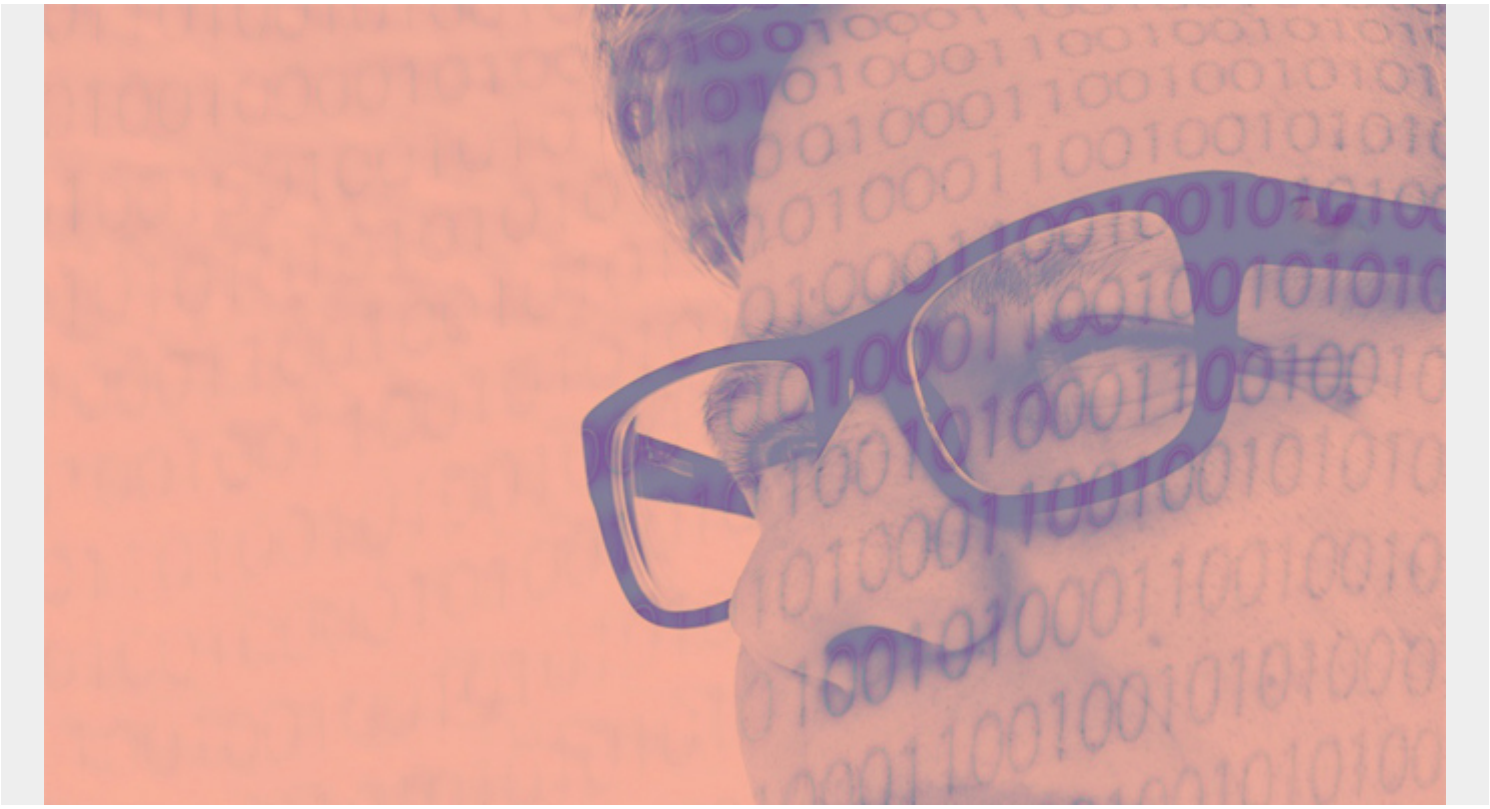
A COMPREHENSIVE GUIDE TO THE APPLICATION ENGINEER ROLE: SKILLS, RESPONSIBILITIES & SALARY



There's no denying that the need for skilled engineers has only increased over the years, with an estimated 150,000 new engineering jobs becoming available from 2016 to 2026 alone. Under this huge umbrella lies a field attracting a lot of attention: Application Engineers.

For those familiar with the industry, the title of Application Engineer is probably one that you have heard of before, maybe even for the purpose of hiring one of these professionals to complete a project. Or perhaps you are a budding engineer, looking to find the next big thing when it comes to engineering fields, and you are trying to get an understanding of what exactly an Application Engineer does.

For many, the roles and responsibilities of an Application Engineer are still a little murky, which is exactly why we have put together a complete guide that covers all of these points and more. Read further to find out more about:

What is an application engineer?

Working as a bridge between an organization's engineering teams and its customers, Application Engineers set out to improve the overall functioning of their client's software. Utilizing customer input, needs, and sales information, these engineers use this data to design, or re-design, then develop, test, and implement complex software applications and programs. (Importantly, app engineers are different from app developers.)

In a nutshell, Application Engineers set out to improve the overall functioning of their client's software. Some examples of what an Application Engineer does include:

- Creating new software architecture
- Working within existing software
- Engineering hardware components that optimize certain technologies
- Providing technical support and expertise to their clients,
- Other tasks including testing applications, maintaining hardware, responding to customers, and leading demonstrations

They are often hired by application development firms with a variety of clients, toward the goal of meeting unique software needs. These engineers are similar to Business Analysts because of their skillful extraction of information from clients to determine the project scope and design a solution. However, unlike Business Analysts, they typically work with external clients and not on internal projects.

In addition to developing applications and improving the functioning of existing software, an Application Engineer must also possess hardware knowledge and understand technical specifications of a broad range of software to address client concerns. They are the key customer-facing team member and are also expected to have the soft skills that come along with sales and customer service.

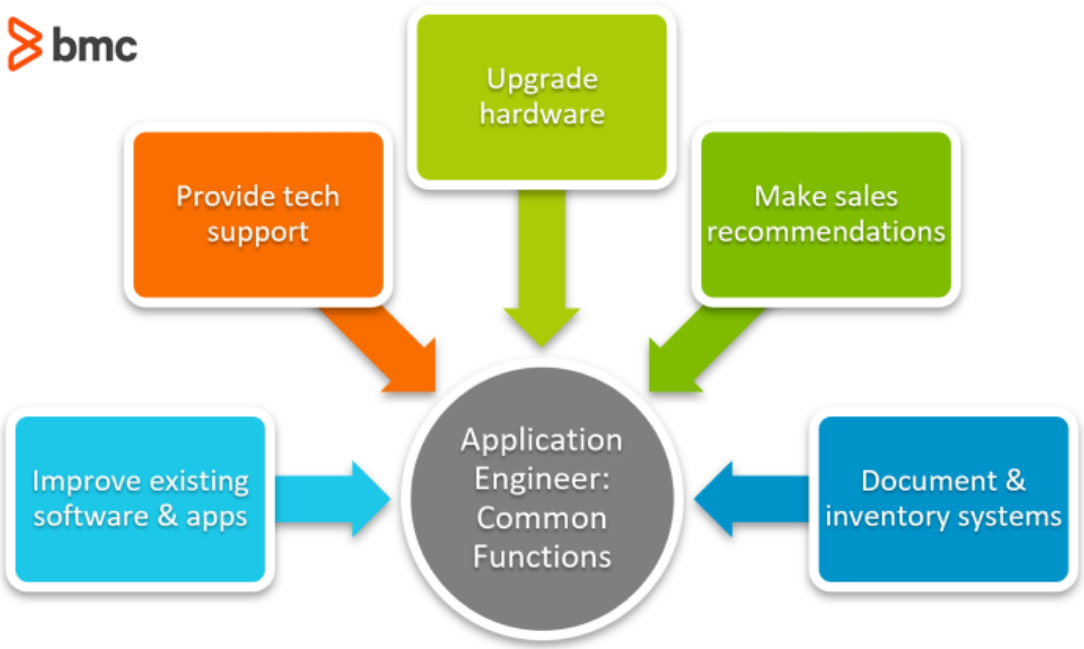
(See more infrastructure & operations roles.)

What team are application engineers part of?

Application Engineers are often part of a technical team called the Application Development and Maintenance (ADM) team. Typically, this group is led by a Project Manager who oversees multiple teams that each have their own dedicated engineers. ADM works closely with client-side Project Leaders, Product Owners, and internal Senior Management to ensure application jobs are completed with accuracy.

The ADM team may also include several designers and developers in addition to the Application Engineer. As the title engineer implies, the Applications Engineer is a team lead. They are also the main point of contact for the client, representing the entire team and accountable for overall satisfaction. Essentially, they function as a bridge between ADM and the client.

The reach of the Applications Engineer spans across several departments including sales and marketing, engineering, customer service, manufacturing, and beyond.



What does an application engineer do?

The Application Engineer has several responsibilities that are critical to the smooth functioning of the ADM team. Let's look at these key responsibilities—which will help you understand the skillsets needed to be a successful app engineer.

Develop apps & improve existing software

The primary role of an Application Engineer is to design and improve software. They perform needed evaluations with clients to understand the unique goals of each project and then implement after careful assessment.

This sometimes means they are tasked with the development of custom software. But, Application Engineers should keep thinking one-step ahead—they are also in charge of planning and implementing expansion projects for the client's current software infrastructure. So, futureproofing is top-of-mind.

For example, an Applications Engineer might be tasked with building a whole new database platform for a client. Or they may recommend only a database upgrade that allows sales representatives to see more customer contact information from the database in another application they frequent, like Microsoft Outlook. It is up to the Applications Engineer to:

1. Understand what the client is trying to accomplish.
2. Make the best recommendation for how to get there.

This means, first and foremost, Application Engineers must be comfortable with many coding languages, particularly those that apply to enterprise solutions.

(Learn about software & app modernization.)

Provide tech support to clients

An Application Engineer also serves as a help desk point of contact for their clients, answering 2nd,

3rd, and 4th tier tech support calls.

- If working with a help desk team, the Application Engineer may define priorities and assist with the higher-level calls, ensuring quality troubleshooting services are delivered to clients in a timely manner.
- In some cases, Application Engineers will respond to client needs onsite and provide additional consultation. These kinds of tech support calls can lead to up-selling opportunities for assertive Application Engineers who are tasked with incremental sales growth.

Whether by phone or in person, an Application Engineer is always expected to deliver the highest level of customer service when responding to calls. They use their knowledge of both hardware and software, along with critical thinking skills, to provide solutions for clients from running software updates to recommending and installing new hardware components that make their infrastructure run more smoothly.

Provide hardware upgrades

Application Engineers are expected to not only understand the needs of the client but also the technical needs of their software. This means they must have a deep understanding of hardware technical specifications.

Things like server speed and availability, processor speed, and other mechanical components have an impact on software performance. (That's why experts recommend going into this field with a general computer science degree or one in electrical engineering.) In some cases, Application Engineers design and develop custom mechanical components as they relate to software applications.

For instance, some Application Engineer jobs require knowledge of solid state drives for those who are working with mobile devices. Others ask for applicants with knowledge of radio technology, or a certain type of enterprise server.

While the specific knowledge requirements of an Application Engineer will vary from position to position, it's certain that some hardware knowledge will come into play.

(Explore the domain of infrastructure management.)

Make sales recommendations

One role of an Application Engineer involves regularly reassessing the needs of their clients. That means looking at their current software and hardware inventory and determining where improvements can be made.

Application Engineers should be skilled at the art of up-selling. They will have many opportunities to do so during the initial consultation and follow-up tech support calls. During this process, they should be able to translate tech jargon into meaningful, relatable terms that make sense for their clients.

Document & inventory systems

Finally, since they are responsible for the documentation of service calls and inventory of all systems for their clients, Application Engineers must be detail oriented. This means:

- Keeping detailed records of installations and hardware components
- Logging all technical specifications required to keep systems at peak performance

In many cases, inventory software and other office software suites will be used to complete the task of inventory and documentation. The Application Engineer should be familiar with all office software necessary to complete the job.

Is an application engineer the same as a software engineer?

Application engineers and software engineers have skill sets that overlap, but the focus of their work is different.

A software engineer builds software from the ground up. This kind of engineer works on the design, development, testing, and maintenance of software, frameworks, and backend systems using programming languages like Python, Java, and C++.

An application engineer is more of a specialist, focusing on user-facing solutions and functions that address specific needs. They adapt and integrate existing software and troubleshoot issues to create user-friendly tools.

Education, skills & requirements to become an application engineer

As one might assume, all requirements, skills, and education for an Application Engineer are going to largely relate to knowledge of designing and developing software. This isn't just a behind-the-scenes role, however, so many skills are going to also involve customer service and team collaboration.

What are the education requirements to be an application engineer?

Most companies require Application Engineers to complete a 4-year degree in computer science or a related field. Some are even beginning to require a Master's degree in engineering in order to be considered for certain roles.

More importantly, they must also have a great deal of knowledge and experience with programming languages, development and design of enterprise programs and hardware knowledge. Most companies are looking for 5+ years of experience in these and related modalities.

Entry level IT professionals who are looking to develop their career paths in the field of Application Engineering can seek credentialing through The IEEE Computer Society. This group offers a Certified Software Development Associate (CSDA) certification to put new IT professionals on the right track. The certification requires a candidate to demonstrate an understanding of the principles and processes in software requirements, software design, software construction, and software testing.

After gaining work experience in the field of software development, another credential available through IEEE is the Professional Software Developer Certification. This certification proves competency in four key areas: Software Engineering Requirements, Software Engineering Design, Software Engineering Construction, and Software Engineering Testing.

What skills do you need as an application engineer?

Since Application Engineers operate at the intersection of the engineering, customer service, sales, and manufacturing departments, they must be comfortable wearing a variety of different hats, each one possessing the skills needed to explicitly communicate with specific teams.

They must also have excellent mathematical capabilities, and have the capacity to lead in team situations across different departments. Application engineers must be talented in both detail-oriented analytical tasks as well as in customer service.

What experience employers require when hiring an app engineer?

Although the requirements for an Application Engineer position will greatly vary by company and industry, there are some general skills that most employers look for in their candidates. Some of the requirements employers seek when looking for the right person to maintain their software include:

- Relevant hands-on engineering or development experience
- Ability to develop and improve software applications
- Strong knowledge of software and coding
- Familiarity with hardware
- Project management abilities
- Minor electrical engineering experience
- Superior troubleshooting skills
- A pleasant but focused sales demeanor
- Soft skills, including exceptional customer services and interpersonal skills

Future job outlook

Jobs in this field are highly desirable. In addition to competitive pay, careers in Application Engineering offer a high-level of job satisfaction. This is in part because companies hiring for Application Engineer are often highly-sought-after companies like software producers and computer design firms who need someone to service their external clients. Application Engineers work with clients across a wide variety of industries so the role requires someone with a broadly developed skill set.

What is an application engineer's salary?

The importance of Application Engineers is evidenced by a projected 22% growth rate in the profession expected by 2024, which is even above average for the already rapidly growing IT field.

The current national average salary for an Application Engineer is $100,396, with major industry players compensated far more than that.

Conclusion

Application Engineers are only going to continue to be crucial to companies, making this a position worth exploring. The role combines working with new products, collaborating with clients, creating state-of-the-art developments, and facilitating team collaborations, offering big opportunities for both personal and professional development.

Related reading

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- BMC DevOps Blog
- What's An App Owner? Application Owner Roles & Responsibilities
- DevOps Job Titles, Roles, & Responsibilities
- IT Salary Trends Today: The Complete Roundup
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