

# Application Administrators Handbook



Install	Troubleshoot	Upgrade	Tune	Train	Document	Fix	Test
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Installing, Updating and  
Troubleshooting Software

Kelly Bourne

**MK**  
MORGAN KAUFMANN



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# Application Administrators Handbook

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## Installing, Updating and Troubleshooting Software

Kelly C. Bourne



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# Dedication

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*I am dedicating this book to my parents, Jack and Bev Bourne.*

*My parents are truly two extraordinary people.*

*They have been role models and an incredible inspiration to my six siblings and me as we grew up. I can still count on their wisdom and common sense to guide me through life.*

*Thanks Mom and Dad.*

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# What Does an Application Administrator Do?

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## Abstract

This chapter describes tasks performed by an Application Administrator. Their job functions include installing software licenses from a vendor, updating software, tuning the application from a performance viewpoint, troubleshooting problems, and training users.

## Key Words

Application Administrator; install software; update; diagnose; troubleshoot; tune; document

## 1.1 Overview of the Position

Application Administrators aren't developers and they're not users, but they are critical to keeping the applications your organization relies on running. They install, update, tune, diagnose, and babysit both internal and third-party applications. The applications they support can include ERP (Enterprise Resource Planning), CRM (Customer Relationship Management), POS (Point of Sale), BPM (Business Process Management), budgeting and forecasting, HR (Human Resources), legal matter management, AP (Accounts Payable)/AR (Accounts Receivable), payroll, general ledger, SOX (Sarbanes Oxley) compliance tracking, training, time tracking, supply chain, database engines, and messaging, i.e., mail.

While software can be readily licensed from a vendor, it still requires a significant amount of effort on the part of the acquiring organization. Someone has to prepare the servers that it will run on. Then someone has to install it, configure it, load data into it, tune it, upgrade it, and generally keep the package up and running. If errors occur, someone has to report them to the vendor and work with vendor technicians to correct the problems. These are all tasks that an Application Administrator handles.

In many cases, corporations are absolutely dependent that these applications be kept running. What would be the response of employees if the payroll application broke down? What would happen to the organization's financial situation if invoices weren't sent out to customers? What if new employees couldn't be added to the HR system? The importance of Application Administrators and their level of expertise shouldn't be overlooked. Since the trend of relying upon third-party software isn't going to decrease in the foreseeable future, the role of Application Administrator won't be going away either.

Every company employs them even if their official job title doesn't sound at all like "Application Administrator." A job title of "system application administrator" might be for a position that covers both application administration and systems administration. Since there is a significant degree of overlap between these two positions, this isn't uncommon.

Any software the organization relies upon is almost certain to have an Application Administrator supporting it. This includes software acquired from a third-party vendor or from an internal development team. Development teams typically develop the application and then hand support

responsibilities off to another group within the organization. For better or for worse, they don't tend to stick around indefinitely to provide ongoing production support.

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### 1.1.1 Application administrator backgrounds

The background of IT professionals working as Application Administrators varies widely. Some have a background in software development. Others became Application Administrators because an administrator was needed and they were in the right place at the right time. Individuals without formal education or training in IT will benefit the most from this book. It will provide hands on advice on how to administer applications, troubleshoot them, and establish best practices for keeping applications running smoothly. But even the most experienced Application Administrator has weak areas that this book can help shore up.

### 1.1.2 Potential skillset

The list of potential skills that an Application Administrator might be required to have can be long and diverse. The skills that are being sought range from very specific technical skills to skills that are considered "softer." Virtually every posting requires some variation of excellent communication skills, troubleshooting ability, problem solving and/or analytical skills, flexibility, and understanding of business needs. Some examples of requested skills are:

- Expertise and experience in XYZ application is a must.
- Strong experience on failover, high availability, disaster recovery, business continuance.
- Strong experience in XYZ version control tool.
- Good knowledge and demonstrated troubleshooting abilities on connectivity issues due to firewall, load balancer, proxy, and others.
- Experience with SOX compliance and methodologies.
- Hands on experience in process automation, best practice approach, technology efficiency, and effectiveness.
- Knowledge of Web Services and Services Oriented Architecture is desirable.
- Requires extensive knowledge of Windows 2000/2003 Server.
- Should be experienced with SQL Query Development as it relates to XYZ databases.
- Must demonstrate strong experience in designing, implementing, and maintaining current Windows server products including Microsoft SQL 2005, IIS, Windows Clustering, Network Load Balance, Net Environments, and ISA.
- Strong Linux experience including shell and Perl scripting for administration tasks.
- Experience with monitoring tools is a plus.
- Knowledge of Oracle Application Server, Apache Tomcat, and Microsoft IIS a plus.
- Excels at the highest technical level of all phases of applications systems analysis and programming activities.
- Understands software and hardware requirements of varied departmental systems.
- Understands the workflow and process requirements of complex application systems.
- Demonstrated ability to be the subject matter expert in supporting, maintaining, and administering complex applications.
- Excellent problem solving/analytical skills and knowledge of analytical tools.
- Display and execute logical and complex troubleshooting methods.

- Excellent verbal, written communication, and negotiations skills.
- Demonstrated soft skills required such as presentation of ideas and clearly articulate the concepts senior management.
- Ability to effectively interface with technical and nontechnical staff at all organizational levels.
- Strong customer services and problem solving skills.
- Ability to provide outstanding customer service, be a good listener and work well with others.
- Self-motivated, able to work independently, and takes initiative.
- Ability to multitask in a fast-paced environment.
- Outstanding attention to detail with superior time and project management skills.
- Demonstrated ability to work successfully with a diverse group of customers.
- Ability to learn new content areas and new skills quickly and well required.
- Professional attitude and work habits.
- Understands business function related to the application.
- Ability to work through ambiguous work situations.

### 1.1.3 Duties and responsibilities

The list of duties and responsibilities described in some job postings is as broad and diverse as the technical skills that are required of prospective job applicants. It wouldn't be realistic to expect a single candidate to be responsible for this entire list of duties, but don't be surprised if your initial job description gets widened to include more and more responsibilities as time goes by. Some of the duties and responsibilities that an Application Administrator might be given include:

- The candidate shall monitor the XYZ software application, document and analyze problems, and publish maintenance schedule
- Sets up administrator and service accounts
- Maintains system documentation
- Interacts with users and evaluates vendor products
- May program in an administrative language
- Provides advice and training to end-users
- Maintains current knowledge of relevant technologies as assigned
- The candidate shall serve as part of a team responsible to maintain an XYZ system availability rate of 99%
- Troubleshoot, and resolve any reported problems
- Provide application performance tuning
- The candidate shall review the governing regulations to ensure proper program support
- The candidate shall monitor, update, and maintain existing legacy environment software systems interfaces to ensure that the interfaces exchange data properly and to support the current legacy environment
- This is a hands on senior technical position with Subject Matter Expertise (SME) on XYZ app
- Enable best practices
- Process automation
- Maintain SLA, System Availability, Capacity management, and Performance KPI
- Collaborate with hardware, OS, DBA technical teams to ensure proper integration of the environment
- Work closely with application development teams and vendors to tune and troubleshoot

applications

- ~~Plan and coordinate testing changes, upgrades, and new services, ensuring systems will operate correctly in current and future environments~~
- Provides second level of technical support for all corporate systems and software components
- Provide Level 3 support for the application. Must be able to support 24 × 7. Also enable production support team to tackle Level 2 support and issues
- Leads and participates in efforts to develop and implement processes for application and system monitoring
- Leads and participates in efforts to implement application updates to include upgrades, patches, and new releases
- Tests, debugs, implements, and documents programs. Assists in the modification of company products and/or customer/internal systems to meet the needs of the client and/or end-user
- Develops test plans to verify logic of new or modified programs
- Develop and maintain the reporting and dashboard infrastructure for the organization
- Develop work plans and track/report status of assigned projects/tasks
- Liaise with vendor support on all issues
- Fully responsible for problem management activities such as issue resolution and root cause analysis
- Daily monitoring and maintenance activities
- Assist in the day-to-day operations of Operations department
- Reviews and addresses assigned technical support tickets and calls, enters all updates related to such calls into the Help Desk ticketing system, and keeps team aware of any sensitive or escalating issues
- Provides subject matter expertise for all applications
- Participate in security and application audits
- Occasionally supporting off-hours activities. This position may require a flexible schedule
- Promote changes through the use of XYZ adhering to SOX policies and procedures
- Identify, download and apply XYZ upgrades and patches
- Research issues with application middleware, database, etc., and recommend/apply solutions such as configuration changes to O/S, WebLogic, Tuxedo, Java, etc., additional hardware, memory, CPUs, etc.
- Identify problematic SQL and work with developers, analysts, and DBAs to resolve
- Optimize and tune the XYZ application components
- Work with customers and analysts to develop scripts used to perform load testing
- Use load testing tool to perform tests to determine application load capabilities

As the above list makes painfully obvious, the demands put upon an Application Administrator are diverse and plentiful. It's an interesting job. It's a challenging job. It's certainly not a boring job. Every day will bring new challenges. Every problem is a learning opportunity. Every solution is an opportunity to educate your users, other professionals in the organization, or your successors.

### 1.1.4 Types of applications that need an administrator

Applications that are licensed from a third-party vendor and weren't custom built for an organization are frequently referred to by the acronym COTS—Commercial Off The Shelf Software. Because there are so many installations of COTS applications, they are primarily what Application Administrators



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