85
Summary	86
Case Study: Hour 5	86
 HOURL 6: SAP NetWeaver and HANA	 87
The Foundation for SAP	87
The SAP NetWeaver Umbrella: Six Areas	88
Bringing It All Together	93
The Business Case for HANA	97
HANA Cloud Offerings	104
Summary	107
Case Study: Hour 6	107
 HOURL 7: SAP ERP and Business Suite	 109
SAP ERP Business Scenarios	110
Summary	126
Case Study: Hour 7	127

HOUR 8: SAP on the Cloud and New SAP Solutions	129
What Kind of Cloud?	129
SAP's Way to the Cloud	133
Newly Acquired SAP Solutions	136
Summary	145
Case Study: Hour 8	145
Part III: SAP for Business Users	
HOUR 9: A Business User's Perspective on Using SAP	149
Before SAP Is Deployed: The Business User's Role	150
A Sampling of SAP Business Transactions	153
Summary	159
Case Study: Hour 9	160
HOUR 10: Using SAP's Traditional and New User Interfaces	161
The SAPGUI	161
SAPGUI Elements and Other Basics	165
SAPGUI Navigation Basics	166
SAPGUI Screen Objects	170
Using the Windows Clipboard	172
Additional Legacy Interfaces	172
SAP's New User Interfaces and Tools	174
Summary	178
Case Study: Hour 10	178
HOUR 11: Using SAP ERP to Do Your Job	179
The Four SAP Business Scenarios	179
Other Popular Business Transactions	193
Summary	196
Case Study: Hour 11	196
HOUR 12: Using Other SAP Business Suite Applications	197
Using SAP SRM	197
Using SAP CRM	199
Using SAP SCM	200

Using SAP PLM	202
Summary	203
Case Study: Hour 12	203
HOURL 13: Using SAP for Reporting	205
Types of SAP Reporting Users	205
SAP Business Objects	208
SAP NetWeaver BW Family	211
SAP ERP Operational Reporting Tools	212
Legacy SAP Reporting Options	213
Summary	219
Case Study: Hour 13	220
HOURL 14: Using Simplified Finance and Office Integration	221
SAP Simple Finance Add-On	221
Integrating SAP with Desktop Applications	230
Using %pc to Download Data	231
OpenText Archiving for SAP	239
SAP and Adobe Forms	240
Summary	241
Case Study: Hour 14	241
 Part IV: SAP for IT Professionals	
HOURL 15: An SAP Project Manager’s Perspective	245
The SAP Implementation Methodology	245
Introduction to ASAP	246
SAP Program and Project Leadership	251
The Project Team’s Subteams	256
Project Team Member Characteristics	260
Project Tools and Other Methodologies	260
Project Closeout	261
Summary	262
Case Study: Hour 15	262

HOURL 16: A Technology Professional's Perspective on SAP	265
Shifting Focus: From Business to Technology	265
Understanding the SAP Quicksizer	270
Beyond the Quicksizer: Measurement-Based Sizing	272
Can Performance Be Guaranteed?	273
Understanding SAP Availability	274
Security Considerations	278
Network Considerations	282
Operational Considerations	284
Summary	286
Case Study: Hour 16	286
HOURL 17: An SAP Developer's Perspective	287
Programming Tools	287
Developer and SAP Methodologies	290
Configuration and the SAP IMG	293
Different Views of the IMG	294
Additional IMG Fundamentals	297
Summary	300
Case Study: Hour 17	301
HOURL 18: SAP Installation and Implementation	303
First Steps	303
SAP Installation Preparation	304
Locating and Downloading SAP Software	306
Infrastructure Readiness	311
Installing the SAP Trial Version	314
HANA on Public Cloud Platforms	316
The SAP Cloud Appliance Library	320
Introducing SAP Single Sign-on	322
Summary	323
Case Study: Hour 18	323

HOURL 19: SAP and the Cloud	325
Forecast: Fairly Cloudy	325
Bringing Together SAP and the Cloud	328
Moving SAP Systems to the Cloud	330
SAP as a Service?	331
Project Monsoon	334
Integrating SAP SaaS Solutions	337
Summary	342
Case Study: Hour 19	342
HOURL 20: SAP System Administration and Management	345
Management Tools	345
Day-to-Day SAP Monitoring	354
Summary	358
Case Study: Hour 20	358
HOURL 21: SAP Enhancements, Upgrades, and More	359
Setting the Stage: Making Changes to SAP	359
Enhancement and Upgrade Terminology	360
High-Level Project Planning	366
Summary	369
Case Study: Hour 21	369
Part V: SAP Careers	
HOURL 22: SAP Careers for the Business User	373
Types of Business Jobs	373
First Steps: Experience, Training, Networking, and Certifications	374
Other Ideas	379
Preparing for a Business Career in SAP	381
Summary	386
Case Study: Hour 22	386

HOUR 23: SAP Careers for the IT Professional	389
SAP, Its Partners, and Its Customers	389
Types of Available Opportunities	391
Preparing for a Career in SAP	393
Using Your Existing Technical Expertise	394
Working on the Intangibles	396
Summary	396
Case Study: Hour 23	397
HOUR 24: Other Resources and Closing Thoughts	399
Professional Resources	399
Internet Resources	405
SAP Conferences and Events	406
Employment and Career Opportunities	408
Summary	409
Case Study: Hour 24	410
APPENDIX A: Case Study Answers	411
Case Study: Hour 1 Answers	411
Case Study: Hour 2 Answers	412
Case Study: Hour 3 Answers	412
Case Study: Hour 4 Answers	413
Case Study: Hour 5 Answers	413
Case Study: Hour 6 Answers	414
Case Study: Hour 7 Answers	414
Case Study: Hour 8 Answers	415
Case Study: Hour 9 Answers	416
Case Study: Hour 10 Answers	417
Case Study: Hour 11 Answers	417
Case Study: Hour 12 Answers	418
Case Study: Hour 13 Answers	418
Case Study: Hour 14 Answers	419
Case Study: Hour 15 Answers	419
Case Study: Hour 16 Answers	420
Case Study: Hour 17 Answers	420

Case Study: Hour 18 Answers	420
Case Study: Hour 19 Answers	421
Case Study: Hour 20 Answers	421
Case Study: Hour 21 Answers	422
Case Study: Hour 22 Answers	422
Case Study: Hour 23 Answers	423
Case Study: Hour 24 Answers	423
Index	425

About the Authors

Dr. Michael Missbach, Manager of the Cisco SAP Competence Center, focuses on best practices for SAP HANA and other mission-critical applications in public and private cloud scenarios. Earlier, he worked as IT Superintendent for ALCOA. He has also written books on SAP hardware, SAP system operation, adaptive SAP infrastructures, SAP on Windows, and SAP on the cloud.

Dr. George Anderson, senior architect and program manager for Microsoft Services, specializes in designing and deploying mission-critical SAP and Microsoft Dynamics solutions. A certified SAP technical consultant, PMI PMP, and Six Sigma black belt, he has also written books on SAP implementation, performance testing, and project management.

Acknowledgments

This book is the product of voluntary work completed over many nights, weekends, and airplane flights. We wish to extend a special thank you to all of our customers and colleagues who selflessly provided so much help in the form of insight, tips, contributions, reviews, and constructive criticism. Without their support, we would not have been able to write this book.

In particular, we would like to call out the following people: Sean Donaldson and Len Landale from secure-24 and Steffi Dünnebieer from Grand-consult for their contributions to the topic of systems management; Gerhard Lausser for his insights on Nagios; Antonie Katschinsky from Cap Gemini for much of the introduction on simplified finance; Cameron Gardiner from Microsoft for his deep expertise around SAP and the cloud; and Andreas Jenzer, Jeff Davis, Sebastian Lenz, and Stefan Schiele for their proofreading and SAP application and technical insight. The practical experience of all of our advisors added much of the enduring value of this book, and their support was a great source of encouragement.

We Want to Hear from You!

As the reader of this book, you are our most important critic and commentator. We value your opinion and want to know what we're doing right, what we could do better, what areas you'd like to see us publish in, and any other words of wisdom you're willing to pass our way.

We welcome your comments. You can email or write to let us know what you did or didn't like about this book—as well as what we can do to make our books better.

Please note that we cannot help you with technical problems related to the topic of this book.

When you write, please be sure to include this book's title and author as well as your name and email address. We will carefully review your comments and share them with the author and editors who worked on the book.

Email: consumer@sampublishing.com

Mail: Sams Publishing
ATTN: Reader Feedback
800 East 96th Street
Indianapolis, IN 46240 USA

Reader Services

Visit our website and register this book at informit.com/register for convenient access to any updates, downloads, or errata that might be available for this book.

Introduction

Now that we've covered the basics of SAP and what it means "The world of SAP and our world in general have gone through major upheavals in the last few years, and I was excited to share with SAPlings and veterans alike just how much had changed." This is how George Anderson started the introduction of the 4th edition of this book in 2011. And it reflects exactly how I felt when he and Sams asked me to take over as the primary author for this newest edition: thrilled! And honored as well. Seriously! Actually, George and I shared the work to rewrite and edit this 5th edition. We introduced many more screen shots and other graphics, and revised the format while preserving the most teachable aspects of earlier editions.

In addition, we added a tremendous amount of new material. From the introduction of new technologies such as in-memory HANA databases and hosting platforms to SAP's new user interfaces, newly acquired cloud-based Software as a Service solutions, new reporting applications, and more, we've essentially rewritten many of the hours from the ground up.

Because the IT world in general has changed so dramatically, we found it useful to provide a broader foundation than ever before. We've incorporated new topics such as the Internet of Things, new mobile device technologies, and how social media and big data are changing the IT playing field. And we've briefly covered data security threats and other developments alongside plausible or possible future trends. Our goal in doing so was to help you think more deeply about where SAP fits in, where the gaps are, and therefore where some of the biggest future challenges might be found.

So thank you for picking up the latest and yes, best ever, edition of *Sams Teach Yourself SAP in 24 Hours*. We are confident you'll find it worth your time.

The hours are organized into five easy-to-consume sections. Part I naturally starts with an introduction to all the basics. Part II covers SAP's new and older business applications and components. In this way, the stage is set for us to explore SAP from a business user perspective (Part III) and then from an IT professional's perspective (Part IV). Part V concludes with three hours devoted to helping you start or grow a career in SAP.

Along the way, we have covered what we think matters most to SAP newcomers. For our business user readers, we've put together several hours that walk through actual business transactions. We explore what it means to create sales orders, check on customer records, update employee personnel records, and more. We provide lists of business transaction codes used in SAP's Business Suite to execute common business transactions. And we explore reporting and query processes executed not only from SAP ERP itself but also from SAP's Business Objects and other applications. In this way, prospective SAP business users will get a better feel for what a day-in-the-life looks like for many SAP end users.

For our technical readers, we've returned to providing deeper content, and we've done something we hope is especially helpful. Feedback from readers let us know that it has become quite difficult and confusing to navigate the SAP Service Marketplace, Developer Network, Help Portal, and various blogs to find the basic installation guides, essential technical information, and so on. So we've added detailed step-by-step "how to locate" material alongside the technical details.

We also quickly walk through the installation of the trial version of SAP, covering both on-premise and in-the-cloud installations. With a "real" SAP system on hand, you'll be able to better apply in real-time what we explore together across these 24 hours. We also explore the world of the SAP developer, look at what it means to prepare for technical upgrades, and explore steps necessary for managing an SAP implementation project. By covering SAP technology from several different perspectives, including cutting-edge insight related to SAP and cloud computing, even our more experienced technical readers will be better positioned to make a difference at work.

Armed with new insight and awareness, we suspect our readers will be more effective than ever. You'll be that rare person who is broad enough to understand the big picture and smart enough to realize you still have a long journey ahead of you. But with this knowledge alone, you'll be well on your way to transforming yourself, your career, and your future.

What's Covered

This book covers what you need to know to understand SAP's core products and components, which are often collectively referred to simply (and vaguely!) as "SAP." Though this is a beginner's book, it provides a well-rounded and current outlook on SAP today. As career SAP professionals, your authors, contributors, and technical editors have made sure that this book reflects the real world.

This latest edition continues to target the two largest audiences of those interested in learning about SAP: business users and IT professionals. Readers will appreciate how the book is arranged around these two very different types of skill sets and interests. And by providing an overview to each area coupled with actionable steps or guidance, we believe you will find this to yet again be the most useful and teachable *Teach Yourself SAP in 24 Hours* to date.

The book begins with the basics, introducing terminology regarding SAP and its business applications, technology underpinnings, and project implementation considerations. From there begins the process of carefully building on your newfound knowledge to piece together the complex world of SAP's applications and components. The pace of the book is designed to provide a solid foundation up front so you can grasp the more advanced topics covered in later hours. In this way, even a novice should quickly understand what it means to plan for, deploy, and use SAP. With this understanding, you'll also begin to appreciate the roles that so many people play in SAP projects and ongoing maintenance—how executive leadership, project management, business applications, technical deployment, and the application's business users all come together to create, use, and manage SAP over its lifecycle.

The first several chapters establish a deeper foundation than past editions, bringing readers up to speed before breaking matters down into areas targeted at business users or IT professionals. The book's hours are also organized more clearly, making it even easier for readers interested in a particular subject area to quickly locate the material that's most interesting to them. And as in the previous edition, each chapter concludes with a real-world case study that enables readers to put their new-found knowledge to the test.

What's Really New

Beyond important structural changes and a clear focus on business users and IT professionals, this latest edition of *Teach Yourself SAP in 24 Hours* includes new content reflecting

- ▶ SAP's newest cloud-based and other products and acquisitions, including Ariba, Concur, Fieldglass, hybris, and SuccessFactors
- ▶ The strategy behind HANA, along with business cases explaining when and how to benefit from it
- ▶ Where SAP Simple Finance fits into SAP's application portfolio
- ▶ Much deeper and broader technology platform details
- ▶ Reporting applications beyond SAP ERP's legacy reporting capabilities, including Business Objects Explorer, Crystal Reports, Xcelcius, Web Intelligence, and more
- ▶ Improved real-world SAP project implementation, migration, and upgrade guidance
- ▶ Use of SAP Solution Manager to address systems management and monitoring well beyond traditional CCMS
- ▶ New ideas and next steps related to career development

To give you a sense of how SAP businesses work with SAP at their desks every day, the book also includes real-world transactions used to run common SAP business scenarios. Several of these scenarios are detailed, whereas others simply reflect the kind of work that users might regularly perform in SAP CRM, ERP, PLM, SCM, and SRM systems.

Who Should Read This Book

This book is for people new to SAP, as well as for experienced people interested in filling in some of their own SAP knowledge gaps. Because the past five years have seen tremendous changes in the SAP application landscape, even the most seasoned SAP professionals will still benefit from Hours 3, 5, 6, 8, 13, 14, 18, 19, 20, and 21 (as well as significant portions of Hours 4, 7, 10, and 16).

From all of us at Sams, we hope you enjoy this read. More importantly, we hope this material helps give you the jump-start you need to make a difference in the world around you. Thank you again for adding our latest book to your personal library.

Conventions Used in This Book

Each hour starts with “What You’ll Learn in This Hour,” a brief list of bulleted points highlighting the hour’s contents. Each hour also includes a summary highlighting key takeaways. Finally, each hour concludes with a case study with questions and answers relevant to the material in that hour.

PART I

Introduction to SAP

HOUR 1	SAP Explained	7
HOUR 2	SAP Business Basics	17
HOUR 3	SAP Technology Basics	31
HOUR 4	SAP Project Basics	51

This page intentionally left blank

This page intentionally left blank

HOUR 8

SAP on the Cloud and New SAP Solutions

What You'll Learn in This Hour:

- ▶ The different flavors of cloud services for SAP
- ▶ SAP's road to the cloud
- ▶ Running classic SAP solutions on the cloud
- ▶ HEC versus HPC
- ▶ New SAP solutions: SuccessFactors, Ariba, Fieldglass, Concur, and hybris

Despite its great tradition of in-house developments from R/3 to HANA, SAP has never been shy about acquiring other companies to extend its application portfolio and gain access to new technologies. Examples from the past include Business Objects, Kiefer & Veittinger, and Sybase's database technologies.

At this writing, Wikipedia lists 59 SAP acquisitions, with Concur Technologies being the latest. Among these acquisitions are several cloud-based Software as a Service (SaaS) solutions that were already successful on the market. With HANA Enterprise Cloud (HEC) and HANA Cloud Platform (HCP), SAP also added Platform as a Service (PaaS) and hosting services to its portfolio. In this hour, we provide a general overview of these solutions, how they fit into the big picture, how they are used, and the value they provide.

To business readers, it makes no difference whether SAP runs on premise (in a company's in-house datacenter) or out on the cloud somewhere, so you may skip the first half of this hour and move directly to the section "Newly Acquired SAP Solutions," which describes SAP's new solutions.

What Kind of Cloud?

Discussions about the cloud tend to contain a confusing variety of acronyms. Obviously, every vendor defines its own cloud according to the product portfolio it has available.

The cloud definitions of the National Institute of Standards and Technology¹ are so general that they are not much help in understanding cloud options. To understand the options relevant for SAP, it is helpful to take a look how other services are offered in the market.

An example that can help understanding cloud concepts involves the provisioning of pizza for a family dinner. As most of us realize, there are several options available for obtaining pizza, ranging from genuine homemade to dining out and several options in between, as shown in Figure 8.1.

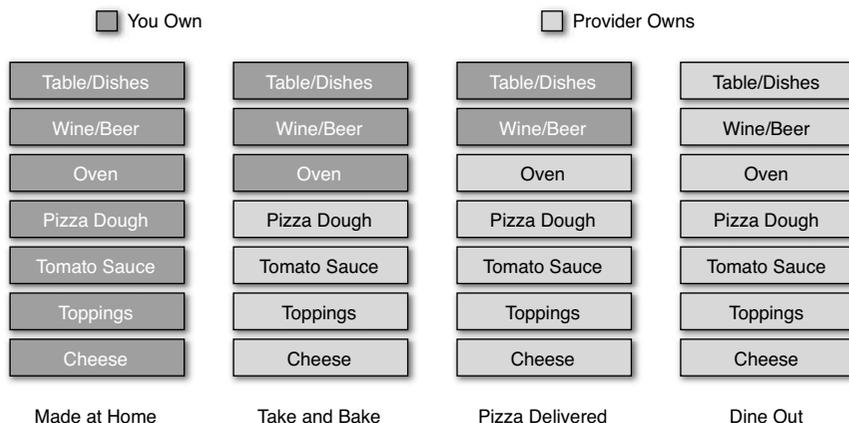


FIGURE 8.1
Different options for getting a pizza.

What distinguishes the different models (of cloud services as well as pizza) is the degree of the necessary infrastructure, supplies, and services you are able to control compared to the ones you have to “take-or-leave”:

- ▶ In case of the traditional homemade pizza, you (or your grandma) can control the quality of all the ingredients, from flour to tomatoes, and you own all the kitchen equipment, down to the tableware.
- ▶ If you use frozen pizza, you outsource the hassle of preparing the dough, sauce, and toppings, but have to rely on the taste and quality of the ingredients used by your preferred brand. In addition, not all combinations of toppings and cheese are available, you can’t choose the cheese from one vendor and the topping from another. The kitchen and dishes are still under your control (including the cleaning afterward).

¹ See <http://csrc.nist.gov/publications/PubsSPs.html#800-145>.

- ▶ If you choose pizza home delivery, you don't have to own an oven, but some of the other restrictions for frozen pizza apply: you can't choose the vendors for the ingredients. You depend on the capability of the service to deliver the pizza still hot, but you can still choose your preferred wine and tableware (and you still have to clean up afterward).
- ▶ If you decide to go with your family to a pizzeria, you take care of the reservation, the selection from the menu, and payment; you do not need to do any food preparation or cleanup. On the downside, you have to accept what's available on the menu and accept some longer waiting time until you get seated and served during prime time (which is called "oversubscription" in IT terms).

When it comes to SAP solutions and the IT services necessary to deliver them, it is important to distinguish between physical infrastructure (network, storage, or server) and software infrastructure (virtualization solutions, operating system, database, and application), where the actual ownership is represented by the license and maintenance contracts (see Figure 8.2).

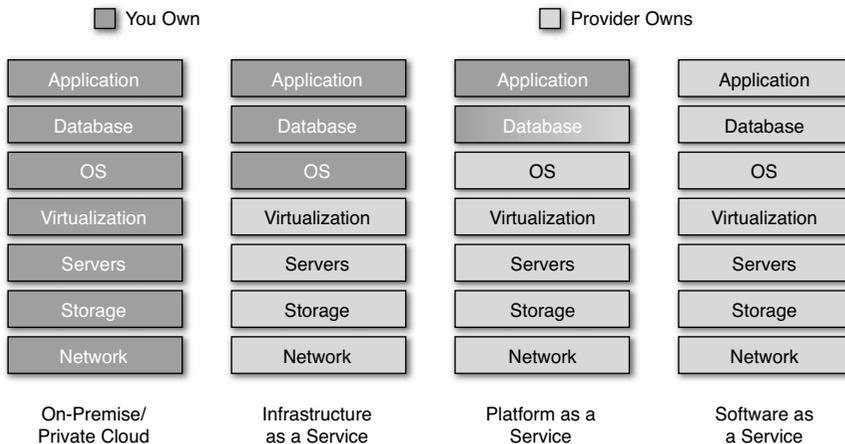


FIGURE 8.2
Different options for getting an SAP solution.

As with the pizza example, the different cloud offerings relevant to SAP can be classified by the ownership of the various layers necessary to deliver SAP as a service.

- ▶ In case of the traditional on-premise model, you own, manage, and maintain the complete infrastructure. Utilizing state-of-the-art private cloud virtualization and orchestration technologies provides the same flexibility as with the public counterparts. Being in a position to select from the portfolio of different hardware vendors competing against each other, you enjoy having access to the top expertise of their SAP competence centers for

sizing and architecture optimization—worth hundreds of consulting hours free of charge—as a pre-sales service. Given the fact that a migration to another platform is not a big deal anymore, you can get prime attention if you run into trouble by claiming that you will move to another vendor and forcing the vendor to do the root cause analysis to prove that his part of the infrastructure is not causing the trouble. However, you also need the necessary skill in-house to operate and maintain the hardware and software you have acquired, and you have to pay license and maintenance fees for virtualization, the OS, the database, and the application.

- ▶ While in a classical hosting model you are still in a position to choose the hardware infrastructure, you don't have the hassle of dealing with the hardware vendors if you utilize an Infrastructure as a Service (IaaS) provider. The downside is that the hardware vendors are not available for root cause analysis when the system becomes unstable after an OS, database, or application patch if the service provider claims that the part he is responsible for runs stable. In regard to performance, you have to accept the level of resource over commitment you agreed to in the fine print. You pay only the hardware resources you consume but still have to “bring your own license” for the OS, database, and SAP solution, and you also have to bring the expertise to configure and maintain this part of the stack.
- ▶ Using a Platform as a Service (PaaS) is nearly the same as using an IaaS provider, but you don't have to worry about the operating system. And if you're using HANA Enterprise Cloud (HEC) or HANA Cloud Platform (HCP), you don't even need to be concerned about the database. You are still in control of the application licenses and can change the provider with little effort and little risk.
- ▶ If you decide to go with a genuine Software as a Service (SaaS) offering or transform the licenses of your classical SAP solutions into an SAP cloud license, you get rid of the responsibility for the complete infrastructure stack and can focus on utilizing the features provided by the solution for your business. However, you can order only the business processes available on the service menu; customization is restricted in most cases to adapting the user interface to your corporate design. In a way, you can say that you can use a SaaS solution without having IT skills. However, as with all the other cloud offerings, you still need in-house expertise or external consulting to integrate the different applications with each other and train your users in how to use the services provided.

With all the hype surrounding the cloud, it may be worth mentioning some of the most common challenges. Security is among the major concerns that come to mind. With the implications of the Patriot Act, many non-U.S. companies keep their sensitive data within the border of their country. However, nifty details like patch management can become a major headache, especially in hybrid scenarios where one vendor's patch cycles may not be coordinated with the

customer, resulting in additional downtime. (For an in-depth discussion of security aspects, see our book *SAP on the Cloud*.²)

SAP's Way to the Cloud

SAP customers don't like change—and for good reason. After all, mission-critical software is a conservative business, and SAP is the epitome of a conservative company. But even a company like SAP must eventually follow new trends like cloud computing to remain relevant and competitive.

In the past, SAP maintained a focus on developing solutions in-house complemented by solutions and technologies acquired externally. With a few exceptions, these solutions were tightly integrated in the portfolio and integrated with the standard technology. In any case, customers could choose to run these solutions on-premise or hosted by an SAP-certified provider.

It has been a long road from SAP's early efforts with service-oriented architecture (SOA) in 2004 (called Project Vienna). SAP's next cloud attempt was Business by Design, released in 2006. With the acquisition of SuccessFactors in 2011 and Ariba in 2012, SAP sent a signal to the market and its customers about its direction into on-demand software and cloud computing. Today, SAP follows a dual approach:

- ▶ Supporting the deployment of Business Suite and NetWeaver on IaaS and PaaS offerings from Amazon, Azure, and certified service providers with real experience in running mission-critical business applications, including their own HEC and HCP
- ▶ Acquiring established SaaS solutions to complement Business Suite, including Ariba, SuccessFactors, Fieldglass, and Concur

Given the current amount of change and transformation within SAP's cloud strategy, this section provides only a snapshot of the current initiatives on which SAP focuses.

Classic SAP Solutions on the Cloud

In principle, all the classic SAP Business Suite and NetWeaver solutions described in Hours 6, "SAP NetWeaver and HANA," and 7, "SAP ERP and Business Suite," can be implemented on IaaS and PaaS offerings.

At this writing, SAP has certified 220 partners for hosting, 105 for cloud, and 35 for HANA. Among them are large service providers like Virtustream, T-Systems, Telstra, Suncore, Secure-24, NNIT, MKI, and Singapore Telecom; consulting companies like Accenture, Atos, CSC,

² *SAP on the Cloud* by Missbach et al., Berlin: Springer, 2015.

CapGemini, Deloitte, and IBM; and specialized boutique providers like Freudenberg IT, Ciber, Finance-IT, OEDIV, Gisa, and Novis.³

SAP's own hosting organization was sold to T-Systems and Freudenberg IT in 2009. SAP does not own or operate Hana Enterprise Cloud itself, either, but acquires the services from Softlayer, an IBM company.

The most prominent cloud providers offering SAP solutions are Amazon and Azure, even though they can't offer anything other than IaaS. It has become a common practice in many enterprises to keep the mission-critical production systems on premise or at a classic full-service hosting provider, while utilizing cloud offerings for non-production systems that are needed only temporarily for development, testing, or training.

If you are a user, you will not see any difference in the way that the SAP Business Suite and NetWeaver solutions are operated; all the business processes should behave identically whether on premise or in the cloud, and the user interface should look exactly the same.

HEC Versus HCP

For the quite special demands of HANA, there are cloud options available from SAP (as well as from a variety of cloud service providers):

- ▶ **HANA Enterprise Cloud (HEC):** Despite its name, HEC is not a cloud service but a classical hosting service for HANA. SAP sells the service on its paper, but the infrastructure is actually hosted by Softlayer. For certain solutions, SAP offers a subscription pricing as an alternative to the perpetual license option that continues to be available.
- ▶ **HANA Cloud Platform (HCP)⁴:** HCP is a real subscription-based IaaS offering, aimed for development projects and providing HANA-based application services for a monthly subscription. Sizes ranging from 1 GB up to 1 TB can be ordered from the SAP Service Catalog Portal.

Both of these cloud offerings requires customers to buy their own HANA licenses. SAP recently announced that it would change the license model to a pay-as-you-go model, but the prices will rise from the “maintenance fee” of 22% to 50% of license list price per year.

Technically, all HANA cloud offerings are based on the so-called tailored datacenter integration (TDI) model that allows sharing server, storage, and networking resources.

³ For a complete list of SAP Certified Outsourcing Operations Partners, see http://global.sap.com/community/ebook/2012_Partner_Guide/partner-list.html.

⁴ See <http://hcp.sap.com/platform.html>.

Alternatively, SAP HANA App Services provides HANA instances with services for mobility, collaboration, security, systems management, and more—all orderable from the SAP Service Catalog Portal⁵ (see Figure 8.3).

As discussed in Hour 6, “SAP NetWeaver and HANA,” the HANA cloud offerings start at a very attractive price level for small development environments. With more features and options, the price rises significantly, as shown in Figure 8.3. Even with a monthly subscription fee, an annual contract is required. Note that system provisioning can take up to 48 hours.

The screenshot displays the SAP Service Catalog Portal interface for HANA App Services. It features a navigation bar with tabs: Configure, Description, Details, Features & Specs, About the Publisher, and Customer Reviews. The main content is organized into three numbered steps:

- 1. Choose Your DB Services Edition**: Offers two options:
 - Base Edition**: Access the core database services of SAP HANA and its rules engine, development services, business function library, and more.
 - Platform Edition**: Get the Base Edition services plus advanced engines such as predictive and graph; additional packaged libraries and development services.
- 2. Choose Your App Services Edition**: Offers two options:
 - Standard Edition)***: Access app services such as SAP HANA Cloud Portal, document storage, and network connections to SAP and non-SAP systems.
 - Premium Edition)***: Get all the services in the Standard Edition with a larger capacity plus data and process integration capabilities of SAP HANA Cloud Integration.
- 3. Choose Your Configuration**: Offers six options based on disk space:
 - 64GB (with 640GB disk space)
 - 128GB (with 1.28TB disk space)
 - 256GB (with 2.56TB disk space)
 - 512GB (with 5.12TB disk space)
 - 1TB** (with 10TB disk space) - This option is highlighted with a border.
 - 1TB+ (Contact Us)

The **Purchase** section on the right shows the selected configuration: SAP HANA App Services, DB Services: **Platform**, App Services: **Premium**, and Memory Size: **1TB**. The price is **USD \$87,737 /month**. Below the price is a dropdown menu for "Your country of purchase" set to "United States" and a **Buy Now** button. At the bottom right, there is a "Need Help? Contact Us" link and a "Share this solution" link.

FIGURE 8.3

Subscription page for HANA App Services on the SAP Service Catalog Portal.⁶

NOTE

SAP on AWS and Azure

IT professionals will appreciate the extra level of deep technical and project management guidance provided in Hour 19, “SAP and the Cloud,” with regard to how to run SAP on AWS and Azure. (We’ve also included an introduction to the SAP Cloud Appliance Library and Project Monsoon.) Enjoy.

⁵ See <http://marketplace.saphana.com/hcp>.

⁶ See <http://marketplace.saphana.com/p/1808>.

Newly Acquired SAP Solutions

Now that we've discussed SAP's road to the cloud, we will introduce some of SAP SE's recent acquisitions, in the order in which they were acquired. With a few exceptions, these acquired companies provide SaaS solutions that are "cloud only."

The acquired companies discussed here all utilize technologies that have nothing in common with classic SAP architecture in regard to platforms, code, and user interfaces. This can be challenging for IT departments that must integrate these solutions into their existing software environment. It can also be challenging for end users, who have to adapt not only to a new look and feel but also to different naming conventions and business process concepts. Besides the fact that all of these solutions are owned and offered by SAP, the only other thing they have in common is HANA. They either already use the HANA platform or will be moved to HANA in the near future.

SuccessFactors

For most companies, the workforce represents up to 60% of operating expenses, which makes it their single largest investment. SAP's 2011 acquisition of SuccessFactors added talent management expertise and human resource management (HCM) to SAP's cloud assets.

SuccessFactors' HCM solutions are based on management by objectives (MBO) principles and promise that you don't need to know HR jargon to use the system. However, the user interface is quite different from SAP's standard UIs (see Figure 8.4 and Figure 8.5).

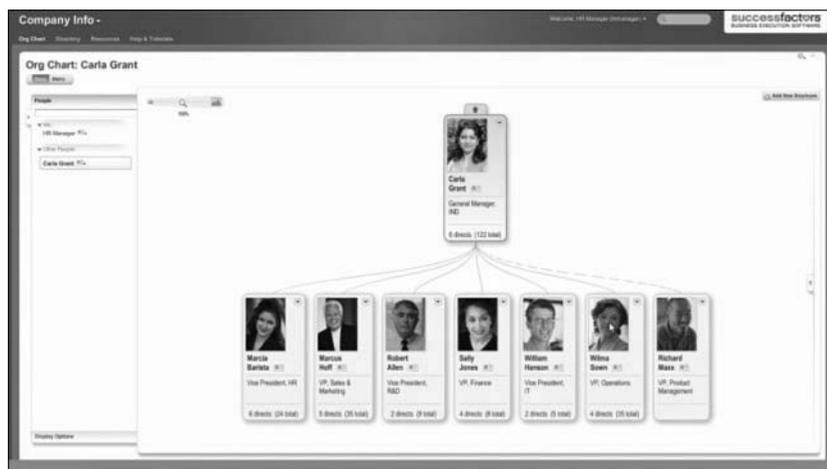


FIGURE 8.4

Example of the SuccessFactors Employee Central built-in organization chart (courtesy of SAP).

The SuccessFactors HCM Suite includes

- ▶ **Employee Central:** A self-service core HR and talent management solution
- ▶ **Recruiting:** Helps to attract, engage, and select candidates and measure the results
- ▶ **Onboarding:** Guides hiring managers and improves employees' job satisfaction, time to productivity, and first-year retention
- ▶ **Performance & Goals:** Communicates strategy and creates meaningful individual goals, streamlines the performance appraisal process, and enables meaningful feedback
- ▶ **Compensation:** Supports a company to pay people based on achievement and objective ratings
- ▶ **Succession & Development:** Enables planning for staffing changes
- ▶ **Learning:** A complete learning management solution (LMS) that enables instructor-led and formal and social online training; includes a Content-as-a-Service (CaaS) solution
- ▶ **Workforce Planning:** Provides workforce information and benchmarks to forecast the impact of business decisions.
- ▶ **Workforce Analytics & Reporting:** Delivers quantitative insights
- ▶ SAP added "**Jam**" (their private social network tool which combines collaboration and content creation) to the SuccessFactors portfolio.

In December 2013, SuccessFactors' Talent Management solution already had more than 4,000 customers with 25 million users, and the Learning Management System had more than 600 customers with 11.5 million users. Employee Central had 15 million users spanning 3,500 companies.

Integration with Payroll

Even if SuccessFactors' Compensation Management (see Figure 8.5) provided all the functionality needed to manage your employees' salaries, the actual payments would still need to be processed by SAP HCM's payroll (part of the core ERP system) or another third-party bookkeeping system.

Synchronizing the data between two systems has always been a complex activity. This should be considered when evaluating the compensation management of SuccessFactors compared to using the already built-in HCM integration of SAP ERP (more on this in Hour 19).

The screenshot displays the '2012 Compensation Plan for Carla Grant' in the SuccessFactors system. The interface includes a navigation menu with 'Forms', 'Executive Review', and 'Planning Permissions'. The main content area shows a table of compensation data for several employees, including Richard Hill, Debbie Smith, Carla Grant, Jane Smith, John Mase, and Kelly Whitmore. The table columns include Name, Current Salary, Hire Date, Range, 2011 Forecast, Salary Grade, Guidelines, Recommendations, Adjustment, Lump Sum, Promotion, Bonus Target, Guidelines, and Payout. A 'Group Total' row is also present at the bottom of the table. The interface includes a 'Currency' dropdown set to '\$' and buttons for 'Cancel', 'Save & Finish Later', and 'Send to Next Step'.

Name	Current Salary	Hire Date	Range	2011 Forecast	Salary Grade	Guidelines	Recommendations	Adjustment	Lump Sum	Promotion	Bonus Target	Guidelines	Payout		
Richard Hill	\$191,000	08/01/2011	10%	0.00%	19	1.28%-2.52%	\$ 2,402	1.26%	\$ 0	0.00%	\$ 0	0.00%	\$ 19,100	41.92%-50.30%	\$ 8,000
Debbie Smith	\$88,000	07/01/2008	120%	3.00%	8	3.00%-6.00%	\$ 2,640	3.00%	\$ 0	0.00%	\$ 0	0.00%	\$8,800	100.00%-120.00%	\$ 8,800
Carla Grant	\$191,000	08/01/2011	30%	0.00%	19	1.28%-2.52%	\$ 2,402	1.26%	\$ 0	0.00%	\$ 0	0.00%	\$ 19,100	41.92%-50.30%	\$ 8,000
Jane Smith	\$88,000	07/01/2008	100%	3.00%	8	3.00%-6.00%	\$ 2,640	3.00%	\$ 0	0.00%	\$ 0	0.00%	\$8,800	100.00%-120.00%	\$ 8,800
John Mase	\$191,000	08/01/2011	20%	0.00%	19	1.28%-2.52%	\$ 2,402	1.26%	\$ 0	0.00%	\$ 0	0.00%	\$ 19,100	41.92%-50.30%	\$ 8,000
Kelly Whitmore	\$88,000	07/01/2008	80%	3.00%	8	3.00%-6.00%	\$ 2,640	3.00%	\$ 0	0.00%	\$ 0	0.00%	\$8,800	100.00%-120.00%	\$ 8,800
Group Total	\$985,000						\$30,582	3.17%	\$0	0.00%	\$0	0.00%	\$36,500		\$36,500

FIGURE 8.5

An example of SuccessFactors' compensation management (courtesy of SAP).

Ariba

From the first versions of R/3 and even R/2, the procurement process was an integral part of SAP's ERP solution, covering the complete process from placing an order to paying the invoice. To serve the specific demand of procurement departments, SAP soon split out a dedicated solution for enabling point-to-point purchasing connections between buyers and sellers.

See Hour 5, "Overview of SAP Applications and Components," especially Figure 5.1, to better understand how the name of the solution has changed over time from Business-to-Business procurement to SAP Enterprise Buyer Professional (EBP) and then Supplier Relationship Management (SRM)—enhanced by a catalog server, a bidding engine for online auctions, and more. However, the connection to each business partner had to be negotiated and set up separately.

In contrast to SAP's approach, focused on the demand of the buyer's departments for individual customers, Ariba succeeded in establishing a centralized trading platform for suppliers.

Founded in 1996 as one of the first startups utilizing the Internet for procurement processes, and acquired by SAP in 2012, Ariba provides a fully cloud-based SaaS solution for external order and payment processing as well as for sourcing and spend analysis. However, the biggest benefit that the more than 730,000 Ariba customers can capitalize on is a business network with more than 750,000 suppliers; Ariba claims that every two minutes, a company adds itself to this network.

And even in the event that a product can't be found within the catalogs of the partners in this huge network, Ariba can be configured to search other sites, such as eBay, using criteria to only

consider vendors where the product can be bought immediately and with a high customer feedback rating.

Ariba solutions are available by subscription and on-demand, so there's no software to install or maintain. All an end user needs is a web browser. Whether you want to buy (see Figure 8.6) or sell (see Figure 8.7), there is an easy step-by-step process available via Ariba Discovery.⁷ Just click on Register Now to obtain an account and request a demo. It's free and takes only a few minutes.

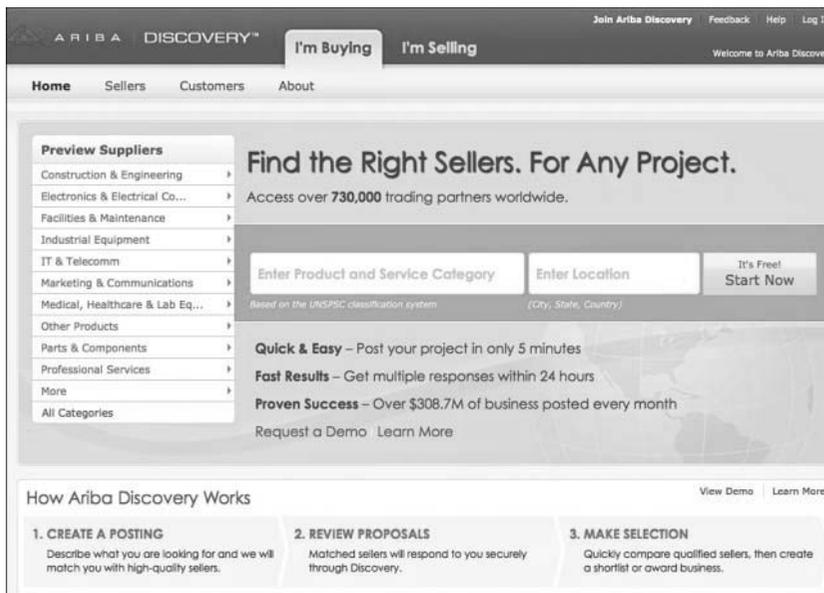


FIGURE 8.6
The Ariba Discovery portal for buyers (courtesy of Ariba).

For standard sellers, there is a fee to respond to postings based on the posting deal size: free up to US\$1,000; \$19 up to \$50,000; \$49 up to \$100,000; \$119 up to \$1,000,000; and \$149 over \$1,000,000. Upgrading to the Advantage or Advantage Plus package brings free responses and other marketing opportunities.

⁷ See <https://service.ariba.com/Discovery.aw>.



FIGURE 8.7
Ariba Discovery portal for vendors (courtesy of Ariba).

Because all purchase orders have to be processed in the bookkeeping and incoming goods department, Ariba has to be integrated into the SAP ERP system to make sure that everything procured is accounted correctly. (See Hour 19.)

Fieldglass

Another kind of goods or resources a company needs to procure is external staffing power; these resources range from individual freelancers or contingent workers to leased workforces capable of supporting a complete plant. The concept of engaging managed service providers (MSPs) to oversee the onsite contingent workforce emerged in the late 1980s and gained steam around the mid-1990s. During that same time, automated vendor management systems (VMS) propelled and enabled the MSP model.

Fieldglass, founded in 1999 and acquired by SAP in 2014, provides a cloud-based VMS used to manage a non-employee workforce of contingent workers (that is, independent contractors). The various business processes that such management comprises include procurement, creation of statements of work, project management, and payment management.

Figure 8.8 illustrates a variety of templates for job postings a project manager can use to select the proper skill set for a development task.

Figure 8.9 shows the Fieldglass management dashboard, where all activities from the hiring process to times sheets and budgetary reports down to employee reviews are available as structured workflows.

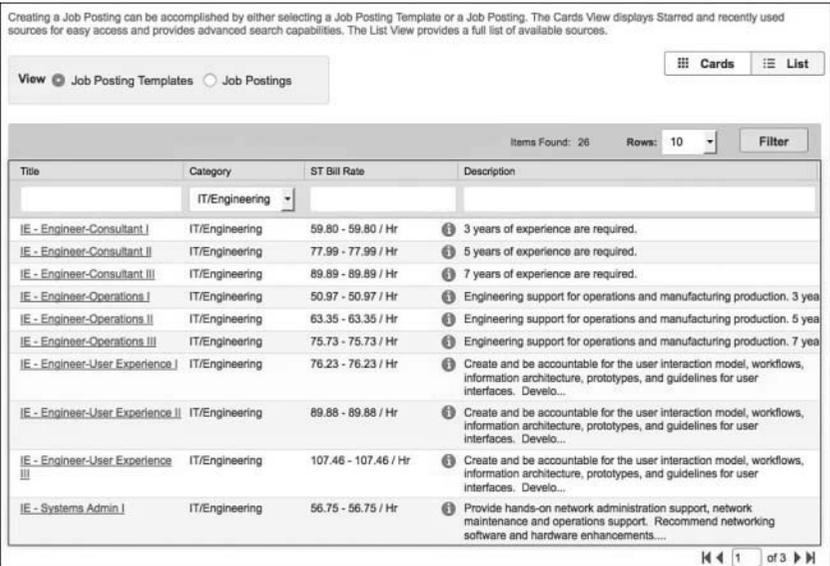


FIGURE 8.8 Fieldglass job posting template (courtesy of Cisco).

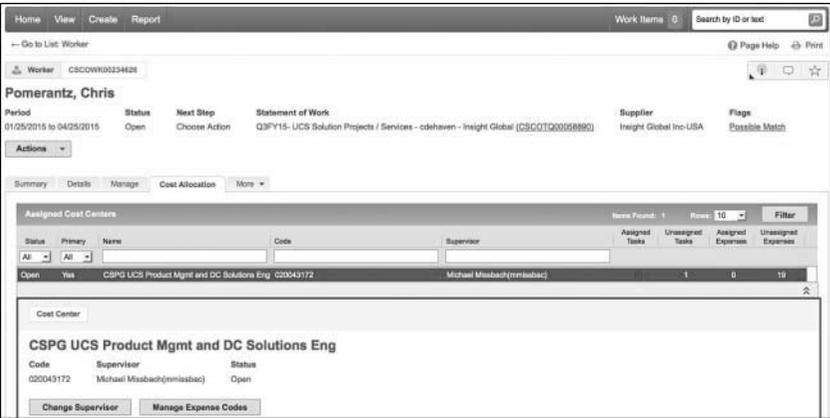


FIGURE 8.9 Fieldglass management dashboard (courtesy of Cisco).

As of early 2014, Fieldglass’ client base included approximately 250 customers, many of them quite large or complex. SAP expects this business to grow as companies continue to shed traditional workforces and employ new staffing and resourcing models.

Concur

Travel and entertainment spend is the second-largest controllable cost for some companies—just behind payroll. Many highly paid experts have to spend a considerable amount of time organizing their travel and collecting all their travel receipts for reimbursement.

Concur's basic idea is to integrate corporate travel booking with expense tracking, so employees don't have to key in the same data multiple times in multiple systems. Electronic receipts from airlines, rental car companies, hotels, and restaurants are captured automatically and turned into expense line items, eliminating the hassle of filling out travel reports and improving accuracy significantly. If national tax laws permit, travelers just have to take photos of train tickets or taxi or restaurant bills with their smartphones and attach the images to expenses; in addition to the other benefits, this process saves greenhouse gases by preventing piles of paper from being processed abroad.

Figure 8.10 illustrates the Concur expense reporting process. The Travel & Expense app capture transactions directly from airlines, hotels, restaurants, and car companies and transforms them into expense line entries (left). Travelers can also add photos of receipts (middle) to the expense report. The last step is to forward the finished report to a manager for approval (right).



FIGURE 8.10
Generating a travel report with Concur Travel & Expense (courtesy of Concur).

Concur Travel & Expense supports multiple languages and currencies. Currency exchange rate and complex car-mileage allowances are automatically calculated, as are the tax rates of many countries. Interfaces for SAP business solution and other ERP systems are available.

Concur Travel & Expense is offered in multiple editions (Small Business, Standard, Concurforce, Professional, and Premium) and processes \$50 billion in expense transactions per year.

In addition, Concur offers TripIt, a mobile travel organizer for individuals that is currently used by more than 5 million individuals (see Figure 8.11). Users simply forward all hotel, flight, car rental, and restaurant confirmation emails to plans@tripit.com, and TripIt transforms them into a detailed itinerary with dates, times, and confirmation numbers. In addition, directions, maps, weather, and other such information may be consolidated and centrally displayed for every trip.

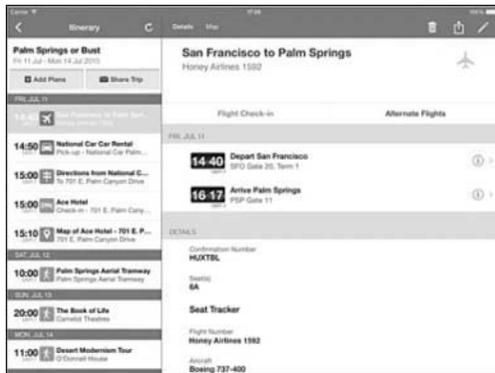


FIGURE 8.11
TripIT's user interface (courtesy of Concur).

Like Ariba, Concur offers a test drive for 30 days free of charge⁸ to help potential users become familiar with the look and feel of the solution.

SAP completed the acquisition of Concur in December 2014. While SAP will continue to fully support its customers currently using SAP Cloud for Travel and Expense through their current contract term, Concur's solution will be the offering of choice for customers moving forward.

hybris

In an interesting way, hybris represents an exception to the general trend of SAP acquiring established cloud solutions, because hybris is classic on-premise software that may be installed as an IaaS cloud offering. Founded in 1997 in Switzerland and acquired by SAP in 2014, hybris provides a suite of multichannel and product content management (PCM) software to complement SAP's classical CRM solutions.

Multichannel retailing considers the variety of channels consumers can choose today for shopping. Digitally savvy consumers are entering stores already well informed about a product's features and prices, and they expect store employees to know more than they do. Purchases may

⁸ See https://www.concur.com/en-us/free-trial?icid=en_us_trialtesttop.

be made in the store but are researched through other channels of communication, including online catalogs, television, mobile apps, and online stores like Amazon and eBay. To win connected consumers, all shopping channels from brick-and-mortar shops to telesales need to use the same information regarding products, prices, promotions, etc.

Many retailers also have to deal with multiple catalogs for different target audiences and languages. hybris supports multilevel hierarchies of catalogs, such that child catalogs can inherit a parent catalog's settings. On the other side, multichannel retailing solutions enable consumer-specific offerings, analyzing purchase patterns, social network affinities, website visits, loyalty programs, and so on—all of which increase the complexity of such solutions significantly.

The hybris Commerce Suite

The hybris Commerce Suite offers a single system for managing product content, commerce operations, and channels from mobile and online to in-store. Figure 8.12 gives you a glimpse of the catalog management capabilities of hybris.

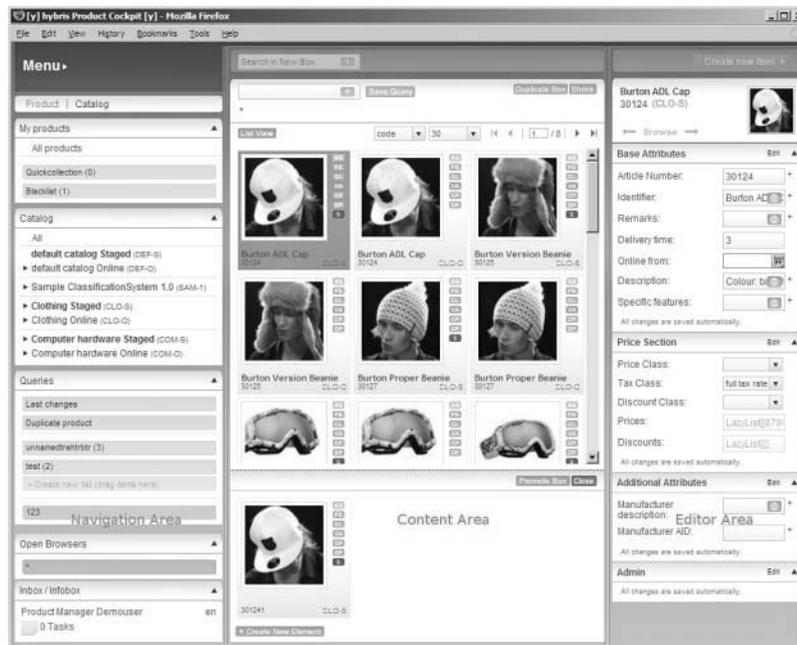


FIGURE 8.12

The hybris Product Cockpit manages product information and catalogs (courtesy of hybris).⁹

⁹ See <http://www.lewiswire.com/de/lewiswire/Hybris/Hybris-Suite-40-Neue-Architektur-und-modernste-Technologie-legen-die-Messlatte-fr-E-Commerce-und-Master-Data-Management-Anwendungen-hher/n/5278>.

hybris on the Cloud

Currently, hybris can use the cloud in a simple IaaS approach. According to a blog, SAP offers to run hybris on HANA for free, with the HANA Cloud Platform Developer Trial¹⁰ at the time of writing. However, you should not expect good performance as the HANA cloud database is reachable via the relatively slow open-db-tunnel command, and the HANA instance is shared.

Summary

SAP has spent a significant amount of time and money over the past 15 years transforming itself from a purely on-premise software company to a company that offers a significant portion of its portfolio as software on demand.

In the first part of this hour, we discussed the different cloud flavors available for SAP and compared them with the classical on-premise and hosting models, using pizza as an example. We described SAP's road to the cloud and how classic SAP solutions look and feel for the user when running on the cloud, and we gave a short introduction to the HANA Enterprise Cloud and the HANA Cloud Platform.

In the second part of this hour, we described the purpose, focus, and functionality of new solutions acquired by SAP since the last edition of this book: SuccessFactors, Ariba, Fieldglass, Concur, and hybris. The majority of these are delivered exclusively from the cloud via the SaaS paradigm. Technical details of the integration of these new solutions into the classic SAP system landscape are provided in Hour 19.

Case Study: Hour 8

Consider this hour's case study regarding the new SAP applications and cloud solutions. Read through and respond to the questions that follow. You can find answers to the questions related to this case study in Appendix A, "Case Study Answers."

Situation

Like many other companies, MNC is considering the cloud as a sourcing and platforming option. You have been asked to study how to utilize the cloud in the most optimal way for MNC's SAP systems. You also need to evaluate questions regarding several of the newer SaaS and other solutions SAP has recently acquired.

¹⁰ See <http://scn.sap.com/community/developer-center/cloud-platform/blog/2013/12/14/run-Hybris-on-hana-cloud-database>.

Questions

1. What type of cloud offerings can be considered for classic SAP solutions?
2. For what will MNC still be responsible when moving classic SAP solutions to the cloud?
3. Can MNC run only parts of their SAP systems on the cloud? If yes, which one should it start with?
4. Is the SAP HANA Enterprise Cloud (HEC) the only option for running HANA in the cloud?
5. What business processes does SuccessFactors offer?
6. How does Ariba complement SAP SRM?
7. What type of purchase is supported by Fieldglass?
8. How does Concur improve the accuracy of expense reports?
9. Which department would get the most benefit from hybris?

PART III

SAP for Business Users

HOUR 9	A Business User's Perspective on Using SAP	149
HOUR 10	Using SAP's Traditional and New User Interfaces	161
HOUR 11	Using SAP ERP to Do Your Job	179
HOUR 12	Using Other SAP Business Suite Applications	197
HOUR 13	Using SAP for Reporting	205
HOUR 14	Using Simplified Finance and Office Integration	221

This page intentionally left blank

Index

Symbols

%pc command, 231

AD (Active Directory)

integration, 239

creating form letters in Word,
233-235

creating reports in Access,
236-238

exporting data from Excel,
232

importing data into Access,
235-236

SharePoint integration,
238-239

A

**ABAP (Advanced Business
Application Programming), 289**

list processing, 213

**Accelerated SAP (ASAP). See
ASAP (Accelerated SAP)**

Access

creating reports with Report
Wizard, 236-238

importing SAP data into, %pc
command, 235-236

**access strategy tasks,
projects, 61**

**ACI (Application Centric
Infrastructure), 283**

**Actual End Date field, Status
Information (IMG), 300**

**Actual Start Date field, Status
Information (IMG), 300**

**Actual Work Days field, Status
Information (IMG), 300**

**AD (Active Directory), integration,
239**

**adapters, NetWeaver PI (Process
Integration), 89-90**

**Adobe PDF files, using with
Interactive Forms, 240-241**

**Advanced Business Application
Development (ABAP), 289**

agility, business, 20-21

All (Auto-ID Infrastructure), 75

Alert Overview, 354-355

All-in-One, 77, 81

cost, 83-84

features, 82-84

functionality, 81-84

partners, 82

solution centers, 82

Amazon, cloud innovation, 326

**Americas' SAP Users' Group
(ASUG), 401-402**

Analytics (ERP), 73

**APO (Advanced Planner and
Optimizer), 74-75**

Supply Chain Management
(SCM), 200-201

**APO Demand Planning (DP)
module, 121**

- Application Centric Infrastructure (ACI), 283**
 - application security team, projects, 259**
 - application software foundation, 9**
 - applications, 9-11**
 - mapping business needs to, 23-26
 - combining all four perspectives, 25-26
 - functional perspective, 24
 - project implementation perspective, 25
 - technical perspective, 24-25
 - platforms, 37-39
 - big iron, 39
 - blades, 39
 - three-tier, 38-39
 - two-tier, 38-39
 - architecture (business), 17-19, 31**
 - archiving, OpenText, 239-240**
 - Ariba, 138-140**
 - acquisition, 72
 - Discovery portal, 139-140
 - SaaS (Software as a Service), 339-341
 - ASAP (Accelerated SAP), 21, 246-248, 290**
 - business blueprinting phase, 248-249
 - final preparation phase, 250
 - go-live support phase, 250-251
 - methodology limitations, 291
 - operate (run) phase, 251
 - project preparation phase, 248
 - realization phase, 249-250
 - Assistant (SAP), 230**
 - ASUG (Americas' SAP Users' Group), 401-402**
 - asynchronous update work process, 44**
 - ATP (Availability-to-Promise) module, 122**
 - availability, 274-276**
 - disaster recoverability, 276-278
 - high availability (HA), 278
 - MTBF (mean time between failures), 275
 - MTTR (mean time to repair), 275
 - planning for downtime, 276
 - stability requirements, 276
 - Availability-to-Promise (ATP) module, 122**
- B**
- background work process, 44**
 - balancing books, 27-28**
 - Basis team, staffing, 284-285**
 - BBP (Business to Business Procurement), 70**
 - BI (business intelligence) users, reporting, 206**
 - big iron platform, versus blades, 39**
 - blades, versus big iron, 39**
 - blueprinting, business. See business blueprinting**
 - blueprints and analysis tasks, projects, 60**
 - BO (Business Objects), 208**
 - Crystal Reports, 209
 - Explorer, 208-209
 - Web Intelligence, 210-211
 - Xcelcius Enterprise, 210
 - bottlenecks, financial closings, eliminating, 226-227**
 - BPAs (business process analysts), 251, 257**
 - BPM (Business Process Management), 92, 288, 406**
 - business acceptance testing, project lifecycle, 56-57**
 - business agility, 20-21**
 - Business All-in-One, 77, 81**
 - cost, 83-84
 - features, 82-84
 - functionality, 81-84
 - partners, 82
 - solution centers, 82
 - business analysts, 63**
 - business applications, 9-11**
 - mapping business needs to, 23-26
 - combining all four perspectives, 25-26
 - functional perspective, 24
 - project implementation perspective, 25
 - technical perspective, 24-25

- platforms, 37-39
 - big iron, 39
 - blades, 39
 - three-tier, 38-39
 - two-tier, 38-39
- business architecture, 17-19, 31**
- business blueprinting, 21-22**
 - ASAP (Accelerated SAP), 248-249
 - development phase, 292
- Business by Design (BBD), 77, 79-80, 133**
 - adaptability, 80
 - challenges, 80-81
 - cost, 83-84
 - features, 84
 - functionality, 84
 - functionality and features, 80
 - implementation, 80
 - SaaS approach, 80
- business configuration teams, projects, 257**
- business continuity/disaster recovery (DR) leads, 64**
- business ethics, 385-386**
- Business Intelligence (BI), 19-20**
 - users, reporting, 206
- Business Objects (BO). See BO (Business Objects)**
- Business One (B1), 78**
 - compared to other business solutions, 77
 - cost, 83-84
 - development, 79
 - features, 84
 - functionality, 84
 - functionality and features, 78-79
 - implementation, 78
- business perspective, 22**
- business process analysts (BPAs), 251**
- Business Process Management (BPM). See BPM (Business Process Management)**
- business processes, 10, 26**
 - balancing books, 27-28
 - cross-application, 10-11
 - documenting, 53
 - ESS (Employee Self-Service), 26-27
 - selling stocks, 28
- business roles, projects, 62-63**
- business scenarios, 10, 179-180**
 - ERP (Enterprise Resource Planning), 110-114
 - Controlling module, 112
 - Corporate Services, 115-116
 - Customer Relationship Management (CRM), 118-120
 - Enterprise Controlling module, 113
 - Financial and Managerial Accounting module, 111-112
 - Financial Supply Chain Management (FSCM) module, 113
 - Financials, 180-184
 - GRC (Governance, Risk, and Compliance), 125-126
- Human Capital Management (HCM), 116-118
- Operations, 115
- Supply Chain Management, 121-123
- Treasury Management module, 113
- Business Suite, 72-73, 109-110**
 - CRM (Customer Relationship Management), 74
 - ERP (Enterprise Resource Planning), 73-74
 - migrating to sFIN, 229
 - SCM (Supply Chain Management), 74-75
 - SME solutions, choosing over, 85-86
 - SRM (Supplier Relationship Management), 75
- Business to Business Procurement (BBP), 70**
- business transactions, 153, 193, 196**
 - changing outbound delivery, 158
 - Corporate Services, 192
 - Real Estate module, 192
 - Transportation submodule, 192
 - creating new sales orders, 154-156
 - Cross-Application (CA) module, 194
 - T-codes, 194
 - displaying existing sales orders, 156-157
 - displaying list of orders, 158

- Environment, Health, and Safety (EH&S) module, 195
 - ERP Financials
 - Financial and Managerial Accounting module, 180-184
 - Financial Supply Chain Management (FSCM) module, 183-184
 - Treasury Management module, 182-183
 - ERP Operations, 184
 - Human Capital Management (HCM), 191
 - T-codes, 191
 - logging on using Logon Pad, 153-154
 - Operations
 - Enterprise Asset Management module, 187-188
 - Materials Management (MM) module, 188-189
 - Production Planning (PP) module, 186
 - Quality Management (QM) module, 189-191
 - Sales and Distribution (SD) module, 184-185
 - stopping runaway, SAPGUI, 166-167
 - Supply Chain Management (SCM), 201
 - business user careers, 373, 386**
 - business and functional positions, 379-380
 - certifications, 374-376
 - experience, 374-376
 - functional project and program management, 380
 - functional trainers and testers, 381
 - intangibles, 383-386
 - networking, 374-376
 - preparing for, 381-386
 - SAP customers, 379
 - SAP partners, 378-379
 - SAP SE, 376-377
 - types, 373-374
 - business user roles, 150**
 - functional configuration specialists, 151-152
 - power users, 152-153
 - row leaders, 150-151
 - Business Warehouse, 19-20, 70**
 - NetWeaver, 90
 - BusinessObjects Analysis for Office, WIP analysis, 226**
 - business-to-business (B2B)**
 - adapters, NetWeaver PI (Process Integration), 89-90
 - BW (Business Warehouse), NetWeaver, 96-97, 211-212**
 - Business Explorer, 212
 - BW Powered by SAP HANA, 211-212
 - BWA (Business Warehouse Accelerator), 211
 - BW Expert newsletter, 404**
- C**
- CA (Cross-Application) module, 194**
 - T-codes, 194
 - CAL (Cloud Appliance Libraries), 320-321**
 - careers**
 - business users. See business user careers
 - IT professionals, 389, 391, 394, 396
 - developers, 395-396
 - hardware and infrastructure specialists, 394
 - intangibles, 396
 - platform administrators, 395
 - preparing for, 393-394
 - programmers, 395-396
 - SAP customers, 390-391
 - SAP partners, 390
 - SAP SE, 389-390
 - technical project managers, 392
 - technical trainers, 392
 - testers, 392
 - resources, 408-409
 - CCMS (Computing Center Management System), 346**
 - CE (Composition Environment), 91, 290**
 - certification, obtaining, 383-384**
 - change management managers, 63**

- CIDX adapter (PI), 89
- Cisco Application Centric Infrastructure (ACI), 283
- classical hosting model, cloud services, 132
- clients, 12-13
- Clipboard, 172
- closeout, projects, 261-262
- cloud, 133, 145, 325-326
 - Amazon, 326
 - Ariba, 138-140
 - CAL (Cloud Appliance Libraries), 320-321
 - Concur, 142-143
 - Fieldglass, 140-141
 - HANA, public cloud platforms, 316-320
 - hybrid, 328
 - hybris, 143-145
 - laaS, 330
 - Monsoon, 334-335
 - DevOps mode, 335
 - open source, 336
 - OpenStack, 336-337
 - moving systems to, 330-331
 - nonproduction systems, 332
 - PaaS (Platform as a Service), 329
 - private, 327
 - public, 327-328
 - SaaS (Software as a Service), 329
 - Ariba, 339-341
 - hybris, 342
 - integration, 337-342
 - SuccessFactors, 338-339
 - SAP solutions, 133-134
 - services, 331-334
 - classical hosting model, 132
 - PaaS (Platform as a Service), 132
 - on-premise model, 132
 - SaaS (Software as a Service), 132
 - terminology, 131
 - SuccessFactors HCM suite, 136
 - transition and exit strategies, 334
 - versus virtualization, 330
 - WebAS (Web Application Server), 329
- Cloud Appliance Libraries (CAL), 320-321
- cloud options, HANA, 104-106
- cloud storage, 42
- columns, orientation, 99-100
- commands, %pc, downloading data, 231-239
- Commerce suite (hybris), 144
- communication planning, PMO (project management office), 255
- communications tasks, projects, 59
- Compensation Management module (Success Factors HCM suite), 137-136
- Compensation module (Success Factors HCM suite), 137
- components, 9-10
- Composite Applications, 20
- Composition (NetWeaver), 76, 91
- Composition Environment (CE), 91, 290
- Computing Center Management System (CCMS), 346
- Concur, 142-143
 - acquisition, 72
 - Travel & Expense app, 142
 - Triplt, 143
- conferences, 406-408
- configuration phase, development, 292
- configuration tasks, projects, 60
- Configuration Validation Check (SolMan), 356-357
- containers, security policy, 280
- contingency plans, 20
- Controlling module (Financials), 112
- Corporate Services, 192
 - Real Estate module, 192
 - T-codes, 192
- Corporate Services (ERP), 73, 115-116
- cost, SME (Small and Mid-sized Enterprises) solutions, 83-84
- CPUs (central processing units)
 - load distribution, 34-36
 - memory slower than cache, 99
- CRM (Customer Relationship Management), 9, 19, 70, 74, 199
 - T-codes, 199
- CRM Expert newsletter, 404
- Cross-Application (CA) module, 194
 - T-codes, 194

cross-application business processes, 10-11

Crystal Reports (BO), 209

Customer Relationship Management (CRM). See CRM (Customer Relationship Management)

customers

business user careers, 379

IT professionals, 390-391

customizations tasks, projects, 60

cutover and go-live tasks, projects, 61

D

dashboard

Fiori, 226

Solution Manager, 349-351

data compression, HANA, 101

data tasks, projects, 61

data team, projects, 258-259

database administrators, 63

database servers, installation, 313

databases, 45-46

future developments, 47-48

HANA

architectures, 100-101

migrating during upgrades, 365

public cloud platforms, 316-320

indexes, 46

migration, 363-365

safe migration, 47

structures, 47

tables, 46-47

orientation, 99-100

datacenter operators, 64

day-to-day monitoring, Solution Manager, 354-357

decision makers, reporting, 206

default profile, instances, 45

defects tasks, projects, 60

design and construction, project lifecycle, 56

developer methodologies, 290-291

implementation development phases, 291

business blueprint, 292

configuration, 292

final preparation, 292-293

go-live, 292-293

project preparation, 291-292

testing, 292-293

Run SAP roadmaps, 293

Developer Network, 400

Developer Studio (NetWeaver), 91

developers, careers, 395-396

development (DEV) systems, 42

development and customization teams, projects, 258

development leads, 63

development tools, 287

DevOps mode, Monsoon, 335

dialog boxes, 171

dialog work process, 44

disaster recovery, 276-278

Discovery portal (Ariba), 139-140

display fields, SAPGUI, 170

documentation

business processes, 53

IMG (Implementation Guide), 297

donkey and the bag scenario, 36

downloading data, %pc command, 231

AD (Active Directory)

integration, 239

creating reports in Access, 236-238

creating SAP form letters in Word, 233-235

exporting data from Excel, 232

importing data into Access, 235-236

SharePoint integration, 238-239

downtime, planning for, 276

E

Early Watch Alerts, 272

Early Watch Reports, 272-273

EBP (Enterprise Buyer Professional), 70

Ecosystem, 400

EDIFACT/ANSI X.12 adapter (PI), 89

EH&S (Environment, Health, and Safety) module, 195

T-codes, 195

EIS (Executive Information System), 213

EM (Event Management), 75

- Employee Central (Success Factors HCM suite), 137
 - Employee Self Service (ESS). See ESS (Employee Self-Service)
 - Employee Self-Service (ESS), 118
 - Employee tab, Status Information (IMG), 300
 - enhancements, 360-361, 369
 - high-level project planning, 366-367
 - enqueue work process, 44
 - Enterprise Asset Management module, 116, 187-188
 - T-codes, 188
 - Enterprise Controlling module (Financials), 113
 - Enterprise IMG (Implementation Guide), 295
 - Enterprise Learning (SAP), 117
 - Enterprise Resource Planning (ERP). See ERP (Enterprise Resource Planning)
 - Enterprise Search (ES), NetWeaver, 90-91
 - environment, hardening, 279-281
 - Environment, Health, and Safety (EH&S) module, 195
 - T-codes, 195
 - ERP (Enterprise Resource Planning), 9, 12, 19-20, 27-28, 73-74, 109-111, 196
 - ABAP list processing, 213
 - Analytics, 73
 - Corporate Services, 73, 115-116, 192
 - Real Estate module, 192
 - Transportation submodule, 192
 - Customer Relationship Management (CRM), 118-120
 - Financials, 73, 111-114, 180-184
 - Controlling module, 112
 - Enterprise Controlling module, 113
 - Financial and Managerial Accounting module, 111-112, 180-184
 - Financial Supply Chain Management (FSCM) module, 113, 183-184
 - Treasury Management module, 113, 182-183
 - GRC (Governance, Risk, and Compliance), 125-126
 - HCM (Human Capital Management), 73
 - Human Capital Management (HCM), 116-118, 191
 - T-codes, 191
 - Human Resources information system, 214
 - Operations, 73, 115, 184
 - Enterprise Asset Management module, 187-188
 - Materials Management (MM) module, 188-189
 - Production Planning (PP) module, 186
 - Quality Management (QM) module, 189-191
 - Sales and Distribution (SD) module, 184-185
 - Report Painter, 212
 - Supply Chain Management, 121-123
 - ESS (Employee Self-Service), 26-27
 - ethics, 385-386
 - events (SAP), 406-408
 - Excel, exporting SAP data from, %pc command, 232
 - Exchange, integration, 230
 - Executive Information System (EIS), 213
 - executive SAP business sponsor/leaders, 62
 - executive steering committee, 251-252
 - experience, leveraging, 382
 - Explorer (BO), 208-209
 - exporting
 - data from Excel, %pc command, 232
 - VMs (virtual machines), 331
- F**
- features, SME (Small and Mid-sized Enterprises) solutions, 84
 - Fieldglass, 140-141
 - acquisition, 72
 - job posting template, 141
 - management dashboard, 141

fields

- SAPGUI, 167-168
 - display, 170
 - input, 168-169
- Status Information (IMG), 299-300
- File/FTP adapter (PI), 89**
- final preparation phase**
 - ASAP, 250
 - development, 292-293
- Financial Accounting Benchmark, 27-28**
- Financial and Managerial Accounting module, 180, 183-184**
 - CO submodules, 181
 - FI submodules, 180-181
 - T-codes, 181
- financial closings, eliminating bottlenecks, sFIN (Simple Finance), 226-227**
- Financial Supply Chain Management (FSCM) module, 183-184**
 - T-codes, 184
- Financials (ERP), 73, 111-114**
 - Controlling module, 112
 - Enterprise Controlling module, 113
 - Financial and Managerial Accounting module, 111-112, 180, 183-184
 - CO submodules, 181
 - FI submodules, 180-181
 - T-codes, 181

- Financial Supply Chain Management (FSCM)
 - module, 113, 183
 - submodules, 183-184
 - T-codes, 184
- Treasury Management
 - module, 113, 182
 - submodules, 182-183
 - T-codes, 183
- Financials Expert newsletter, 404**
- Fiori, 94**
 - dashboard, 226
 - Launchpad, 174-176
- fit/gap analysis, software vendors, 53**
- form letters, creating in Word, %pc command, 233-235**
- forms, PDF, using with Interactive Forms, 240-241**
- foundation management, NetWeaver, 88**
- Foundation Management (NetWeaver), 76**
- fringe business functions, 382-383**
- functional architects, 62-63**
- functional configuration specialists, 151-152**
- functional roles, projects, 62-63**
- functional row leaders, 151**
- functional support engineers, 63**
- functionality, SME (Small and Mid-sized Enterprises) solutions, 84**

G

- gateway work process, 44**
- General Report Selection, 214-215**
- general support roles, projects, 63-64**
- Global Trade Services (GTS), 126**
- go-live phase, development, 292-293**
- go-live support phase (ASAP), 250-251**
- GRC (Governance, Risk, and Compliance), 125-126**
- GTS (Global Trade Services), 126**

H

- HA (high availability), 278**
- Hadoop, 102**
- HANA, 37, 40, 87-88, 97-98, 107**
 - cloud options, 104-106
 - data compression, 101
 - database architectures, 100-101
 - datacenter integration, 103-104
 - future developments, 47-48
 - HANA Cloud Platform mobile services (HCPms), 96
 - HCM (Human Capital Management), SuccessFactors suite, 136

- HCP (HANA Cloud Platform), 134-135
 - HEC (HANA Enterprise Cloud), 134-135
 - hot data, 102
 - Infrastructure Services, 104
 - memory, 101-104
 - delivery, 103
 - logs, 102
 - savepoints, 102
 - volatile and persistent storage, 102
 - migrating during upgrades, 365
 - public cloud platforms, 316-320
 - access, 320
 - deployment process, 317-320
 - size and timing limitations, 317
 - Studio, 103
 - hard disks, 40-41**
 - hardware, 32-33**
 - CPUs, load distribution, 34-36
 - hard disks, 40-41
 - memory, 40
 - servers, 33
 - big iron, 39
 - blades, 39
 - three-tier, 38-39
 - two-tier, 38-39
 - specialists, 394
 - system horsepower, 36-37
 - system performance, 33-36
 - HCM (Human Capital Management). See Human Capital Management (HCM)**
 - HCP (HANA Cloud Platform), 104, 134-135
 - HDD (hard-disk drive), 41
 - HEC (HANA Enterprise Cloud), 104, 134-135
 - Hector, Hans-Werner, 69
 - Help, IMG (Implementation Guide), 297
 - Help Portal, 400
 - high availability (HA), 278
 - high-activity users, 269
 - HL7 adapter (PI), 89
 - Hopp, Dietmar, 69
 - horsepower, system, 36-37
 - hosted SME solutions, 85
 - hot data, HANA, 102
 - HR Expert newsletter, 404
 - HTTP(S) adapter (PI), 89
 - Human Capital Management (HCM), 116-118, 191
 - PA (Personal Administration) module, 116-117
 - T-codes, 191
 - hybrid cloud, 328
 - hybris, 143-145
 - Commerce suite, 144
 - SaaS (Software as a Service), 342
 - hypervisor, 282
- I**
- IaaS, cloud services, 330
 - IBM 3270/5250 adapter (PI), 89
 - IDOC adapter (PI), 89
 - IMG (Implementation Guide), 293-294, 297
 - documentation, 297
 - Help, 297
 - release notes, 300
 - Status Information, 298-300
 - views, 294-296
 - Enterprise IMG (Implementation Guide), 295
 - Project IMGs (Implementation Guides), 295-296
 - Reference IMG (Implementation Guide), 295
 - Upgrade Customizing IMGs (Implementation Guides), 296
- implementation**
- development phases, 291
 - business blueprint, 292
 - configuration, 292
 - final preparation, 292-293
 - go-live, 292-293
 - project preparation, 291-292
 - testing, 292-293
 - IMG (Implementation Guide), 293-294
 - views, 294-296

- Implementation Guide (IMG). See IMG (Implementation Guide)**
 - importing**
 - SAP data into Access, %pc command, 235-236
 - VMs (virtual machines), 331
 - Identity Management (NetWeaver), 88**
 - indexes (database), 46**
 - industry solutions, 11**
 - in-flight transactions, stopping, SAPGUI, 166-167**
 - Information Lifecycle Management (NetWeaver), 90**
 - Information Management (NetWeaver), 76, 90**
 - Information Systems, General Report Selection, 214-215**
 - InfoSet Query, 218-219**
 - InfoSets, 216-217**
 - administrative decisions, 217-218
 - infrastructure, specialists, 394**
 - initiation, project lifecycle, 55**
 - in-memory, 98-99**
 - input fields, SAPGUI**
 - displaying possible entries for, 168-169
 - editing data in, 169
 - required, 169
 - Insert mode, SAPGUI, 168**
 - InsiderPROFILES, 403**
 - installation**
 - database server, 313
 - SAP, 303-304
 - infrastructure readiness, 311-314
 - locating and downloading software, 307-311
 - post-installation tasks, 314
 - preparation, 304-307
 - software, 314
 - trial version, 314-316
 - Installation Guide (SolMan), 305-307**
 - Installation Master Guides, 265-266**
 - instance profile, 27-28, 42, 45**
 - integration**
 - AD (Active Directory), 239
 - SharePoint, 238-239
 - integration team, projects, 258**
 - Interactive Forms, using PDF forms, 240-241**
 - interfaces, 161, 172, 174, 178**
 - Fiori Launchpad, 174-176
 - JavaGUI, 173
 - NetWeaver, 94-95
 - NetWeaver Business Client (NWBC), 173
 - SAPGUI. See SAPGUI
 - SAPUI5, 177
 - Screen Personas, 176-177
 - UI Theme Designer, 177
 - Web IDE (integrated development environment), 177
 - WebGUI, 173
 - Inventory Collaboration Hub (SCM), 75**
 - IT professionals, careers, 389, 391, 394, 396**
 - developers, 395-396
 - hardware and infrastructure specialists, 394
 - intangibles, 396
 - platform administrators, 395
 - preparing for, 393-394
 - programmers, 395-396
 - SAP customers, 390-391
 - SAP partners, 390
 - SAP SE, 389-390
 - technical project managers, 392
 - technical trainers, 392
 - testers, 392
 - ITtoolbox, 405**
 - ITtoolbox for Careers, 409**
- ## J-K
- Jam module (Success Factors HCM suite), 137**
 - Java, 289-290**
 - JavaGUI, 173**
 - JDBC adapter (PI), 89**
 - JMS adapter (PI), 89**
 - job posting template, Fieldglass, 141**
 - just in-memory, 98**
 - keyboard, SAPGUI, navigating, 166**

L

Launchpad (Flori), 174-176

leadership, projects, 62

- executive steering committee, 251-252
- PMO (project management office), 254-256
- program managers, 253-254
- project managers, 253-254
- project sponsors, 253

Learning module (Success Factors HCM suite), 137

Learning Solution (SAP), 117

ledgers, sFIN (Simple Finance), 228

legal patches, 117, 360

lifecycle (project), 54-59

- business acceptance testing, 56-57
- design and construction, 56
- initiation, 55
- operational stabilization, 59
- production cut-over preparation, 58
- prototyping, 55
- SIT (system integration testing), 56

Lightweight dashboard users, 206

list of orders, displaying, 158

load, system, predicting, 268-270

load distribution, CPUs, 34-36

load testing, 57

logging on using Logon Pad, 153-154

Logon Pad, 153-154, 163-164

logs, HANA, 102

low-activity users, 269

Lumira, 95

LVM (Landscape Virtualization Management), 92-93, 351

M

MADP (mobile application development platform), 289

MAI (Monitoring and Alerting Infrastructure), Solution Manager, 351-350

management dashboard (Fieldglass), 141

management tools, 345

- CCMS (Computing Center Management System), 346
- database monitoring, 352
- LVM (Landscape Virtualization Management), 351
- Nagios, 352-353
- Solution Manager, 346-350
 - day-to-day monitoring, 354-357

Manager Self-Service (MSS), 118

Managing Your SAP Projects conference, 407

Manufacturing, 114-115

mapping business needs to applications, 23-26

- combining all four perspectives, 25-26
- functional perspective, 24
- project implementation perspective, 25
- technical perspective, 24-25

Master Data Management (NetWeaver), 90

master data row leaders, 151

Master Guides, Installation, 265-266

Materials Management (MM) module, 115, 188-189

- T-codes, 189

mean time between failures (MTBF), 275

mean time to repair (MTTR), 275

measurement-based sizing, 272-273

medium-activity users, 269

memory, 40

- HANA, 101-104
 - delivery, 103
 - logs, 102
 - savepoints, 102
- just in-memory, 98
- in-memory, 98-99
- persistent storage, 102
- slower than CPU cache, 99
- volatile storage, 102

message work process, 44

Middleware (NetWeaver), 76, 89-90

migration, 369

- database, 47
- OS/DB, 363-365
 - versus upgrades, 362-363

mobile application development platform (MADP), 289

mobile platform, NetWeaver, 95-96

modules, 9-10, 12

Corporate Services, 115-116

Real Estate, 192

Transportation, 192

Cross-Application (CA) module, 194

T-codes, 194

Customer Relationship Management (CRM), 199

Environment, Health, and Safety (EH&S), 195

ERP Human Capital Management, PA (Personal Administration), 116-117

ERP Operations, 115

Financials

Controlling, 112

Enterprise Controlling, 113

Financial and Managerial Accounting module, 111-112, 180-182

Financial Supply Chain Management (FSCM), 114, 183-184

Treasury Management, 113, 182-183

Operations

Enterprise Asset Management module, 187-188

Materials Management (MM), 188-189

Production Planning (PP) module, 186

Quality Management (QM), 189-191

Sales and Distribution (SD) module, 184-185

SAP Supply Chain

Management, 121-122

SuccessFactors HCM suite, 137-136

Monsoon, 334-335

DevOps mode, 335

open source, 336

OpenStack, 336-337

mouse, SAPGUI, navigating, 166**MTBF (mean time between failures), 275****MTTR (mean time to repair), 275****N****Nagios, 352-353****NAS (network-attached storage) systems, 41****NetWeaver, 71, 75-76, 87-88, 93-94, 107**

BPM (Business Process Management), 92, 288

Business Process Management, 76

BW (Business Information Warehouse), 96-97

BW (Business Warehouse), 211-212

Business Explorer, 212

BW Powered by SAP HANA, 211-212

BWA (Business Warehouse Accelerator), 211

CE (Composition Environment), 290

Composition, 76, 91

Fiori, 94

Foundation Management, 76

foundation management, 88

Information Management, 76, 90

interfaces, 94-95

Lumira, 95

LVM (Landscape Virtualization Management), 92-93

Master Guide, 93

Middleware, 76, 89-90

mobile platform, 95-96

NWBC (NetWeaver Business Client), 173

NWDS (NetWeaver Developer Studio), 289-290

PI (Process Integration), adapters, 89-90

Team Productivity, 76, 90-91

trial version, installing, 314-316

networking (business), 383**networks, 282-283**

installation preparation, 312

NAS (network-attached storage) systems, 41

SANs (storage area networks), 41-42

newsletters, 404**nonproduction systems, cloud, 332****NWBC (NetWeaver Business Client), 173****NWDS (NetWeaver Developer Studio), 289-290**

O**Office**

Access

- importing SAP data into, 235-236

- Report Wizard, 236-238

- BusinessObjects Analysis for Office, 226

- Excel, exporting SAP data from, 232

- integration, 230

- SharePoint, integration, 238-239

- Word, creating SAP form letters, 233-235

OLAP systems, column orientation, 99-100**OLTP systems**

- Business Suite, 110

- row orientation, 99-100

Onboarding module (Success Factors HCM suite), 137**on-premise model, cloud services, 132****on-premise SME solutions, 85****open source, Monsoon project, 336****OpenStack, Monsoon, 336-337****OpenText, SAP archiving, 239-240****OpenUI5, 177****operate (run) phase (ASAP), 251****operating systems**

- installation preparation, 312-313

- landscapes, 42-45

- migration, 363-365

Operational Management, Structural Graphics, 213**operational reporting users, reporting, 206****operations**

- administration and management, 285

- staffing Basis team, 284-285

Operations (ERP), 73, 115, 184

- Enterprise Asset Management module, 187-188

- T-codes, 188

- Materials Management (MM), T-codes, 189

- Materials Management (MM) module, 188-189

- Production Planning (PP) module, 186

- submodules, 186

- T-codes, 186

- Quality Management (QM) module, 189-190

- submodules, 190-191

- T-codes, 191

- Sales and Distribution (SD) module, 184

- submodules, 184-185

- T-codes, 185

Oracle, 7**organizational change management leads, 64****Organizational Management, 117****organizing projects by roles, 61-62**

- business, 62-63

- functional, 62-63

- general support, 63-64

- leadership, 62

- technical, 63-64

organizing projects by tasks, 59

- access strategy, 61

- blueprints and analysis, 60

- communications, 59

- configuration, 60

- customizations, 60

- cutover and go-live, 61

- data, 61

- defects, 60

- post go-live, 61

- pre-sales, 59

- program management, 60

- project management, 60

- security, 61

- technical team, 61

- testing, 60

- training, 61

orientation, row versus column, 99-100**OS-level profiles, 27-28****outbound delivery, changing, 158-159****Outlook, integration, 230****output lists, General Report Selection, 215****Overwrite mode, SAPGUI, 168****P****PA (Personal Administration) module, 116-117****PaaS (Platform as a Service), cloud services, 132, 329****pain points, identifying, 53****Partner Cloud (HANA), 105****Partner Portal, 400**

- partners
 - business user careers, 390
 - IT professionals, 390
- patches, legal, 117, 360
- PDF forms, using with Interactive Forms, 240-241
- Percent Complete field, Status Information (IMG), 299
- Performance & Goals module (Success Factors HCM suite), 137
- performance guarantees, 273-274
- persistent storage, 102
- Personal Administration (PA) module, 116-117
- PI (Process Integration), 70
 - adapters, 89
 - NetWeaver, adapters, 89-90
- Plan End Date field, Status Information (IMG), 299
- Plan Start Date field, Status Information (IMG), 299
- Plan Work Days field, Status Information (IMG), 299
- planning projects
 - enhancements, 366-367
 - upgrades, 367-369
- Plant Maintenance (PM) module, 115
- platform administrators, careers, 395
- platform security team, projects, 259
- platforms, 37-39
 - big iron, 39
 - blades, 39
 - three-tier, 38-39
 - two-tier, 38-39
- Plattner, Hasso, 69, 71-72
- PLM (Product Lifecycle Management), 9, 19, 202-203
- PMO (project management office), 254-256
 - communication planning, 255
 - quality planning, 255
 - risk and contingency planning, 256
 - scheduling, 255
 - scope management, 255
- Portal (NetWeaver), 90-91
- post go-live tasks, projects, 61
- power users, 152-153
- PP (Production Planning) module, 122
- predicting system load, 268-270
- PREPARE tool, 368
- pre-sales tasks, projects, 59
- private cloud, 327
- processes
 - business, 10, 26
 - balancing books, 27-28
 - cross-application, 10-11
 - documenting, 53
 - ESS (Employee Self-Service), 26-27
 - selling stocks, 28
 - work, 44
- Product Lifecycle Management (PLM). See PLM (Product Lifecycle Management)
- production cut-over, preparation, 58
- Production Planning (PP) module, 115, 122, 186
 - T-codes, 186
- Professional Journal, 402-403
- profiles, instances, 27-28
- program directors, 62
- program management tasks, 60
- program managers, 251, 253-254
- programmers, careers, 395-396
- programming tools, 287-288
 - ABAP (Advanced Business Application Programming), 289
 - Java, 289-290
 - MADP (mobile application development platform), 289
 - NetWeaver Business Process Management (BPM), 288
 - NetWeaver Composition Environment (CE), 290
 - NetWeaver Developer Studio (NWDS), 289-290
 - SE80, 289
- programs, functional management, 380
- Project and Portfolio Management module, 116
- Project IMGs (Implementation Guides), 295-296
- project management office (PMO). See PMO (project management office)
- project managers, 62, 251, 253-254
- project preparation phase
 - ASAP, 248
 - development, 291-292

projects, 51, 65, 251, 262

ASAP (Accelerated SAP),
246-248

business blueprinting
phase, 248-249

final preparation phase,
250

go-live support phase,
250-251

operate (run) phase, 251

project preparation phase,
248

realization phase, 249-250

closeout, 261-262

functional management, 380

high-level planning

enhancements, 366-367

upgrades, 367-369

leadership

executive steering
committee, 251-252

PMO (project management
office), 254-256

program managers,
253-254

project managers,
253-254

project sponsors, 253

lifecycle, 54-59

business acceptance
testing, 56-57

design and construction,
56

initiation, 55

operational stabilization,
59

production cut-over
preparation, 58

prototyping, 55

SIT (system integration
testing), 56

management, 245

SAP implementation
methodology, 245-246

tasks, 60

technical, 392

methodologies, 260-261

organizing by roles, 61-62

business, 62-63

functional, 62-63

general support, 63-64

leadership, 62

technical, 63-64

organizing by tasks, 59

access strategy, 61

blueprints and analysis, 60

communications, 59

configuration, 60

customizations, 60

cutover and go-live, 61

data, 61

defects, 60

post go-live, 61

pre-sales, 59

program management, 60

project management, 60

security, 61

technical team, 61

testing, 60

training, 61

pursuing, 52-53

running, 51-52

sponsors, 253

subteams, 256-257

application and platform
security teams, 259

business configuration
teams, 257

data team, 258-259

development and
customization
teams, 258

integration team, 258

technical teams, 259-260

test teams, 258

team member characteristics,
260

tools, 260-261

prototyping, project lifecycle, 55

public cloud, 327-328

HANA, 316-320

Purchasing Planning module, 122

Q

**quality assurance (QA)
systems, 42**

**Quality Management (QM)
module, 116, 189-191**

submodules, 190-191
T-codes, 191

query groups, 216

administrative decisions,
217-218

Quicksizer, 270-271

questionnaires, 271

QuickViewer, 219

R**R/3 system, evolution, 109-111**

radio buttons (SAPGUI), 171

Real Estate Management module, 116**Real Estate module, 192**

T-codes, 192

realization phase (ASAP), 249-250**real-time transactions, 71-72****reconciliation, reducing, sFIN (Simple Finance), 225-226****Recruiting module (Success Factors HCM suite), 137****Reference IMG (Implementation Guide), 295****release managers, 63****release notes, IMG (Implementation Guide), 300****release updates, 360****Remaining Work Days field, Status Information (IMG), 300****remediation, upgrades, 368-369****Replace mode, SAPGUI, 168****Report Painter, 212****Report Wizard (Access), 236-238**

reporting, 205, 212-213, 215-216, 219

- ABAP list processing, 213
- BO (Business Objects), 208
 - Crystal Reports, 209
 - Explorer, 208-209
 - Web Intelligence, 210-211
 - Xcelcius Enterprise, 210
- creating reports in Access, Report Wizard, 236-238
- Early Watch Reports, 272-273

EIS (Executive Information System), 213

ERP Human Resources information system, 214

General Report Selection, 214-215

InfoSet Query, 218-219

InfoSets, 216-217

- administrative decisions, 217-218

NetWeaver BW (Business Warehouse), 211-212

- Business Explorer, 212
- BW Powered by SAP HANA, 211-212

BWA (Business Warehouse Accelerator), 211

query groups, 216

- administrative decisions, 217-218

QuickViewer, 219

Report Painter, 212

report trees, 214

SAP Query, 218

Structural Graphics, 213

users, 205-207

RFC adapter (PI), 89**risk and contingency planning, PMO (project management office), 256****risk management, 20****roadmaps, 293**

Run SAP, 293

Roles

- business users, 150
- functional configuration specialists, 151-152

power users, 152-153

row leaders, 150-151

leadership

- executive steering committee, 251-252

- PMO (project management office), 254-256

- program managers, 253-254

- project managers, 253-254

- project sponsors, 253

project organization, 61-62

- business, 62-63

- functional, 62-63

- general support, 63-64

- leadership, 62

- technical, 63-64

RosettaNet adapter (PI), 89**row leaders, 150-151****rows, orientation, 99-100****Run SAP, 59**

- roadmaps, 293

runaway transactions, stopping, SAPGUI, 166-167**running projects, 51-52****S****SaaS (Software as a Service), cloud services, 132, 329**

- Ariba, 339-341

- hybris, 342

- integration, 337-342

- SuccessFactors, 338-339

- Sales and Distribution (SD) module, 115, 184**
 - submodules, 184-185
 - T-codes, 185
- sales orders**
 - creating, 154-156
 - displaying existing, 156-157
- SAML (Security Assertion Markup Language), enabling SSO, 323**
- SANs (storage area networks), 41-42**
- SAP, 7-9, 14**
 - administrators, 63
 - availability, 274-276
 - disaster recoverability, 276-278
 - high availability (HA), 278
 - MTBF (mean time between failures), 275
 - MTTR (mean time to repair), 275
 - planning for downtime, 276
 - stability requirements, 276
 - business acquisitions, 129, 136
 - business applications, 9-11
 - change manager, 63
 - changing, 359-360
 - competitors, 7
 - customers, 379
 - database administrators, 63
 - datacenter operators, 64
 - development leads, 63
 - founding, 8
 - functional architects, 62-63
 - functional support engineers, 63
 - implementation methodology, 245-246
 - installation, 303-304
 - infrastructure readiness, 311-314
 - locating and downloading software, 307-311
 - post-installation tasks, 314
 - preparation, 304-307
 - software, 314
 - trial version, 314-316
 - landscape, 266
 - organizational change management leads, 64
 - program directors, 62
 - project managers, 62
 - security/audit leads, 64
 - sizing, 267-268
 - measurement-based, 272-273
 - Quicksizer, 270-271
 - systems management leads, 64
 - team managers, 62
 - technical architects, 63
 - technical support engineers, 64
 - test managers, 63
- SAP Assistant, 230**
- SAP business continuity/disaster recovery (DR) leads, 64**
- SAP Business Suite, 72-73**
 - CRM (Customer Relationship Management), 74
 - ERP (Enterprise Resource Planning), 73-74
 - SCM (Supply Chain Management), 74-75
 - SRM (Supplier Relationship Management), 75
- SAP Ecosystem, 400**
- SAP Enterprise Learning, 117**
- SAP Fans, 405**
- SAP FAQ, 406**
- SAP Interactive Forms, using PDF forms, 240-241**
- SAP IQ, warm data, 102**
- SAP ITtoolbox, 405**
- SAP Learning Solution, 117**
- SAP Manufacturing, 114-115**
- SAP NetWeaver PI (SAP NetWeaver Process Integration), 9**
- SAP Notes, 266**
- SAP Professional Journal, 402-403**
- SAP Query, 218**
- SAP SE careers**
 - business users, 376-377
 - IT professionals, 389-390
- SAP TechEd, 407**
- SAPGUI, 161-166**
 - display fields, 170
 - fields, 167-168
 - input fields, 168-169
 - Insert mode, 168
 - Logon Pad, 163-164
 - navigating using mouse and keyboard, 166
 - Overwrite mode, 168

- performing tasks using menu paths, 166
- Replace mode, 168
- screen objects, 170-172
 - dialog boxes, 171
 - radio buttons, 171
 - table controls, 172
 - trees, 171
- stopping runaway transactions, 166-167
- title bar, 165
- user sessions, 164-165
- WebGUI, 173
- SAPinsider, 403**
- SAPPHIRE NOW event, 407**
- SAPS (SAP Application Performance Standard), 36-37**
- SAPUI5, 177**
- savepoints, HANA, 102
- SCC (Supply Chain Cockpit), 122**
- scheduling, PMO (project management office), 200-201, 255
- SCM (Supply Chain Management), 10, 70, 74-75, 200-201**
 - All (Auto-ID Infrastructure), 75
 - APO (Advanced Planner and Optimizer), 74-75
 - EM (Event Management), 75
 - Inventory Collaboration Hub, 75
 - T-codes, 201
- SCM Expert newsletter, 404**
- scope management, PMO (project management office), 255
- screen objects, SAPGUI, 170-172**
 - dialog boxes, 171
 - radio buttons, 171
 - table controls, 172
 - trees, 171
- Screen Personas, 176-177**
- SD Benchmark, 28**
- SE80, 289**
- search engines, most relevant versus complete answers, 98**
- SearchSAP.com, 406**
- Secure Network Communications (SNC), 279**
- security, 278-279**
 - containers, policy, 280
 - hardening environment, 279-281
 - running systems, 281-282
 - tasks, projects, 61
- security/audit leads, 64**
- Selection screens (General Report Selection), 215**
- self-services, Solution Manager, 357**
- selling stocks, 28**
- servers, 33**
 - big iron, 39
 - blades, 39
 - database, installing, 313
 - installation preparation, 311
 - three-tier, 38-39
 - two-tier, 38-39
 - WebAS (Web Application Server), 329
- Service Marketplace, 304-311, 400**
- service-oriented architecture (SOA), 133**
- sessions, SAPGUI, 164**
 - ending and logging off, 164-165
- sFIN (Simple Finance), 221**
 - add-on, 221-229
 - as central ledger, 228
 - eliminating financial closings bottlenecks, 226-227
 - hybrid approach, 224-225
 - migrating from Business Suite, 229
 - reducing reconciliation efforts, 225-226
- SharePoint, integration, 230, 238-239**
- SID (single system identifier), 42**
- Simple Finance (sFin). See sFIN (Simple Finance)**
- single system identifier (SID), 42**
- single-sign on (SSO), 322-323**
- SIT (system integration testing), 57**
 - project lifecycle, 56
- sizing, 267-268**
 - measurement-based, 272-273
 - Quicksizer, 270-271
- Small and Mid-sized Enterprises (SME). See SME (Small and Mid-sized Enterprises)**
- small business**
 - Business All-in-One, 77, 81-84
 - Business by Design (BBD), 77, 79-81, 83-84
 - Business One (B1), 77-79, 83-84

- Smart Business, Fiori dashboard, 226**
- SME (Small and Mid-sized Enterprises), 76-77, 86**
 - Business All-in-One, 77, 81-84
 - Business by Design (BBD), 77, 79-81, 83-84
 - Business One (B1), 77-79, 83-84
 - solutions
 - choosing, 83-85
 - choosing over Business Suite, 85-86
 - compared, 77
 - hosted, 85
 - on-premise, 85
- SNC (Secure Network Communications), 279**
- SNP (Supply Network Planning) module, 122**
- SOA (service-oriented architecture), 133**
- SOAP adapter (PI), 89**
- Software Download Center, 307-311**
- software vendors**
 - fit/gap analysis, 53
 - selecting, 53
- Softwarejobs.com, 408**
- solid-state drives (SSD), 41**
- Solution Manager, 88, 290, 303, 346-350, 358**
 - Alert Overview, 354-355
 - Configuration Validation Check, 356-357
 - dashboards, 349-351
 - downloading, 310-311
 - Installation Guide, 305-307
 - MAI (Monitoring and Alerting Infrastructure), 351-350
 - self-services, 357
 - System Recommendations, 355
 - technical monitoring, 347-349
- SPNego, enabling SSO, 322-323**
- spool work process, 44**
- SRM (Supplier Relationship Management), 9, 19, 70, 75, 197**
 - T-codes, 197
- SSD (solid-state drives), 41**
- SSM (SAP Solution Manager), 70**
- SSO (single sign-on), 322-323**
- stakeholders, working with, 23**
- start profile, instances, 45**
- Status Information (IMG), 298-300**
 - Actual End Date field, 300
 - Actual Start Date field, 300
 - Actual Work Days field, 300
 - Employee tab, 300
 - Percent Complete field, 299
 - Plan End Date field, 299
 - Plan Start Date field, 299
 - Plan Work Days field, 299
 - Remaining Work Days field, 300
- STMP/POP3/IMAP adapter (PI), 89**
- stock, selling, 28**
- storage area networks (SANs), 41-42**
- stress testing, 57**
- structures, databases, 47**
- Studio (HANA), 103**
- SuccessFactors**
 - acquisition, 72
 - HCM suite, 136
 - Compensation Management, 137-136
 - SaaS (Software as a Service), 338-339
- Succession & Development module (Success Factors HCM suite), 137**
- Supplier Relationship Management (SRM). See SRM (Supplier Relationship Management)**
- Supply Chain Cockpit (SCC) module, 122**
- Supply Chain Management (SCM). See SCM (Supply Chain Management)**
- Supply Network Planning (SNP) module, 122**
- Support Portal, 400**
- SWIFT adapter (PI), 89**
- synchronous update work process, 44**
- system horsepower, 36-37**
- system integration testing (SIT), 57**
 - project lifecycle, 56
- system landscapes, 42-45**
- system peaks, 270**
- system performance, 33-36**
- System Recommendations (SolMan), 355**
- systems management leads, 64**

T**tables (database), 46-47**

- controls, 172
- orientation, row versus column, 99-100

tasks, project organization, 59

- access strategy, 61
- blueprints and analysis, 60
- communications, 59
- configuration, 60
- customizations, 60
- cutover and go-live, 61
- data, 61
- defects, 60
- post go-live, 61
- pre-sales, 59
- program management, 60
- project management, 60
- security, 61
- technical team, 61
- testing, 60
- training, 61

T-codes

- CRM (Customer Relationship Management), 199
- Cross-Application (CA) module, 194
- Enterprise Asset Management module, 188
- Environment, Health, and Safety (EH&S) module, 195
- Financial and Managerial Accounting module, 181
- Financial Supply Chain Management (FSCM) module, 184

Materials Management (MM) module, 189

PLM (Product Lifecycle Management), 202-203

Production Planning (PP) module, 186

Quality Management (QM) module, 191

Real Estate module, 192

Sales and Distribution (SD) module, 185

SCM (Supply Chain Management), 201

SRM (Supplier Relationship Management), 197

Transportation submodule, 193

team managers, 62

Team Productivity (NetWeaver), 76, 90-91

technical architects, 63

technical monitoring, Solution Manager, 347-349

technical project managers, 392

technical roles, projects, 63-64

technical support managers, 64

technical teams, projects, 61, 259-260

technical trainers, 392

TechTarget, 406

terabytes (TB), 36-37

test managers, 63

test teams, projects, 258

testers, 392

- functional, 381

testing

- business acceptance, 56-57
- project tasks, 60
- upgrades, 368-369

testing phase, development, 292-293

three-tier platforms, versus two-tier, 38-39

title bar (SAPGUI), 165

TP-VS (Transportation Planning-Vehicle Scheduling) module, 122

traditional business concerns, 19

trainers

- functional, 381
- technical, 392

training classes, attending, 383-384

training tasks, projects, 61

transactions. See business transactions

Transora adapter (PI), 89

Transportation Planning-Vehicle Scheduling (TP-VS) module, 122

Transportation submodule, 192

Travel & Expense app (Concur), 142

Travel Management module, 116

Treasury Management module, 182-183

- submodules, 182-183
- T-codes, 183

Treasury Management module (Financials), 113

trees (SAPGUI), 171

trial version, installing, 314-316

Triplt (Concur), 143

Tschira, Klaus, 69
 two-tier platforms, versus
 three-tier, 38-39

U

UCCnet adapter (PI), 89
 UI Theme Designer, 177
 unit/function testing, 57
 updates, release, 360
 Upgrade Assistant, 368
 Upgrade Customizing IMGs
 (Implementation Guides), 296
 upgrades, 360-362, 365-366, 369
 high-level project planning,
 367-369
 migrating HANA during, 365
 versus migrations, 362-363
 testing and remediation,
 368-369
 Upgrade Assistant, 368
 user acceptance testing, 57
 user groups, 401-402
 user IDs, 162
 user interfaces, 161, 172,
 174, 178
 Fiori Launchpad, 174-176
 JavaGUI, 173
 NetWeaver Business Client
 (NWBC), 174
 SAPGUI. See SAPGUI
 SAPUI5, 177
 Screen Personas, 176-177
 UI Theme Designer, 177

Web IDE (integrated
 development environment),
 177
 WebGUI, 173
 user sessions, 162
 SAPGUI, 164-165
 users
 business. See business user
 careers
 high-activity, 269
 low-activity, 269
 medium-activity, 269
 reporting, 205-207

V

vendors
 fit/gap analysis, 53
 selecting, 53
 views, IMG (Implementation
 Guide), 294-296
 virtualization
 versus cloud computing, 330
 LVM (Landscape Virtualization
 Management), 351
 Visio, integration, 230
 Visual Composer (NetWeaver), 91
 VMs (virtual machines)
 exporting/importing, 331
 online transitioning, 331
 volatile storage, 102

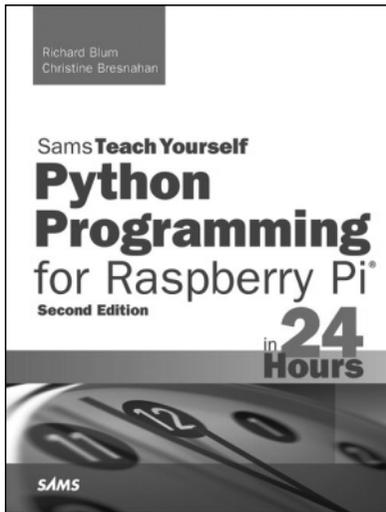
W-X-Y-Z

warm data, SAP IQ, 102
 Web Application Server
 (NetWeaver), 88
 Web Dynpro, 177
 Web IDE (integrated development
 environment), 177
 Web Intelligence (BO), 210-211
 WebAS (Web Application
 Server), 329
 WebGUI, 173
 Wellenreuter, Claus, 69
 Windows Clipboard, 172
 WIP analysis, BusinessObjects
 Analysis for Office, 226
 Word, creating SAP form letters,
 %pc command, 233-235
 work processes, 44
 Workforce Analytics & Reporting
 module (Success Factors HCM
 suite), 137
 Workforce Deployment, 118
 Workforce Planning module
 (Success Factors HCM suite),
 137
 Xcelcius Enterprise (BO), 210

This page intentionally left blank

Sams **Teach Yourself**

When you only have time
for the answers™



Whatever your need and whatever your time frame, there's a Sams **Teach Yourself** book for you. With a Sams **Teach Yourself** book as your guide, you can quickly get up to speed on just about any new product or technology—in the absolute shortest period of time possible. Guaranteed.

Learning how to do new things with your computer shouldn't be tedious or time-consuming. Sams **Teach Yourself** makes learning anything quick, easy, and even a little bit fun.

Python Programming for Raspberry Pi in 24 Hours

Richard Blum
Christina Bresnahan

ISBN-10: 0672337649

ISBN-13: 9780672337642

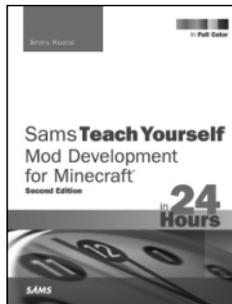


HTML5 and CSS3 Web Publishing in One Hour a Day

Laura Lemay
Rafe Colburn

ISBN-10: 0672336235

ISBN-13: 9780672336232

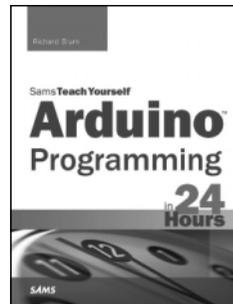


Mod Development for Minecraft in 24 Hours

Jimmy Koene

ISBN-10: 0672337630

ISBN-13: 9780672337635

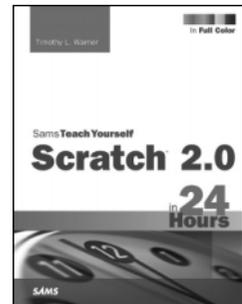


Arduino Programming in 24 Hours

Richard Blum

ISBN-10: 0672337126

ISBN-13: 9780672337123



Scratch 2.0 in 24 Hours

Timothy L. Warner

ISBN-10: 0672337096

ISBN-13: 9780672337093

Sams Teach Yourself books are available at most retail and online bookstores. For more information or to order direct, visit our online bookstore at informit.com/sams.

Online editions of all Sams Teach Yourself titles are available by subscription from Safari Books Online at safari.informit.com.

SAMS

REGISTER



THIS PRODUCT

informit.com/register

Register the Addison-Wesley, Exam Cram, Prentice Hall, Que, and Sams products you own to unlock great benefits.

To begin the registration process, simply go to **informit.com/register** to sign in or create an account.

You will then be prompted to enter the 10- or 13-digit ISBN that appears on the back cover of your product.

Registering your products can unlock the following benefits:

- Access to supplemental content, including bonus chapters, source code, or project files.
- A coupon to be used on your next purchase.

Registration benefits vary by product. Benefits will be listed on your Account page under Registered Products.

About InformIT — THE TRUSTED TECHNOLOGY LEARNING SOURCE

INFORMIT IS HOME TO THE LEADING TECHNOLOGY PUBLISHING IMPRINTS Addison-Wesley Professional, Cisco Press, Exam Cram, IBM Press, Prentice Hall Professional, Que, and Sams. Here you will gain access to quality and trusted content and resources from the authors, creators, innovators, and leaders of technology. Whether you're looking for a book on a new technology, a helpful article, timely newsletters, or access to the Safari Books Online digital library, InformIT has a solution for you.

informIT.com

THE TRUSTED TECHNOLOGY LEARNING SOURCE

Addison-Wesley | Cisco Press | Exam Cram
IBM Press | Que | Prentice Hall | Sams

SAFARI BOOKS ONLINE

PEARSON

InformIT is a brand of Pearson and the online presence for the world's leading technology publishers. It's your source for reliable and qualified content and knowledge, providing access to the leading brands, authors, and contributors from the tech community.

↕ Addison-Wesley **Cisco Press** **IBM Press** Microsoft Press

PEARSON IT CERTIFICATION **PRENTICE HALL** **QUE** **SAMS** **vmware PRESS**

LearnIT at InformIT

Looking for a book, eBook, or training video on a new technology? Seeking timely and relevant information and tutorials. Looking for expert opinions, advice, and tips? **InformIT has a solution.**

- Learn about new releases and special promotions by subscribing to a wide variety of monthly newsletters. Visit informit.com/newsletters.
- FREE Podcasts from experts at informit.com/podcasts.
- Read the latest author articles and sample chapters at informit.com/articles.
- Access thousands of books and videos in the Safari Books Online digital library. safari.informit.com.
- Get Advice and tips from expert blogs at informit.com/blogs.

Visit informit.com to find out all the ways you can access the hottest technology content.

Are you part of the **IT** crowd?

Connect with Pearson authors and editors via RSS feeds, Facebook, Twitter, YouTube and more! Visit informit.com/socialconnect.





Learning Labs!

Learn online with videos, live code editing, and quizzes

SPECIAL 50% OFF – Introductory Offer
Discount Code: STYLL50

FOR A LIMITED TIME, we are offering readers of Sams Teach Yourself books a 50% OFF discount to ANY online Learning Lab through Dec 15, 2015.

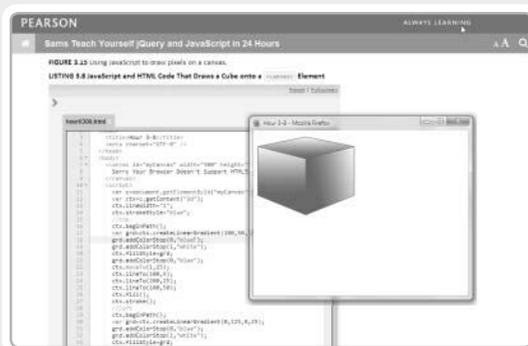
Visit informit.com/learninglabs to see available labs, try out full samples, and order today.



- Read the complete text of the book online in your web browser



- Watch an expert instructor show you how to perform tasks in easy-to-follow videos



- Try your hand at coding in an interactive code-editing sandbox in select products



- Test yourself with interactive quizzes