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The Talent Playbook

Part 2:

The Center of Excellence
Expanding and Scaling an OutSystems Team

Contents

Introduction

After your <u>foundation team</u> in your digital low-code factory nails the first project, word will get out. More people and more teams will be interested in using OutSystems.

The Talent Playbook, Part 1 focused on developers and how to build your foundation team. Now, it's time to acquire the talent needed for advancing your <u>low-code digital factory</u>.

This is a natural progression that eventually leads to a full digital enterprise that delivers business outcomes when they are needed.
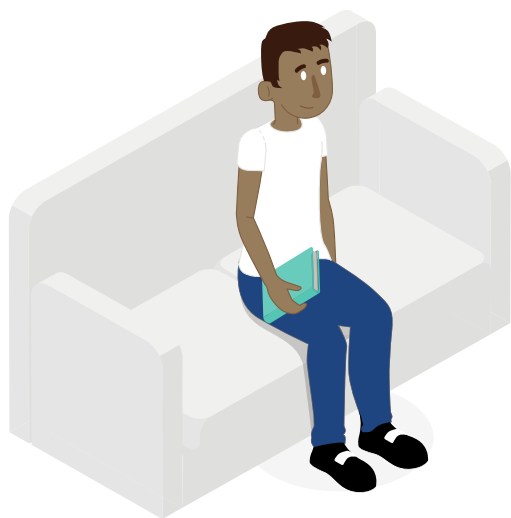
What Is This Playbook for?

When you scale up past the foundation phase of your low-code digital factory, you will need to find and onboard additional profiles. The focus of this Playbook is on the roles of product owner, architect, DevOps, tester, and UX/UI designer.

Furthermore, we will share some practical information for ramping up the team and finding the best training options, as well as career path opportunities available with OutSystems.

Who Should Read This Playbook?

If you are a recruiter, hiring manager, or a leader of a low-code digital factory center of excellence (CoE), this guide will help you reinforce your team with new roles essential for success. Whether you want to promote internal team members or onboard a newly established team, we've got you covered.

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It's Time for New Roles!

This section describes the possible additional roles you will need for a low-code digital factory CoE, the skill sets they should have, and how to identify the right people to take on the challenge. Each of the roles brings an added value to the current team and is in charge of the specific features related to the OutSystems platform.

Product Owner

In the foundation phase, formal project management processes are typically not needed and business users are more likely to be directly involved with the development team although some organizations prefer to have a product owner be the proxy between the development team and the business user.

However, after a successful foundation phase, the role of **product owner** is one of the **most crucial** for any organization establishing a successful CoE with the aim of becoming a full digital enterprise. The product owner has organizational awareness, establishes and sets the product vision, maintains the product backlog, and extends leadership across multifunctional teams. As a result, everyone knows the priorities and can do the best possible job of satisfying all stakeholders.

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Product Owner

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More specifically, a Product Owner:

- Understands the business impact of the solution and any changes made and how individual teams will be prepared for this change.
- Ensures business value is provided
- Helps ensure the preparation of individuals, teams, the business, and the organization for the new processes and tools
- Serves as liaison between the business and development team
- Ensures the business vision and the project is aligned
- Breaks ideas into requirements and user stories and pass these items on to the development teams as structured features

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Furthermore, for enterprise software adoption the PO needs to ensure that the requirements related to governance, support, and operations are in place. For **governance**, this includes onboarding and enabling new teams as well as being able to put all the best practices in place across projects and teams. PO plays an active role in prioritizing and ensuring consistency on requirements for shared components that serve multiple stakeholders or applications. For **support**, this means enabling end-users to interact with the CoE. For **operations**, the product owner needs to ensure that service desk teams can provide application support and that user feedback loops are in place.

When looking for the right person to take the role of the product owner, think of your best business analyst or someone who has an understanding of the front-end customer experience from a business perspective. Because they will be a focal point for multiple teams and stakeholders, which requires negotiation and problem-solving, they should have excellent communication skills and technical knowledge at a high level. OutSystems training includes a transition path from Business Analyst to OutSystems Business Analyst, which is a great way for someone to become a product owner.

What about the **Product Manager role**? We're constantly gathering feedback from our customers and keep on adding to this document, so in future editions we'll address the move from a project to a product approach. Keep your eyes peeled!

Architect

As your low-code digital factory grows beyond the foundation phase and the complexity of your solutions increases, a new role—the architect—is required. The architect develops enterprise-wide standards for architecture, communicates them to project teams, and enforces their use.

To fill this role, look for someone who can ensure sound architecture principles are used to design future-proof applications. Candidates should be able to master the best implementation patterns for guiding teams to deliver high-performance applications if they haven't already. You want an architect who can teach code maintainability principles to foster quality and changeability.

Architect		
Architecture/Solution Design		
Requirement Gathering		
Web/Mobile App Architecture		
User Experience		
SQL Programming		
Development Languages		
UI Development Languages		
Integrations		
Performance		
Troubleshooting & Debug		

The goal of the architect is to eliminate the technical debt and architectural contention that can be created when each team does things their own way. This process also includes harvesting reusable code assets from teams and making sure everyone can access them and apply them to their projects.

Target senior professionals with at least 2 years of application solution design and customer-facing experience. Where you have experienced developers and an architecture team already in place, explore promoting internally. If going to the market, target senior developers or tech leads looking for a technical progression with high impact and greater influence.

DevOps

First of all, the DevOps role should be the one to operate the OutSystems platform (setup, configure, and manage) to ensure platform reliability, scalability, development lifecycle support and application monitoring. As automation becomes a major goal to your organization, you will also begin moving towards a more DevOps Engineer oriented role. This is where CI/CD implementation comes to play, containers for runtime applications, or DevOps for the infrastructure (in the case of self-managed hosting).

As you search for a DevOps person for your team, remember that they need to be able to deploy and operate the low-code platform in very large complex environments. As such, this role should excel in platform architecture knowledge, have experience applying best practices for operating it, and also support delivery teams on application lifecycle management. As you start embracing more advanced DevOps practices, make sure they can also instantiate CI/CD pipelines on the engine of your choice, setup the platform to run applications in containers, enabling delivery teams to become fully autonomous using these capabilities of the platform.

DevOps

Skill	
Platform Setup	
Platform Configuration	
Platform Health Check	
Platform Governance	
Release Management	
Database Administration	
System Configuration	
CI/CD	
Monitoring	
Performance Troubleshooting	

The DevOps person should have a strong knowledge of the OutSystems platform, being able to set up, configure and maintain it along the way. They should be able to support product team deployments throughout the application lifecycle.

Target senior professionals with at least 2 years of OutSystems application development (internal promotion may be a good option) or 2+ years of traditional IT operations (e.g., sysadmin). In fact, OutSystems DevOps talent may have started their career as a former OutSystems Dev (leveraging OutSystems knowledge) or former traditional Ops (leveraging IT Ops knowledge). As you scale, a DevOps engineer from the market can be a good option. As this becomes also an enabler role, customer-facing experience becomes more relevant.

Tester

First impressions make the difference between the success or failure of an app. Performance and cross-device testing are critical activities that need to be planned for. Therefore, it is important to add a dedicated and knowledgeable tester to the team and give them the right tools to ensure success.

Tester

Skill	
Analysis & Design	
Web App Architecture	
User Experience	
SQL Programming	
Development Languages	
UI Development Languages	
Integrations	
Performance	
Troubleshooting & Debug	

Testers define test strategies, write test cases, and use automated and manual methods to test applications.

Target professionals with at least 3 years of software QA, test planning, and test writing experience, at least 1 year of test automation experience, familiarity with continuous integration testing frameworks (for example, Selenium, Robot, Jenkins and Apache JMeter), and knowledge of device farms.

A good tester should be curious, detailed oriented, skeptical, and customer-centric with strong interpersonal skills.

UX/UI Designer

The UX/UI designer puts users front and center and is dedicated to research and problem-solving. A person in this role studies business goals and user needs, and maps the customer journey onto a solid user experience. A clickable prototype will visually demonstrate that experience, thereby increasing the understanding of the application's value.

UX/UI Designer		Skill Level		
	Product Strategy			
	User Research			
	Information Architecture			
	Interaction Design			
	Visual Design			
	Usability			
	Accessibility			
	Performance			

Familiar with ways to design for business value and able to create reusable UI components, a UX/UI designer helps to achieve business goals and user needs as efficiently as possible. A person in this role follows a user-centered approach, and knows the importance of testing and validating an experience.

Target senior professionals with at least 5 years of experience in UX/UI, knowledge of human-centered design, and a usability and accessibility mindset. Also look for high-level proficiency in design and prototyping tools, as well as knowledge of standards and best practices for iOS, Android, and web.

| Note: You can find details about all these skills in Appendix A.

Citizen Developer

Citizen developers are people in non-IT positions who build applications for themselves and others on their team or in their line of business. They are often power users of Microsoft Excel, Access, or similar self-service products, which enables them to start at the lowest rungs of a development skills ladder and work their way upward. Knowledge of their relevant line of business makes them excellent partners in implementing certain needs that technical people might not be aware of. The type of citizen developer that fits in an OutSystems CoE is a businessperson with relevant technology skills and aptitude.

The main motivation for citizen developers to get their hands on OutSystems is to learn a new tool and skill to automate workflows, collaborate using consistent information, or set up simple operational dashboards without the need for writing code in the traditional sense. They are often open to solving problems that are smaller in scope but have a material impact on the productivity of the technical team, reducing the backlog and freeing IT to focus on more strategic initiatives. OutSystems can save citizen developers time, enable their self-reliance, and automate some of their repetitive work, all of which helps the business and their peers be more productive.

While they are usually very motivated and self-learners, providing centralized governance, easy onboarding and opportunities for continuing education, and a community of supporters who celebrates their accomplishments will be the key to their success.

Ramping Up the Team

When onboarding and growing your team, there are different possibilities for enablement, depending on your particular situation, preferences, and goals.

You might wonder what your new OutSystems roles need to know? Where and how can they learn? What training options are right for them? What if there is a team without a defined project?

OutSystems can help by answering all of these questions and by addressing your concerns, all the while offering several complementary training options: you can choose between formal classroom training, role-based training, or prepare your teams specifically for upcoming projects by using the Training Planner assessments.

Formal Classroom Training with Boot Camps

Depending on your organizational strategy and your team needs, you can opt for a traditional classroom training available through OutSystems Boot Camps as an instructor-led training delivered by an OutSystems Certified Trainer from our Global Training Partners. Organizing an OutSystems Bootcamp allows your team to learn with a certified trainer who monitors your team's learning progress and helps them get unstuck when needed, with the option of taking the certification exam at the end. Bootcamps can be a good option for big teams when your first project is still in the design phase and you want to avoid idle days.

Depending on your organizational strategy and team needs, you can opt for traditional classroom training available through OutSystems Boot Camps--instructor-led training, delivered by OutSystems certified trainers from our network of Global Training Partners. OutSystems Boot Camps allow your team to learn from trainers who monitor the teams' learning progress and unblock them as needed, with an option for teams to take the certification exam at the end. Boot Camps are a good option for big teams, when projects are still in the design phase, to make good use of potentially idle days.

Role-Based Training with Guided Paths

If you have distributed teams which would make a more traditional classroom experience difficult to attain, consider the self-paced, on-demand training that will enable your team to learn the ropes online, according to their assigned OutSystems roles. Whether you're creating Web or Mobile apps, and whether you're training Developers, Architects, Business Analysts or Tech Leads, there are several guided paths for the role that you can access on our Community's Online Training section.

Team Preparation for Specific Project Needs with Training Planner

Another common scenario is that organizations have a specific project in mind, but aren't sure where to start. In that case, you can go through a simple assessment through **Training Planner** and get a customized training plan tailored precisely for your project and team's needs. This training plan consolidates online training materials for your team to go through on their own, offered at the right stage of the project's duration.

This decision tree can also help you examine your options and choose the best one for your team.

Note that you can combine classroom and online training to make the most of our training resources.

Your teams will be ready to attain their OutSystems Professional Certifications by attending the Boot Camps or by going through our meticulously prepared guided paths. The OutSystems Certification program was catered specifically to foster an ecosystem with skills that enable the creation and delivery of high-end quality solutions. We certify professionals with knowledge acquired from real-world project experience.

OutSystems has a set of certification exams to certify individuals and teams as OutSystems professionals, in different levels of proficiency and experience, roles, and development tracks.
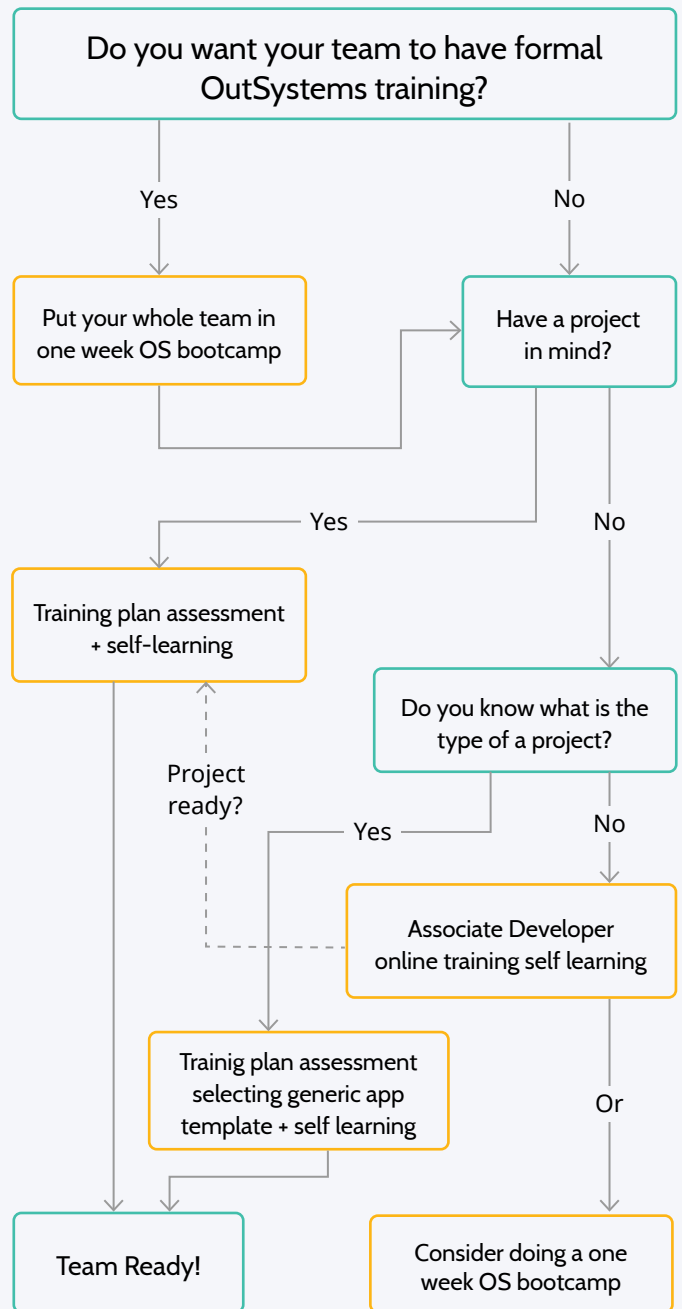
Talent Strategy

To build your team, you can start with your existing resources or bring new ones in as reinforcements.

No matter what approach you take, make sure your talent strategy is well aligned with the business objectives as well as the individual goals of the team. Think of OutSystems as a way to promote and upskill your people through different career paths and as transition options. It also enables you to invest in junior professionals who can learn with your team.

Career Paths

Technical profiles in the market are limited. Recruiting talent is no longer enough; therefore, leaders should consider investing in promoting and upskilling existing resources to strengthen the team. This strategy also contributes to retaining talent, as employees who learn new skills and grow in a company are likely to stay.

Modern workplaces are currently adopting fluid and agile environments to where straight-line career paths will be a thing of the past. To evolve into this environment, identify people that are willing to learn and can also perceive their own gaps in knowledge as exciting opportunities vs. insurmountable obstacles.
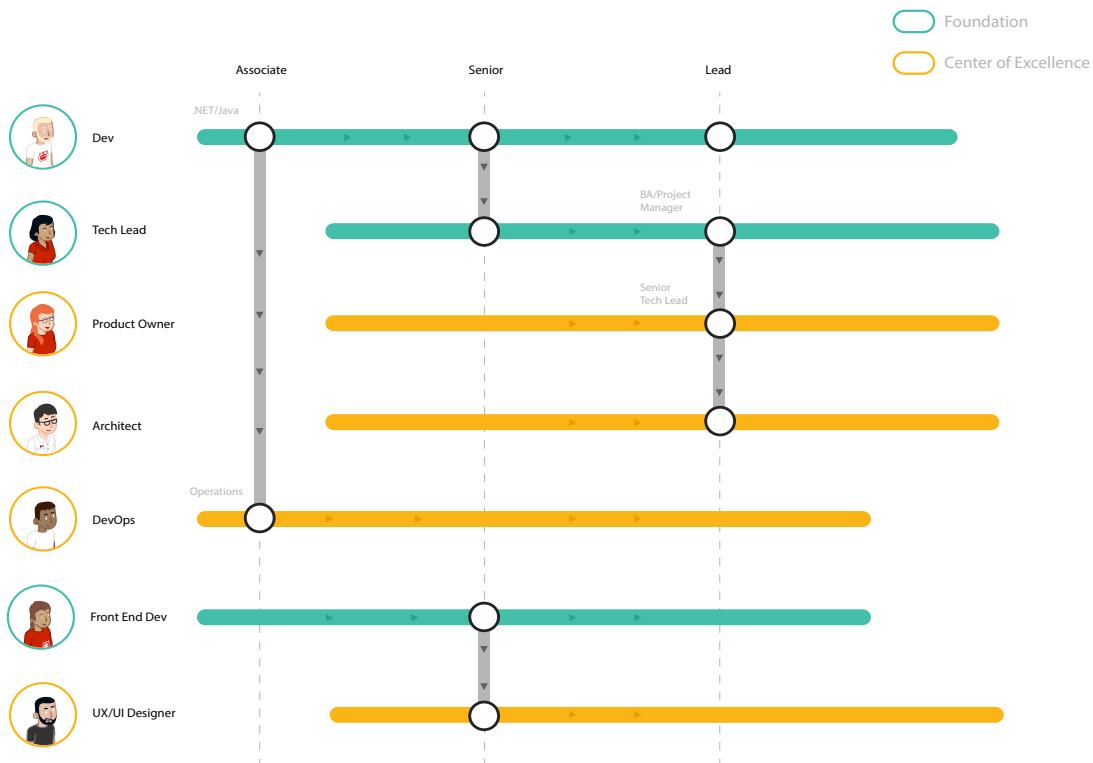
As illustrated in this diagram, there are obvious career paths for technical resources.

To become closer to the business, they could assume product owner responsibilities, or they can take technical skills to the next level by moving into the architect role.

Technical resources with more of an interest in improving CI/CD processes could take on the DevOps role.

Your front-end developers could evolve into a more senior UX/UI role.

This is an excellent opportunity to recognize the pioneering team members responsible for delivering early wins.

If you are still struggling to explain the benefits of the low-code to your peers, take a look at Appendix B, which provides some real people examples of how OutSystems made their work and in some cases even life better, easier and more meaningful.

Easy Transition

If you're thinking about upskilling existing members of your teams, we've designed common paths to make this transition smooth and fast. In addition to our training offer, OutSystems provides several new training options that will accelerate your current teams' transition to OutSystems. The Getting Started with OutSystems for .NET, Java, SQL, PHP, and Front-end Developers Acceleration Courses will shorten the learning curve by mapping their knowledge to OutSystems concepts.

Each of these courses translate parts of the framework, languages, and practices your teams already know into the corresponding OutSystems features, language elements, and best practices. This translation allows developers to then go through the core OutSystems guided paths much faster and with a better understanding of the OutSystems references than if they were just starting from scratch.

Check our training page and stay tuned for more acceleration courses.

Junior Profiles and Education Program

When thinking of your talent strategy, always keep in mind that the talent pipeline has to be reinforced with junior profiles who will, with the support of the team, learn and evolve in their OutSystems careers. Both University graduates, as well as code school graduates, are great pools of talent from which to hire.

Within the Education Program, OutSystems is promoting low-code and challenging young people to embrace the future technology even before entering the job market. A series of worldwide initiatives are planned to introduce academia and junior talent to the benefits of learning low-code technologies, while also connecting these audiences to you, our customers and partners.

Senior Profiles and Low-Code School

The OutSystems Low-Code School initiative was created to attract developers that have at least 2 years of experience in software development, currently working outside our ecosystems of partners and customers, to train them into becoming successful OutSystems developers. In practical terms, the program consists of 2 weeks of OutSystems training designed to happen outside of working hours, with free access to a certification exam, while giving attendees the possibility of networking with OutSystems customers and partners that are hiring.

If you're facing challenges when it comes to hiring OutSystems developers, particularly when it would be a benefit that they'd have prior traditional development experience, this program is the answer. Reach out to talent@outsystems.com and we'll let you know how you can benefit from one of the many global editions that we have constantly running.

Want to Know More?

Talent playbooks provide a wide range of information based on our experience working with many customers and partners, market research, global trends in talent strategy and a little bit of a gut feeling.

If you need to dig deeper, need assistance with a specific talent situation, or simply want to know more about initiatives like the Education program or Low-Code School, the OutSystems team is available to help you.

Our very resourceful and well equipped Customer Success Managers will be able to help you in your initial conversations. For further talent requests, you can reach the talent team at talent@outsystems.com.

Conclusion

The aim of this playbook is to equip you with the information you need to advance and scale up your team in your OutSystems low-code digital factory.

Because all essential roles are covered, you can be inventive when thinking about the strategy and career options for your team.

The success story you started from the foundation is expanding and creating wider impact inside and outside your organization. Your team will be proud of how far they can get once they embrace this journey.

Appendix A

Competence Skill Level Breakdown

For each of the low-code roles described in the talent section, there is an assessment of the required competence on a 5-point scale according to the following chart:

Skill Level: 0 | *Not Applicable*

The competency is not applicable to the role.

Skill Level: 1 | *Basic Knowledge*

There's a common knowledge or an understanding of basic techniques and concepts.
Focus is on learning.

Skill Level: 2 | *Limited Experience*

Able to understand and discuss terminology, concepts, principles, and issues related to this competency.
Has a level of experience gained in a classroom, experimental scenarios, or both—or as a trainee on the job.
Is expected to need help with this skill.
Focus is on developing through on-the-job experience.

Skill Level: 3 | *Intermediate*

Able to successfully complete tasks in this competency.
Has applied this competency in situations successfully and with minimal guidance.
Is expected to use the skill independently with occasional help from more a senior resource.
Focus is on applying and enhancing knowledge or skill.

Skill Level: 4 | *Master*

Able to provide guidance, troubleshoot, and answer questions related to this area of expertise and the field where the skills are used.
Has demonstrated consistent excellence in applying this competency across multiple projects and organizations and also created new applications for this competency, lead the development of reference and resource materials for this competency, or both.
Is expected to coach others in the application of this competency by translating complex nuances into easy-to-understand terms.
Focus is on broad organizational or professional issues.

Competence Breakdown

The following table provides more detail about each of the nine competency areas identified as part of the talent dimension.

Skills	Description
Analysis and Design	
Architecture / Solution Design	Master good architecture principles and be able to design applications using the 4-layer architecture Guarantee good performance, scalability, and maintainability Know how to avoid, detect, and correct circular references Know how to use tools to monitor project architecture Is expected to be considered the "go to" person in this area within and outside the organization. Focus is strategic.
Requirement Gahtering	Master requirements gathering techniques: • Identify vision and drivers • Clearly understand business context • Identify personas • Define user stories • Develop business process models • Build mockups
Web Application Architecture	
Web Application Architecture	Understand web application architecture (client/server architecture): • How and when to POST or GET • Page rendering • Database access • Understand session behavior • Understand browser caching • View State • AJAX requests
User Experience	
Understand and Apply Usability	Understand information architecture: • What it is • Why build it • Organization • Labeling • Cost • Navigation • User location • Auxiliary navigation Understand SCRAP (symmetry, contrast, repetition, alignment, proximity). design principles and be able to apply them when building an application Know the 11 UX Rules for IT Developers Understand the importance of usability tests and be able to execute them Use real sample data or generate realistic test data

Skills	Description
Analysis and Design	
SQL Programming	Able to implement: • Common table joins (left join, inner join) • Exists • Count • Group by • Top • Row number • Aggregate functions (SUM, AVG, MAX, MIN) Able to implement: • In • Between • Outer Join • SQL Case • Subqueries Understand indexes and their impact on performance
Troubleshooting and Debug	
App Troubleshooting	Able to analyze error logs Able to analyze monitoring logs Able to analyze performance logs Know how to troubleshoot, identity, and fix performance isssues Understand indexes and execution plans
Development Languages	
Algorithmn and Pseudocode	Understand the problem or requirement Think through the solution and develop a design - be able to drill-down and explain it
C#, Java, Python, PHP	Understand language best-practices and most commonly used code libraries Able to implement a basic algorithm or functionality Experienced with MS Visual Studio, Eclipse, or other IDE
IOS & Android	Swift and Java
UI Development Languages	
CSS	Know CSS syntax Able to explain the box model Know what a pseudo element is Able to troubleshoot an issue in the browser Know the order of import of CSS in OutSystems Know how to read and apply selectors Know the differences between CSS and CSS3 Know the difference between positioning values Able to understand the organization of a theme Able to understand vertical alignment Able to explain RESS (responsive web design + server side) and RWD (responsive web design)

Skills	Description
UI Development Languages	
HTML	Know what elements are used and how by
	Know what APIs were mande available in HTML5
	Know how to add HTML standard elements to an HTML file
	Understand accessibility
JavaScript	Understand JS/jQuery
	Select an element by id
	Select an element by class
	Able to show and hide an element
	Able to import (and use) a jQuery plugin
	Able to troubleshoot an issue in the browser
	Know how to create a JS object
	Know how to create a jQuery plugin
	Know how to do a manual jQuery Ajax request
	Has created and shared a jQuery plugin in the community
Integrations	
REST & SOAP	Able to consume a REST and SOAP API
	Able to expose a REST and SOAP API
	Know how to test REST and SOAP integrations
	Know how to handle null values for SOAP API
Third-party Integration	Know how to create extensions using the SAP Wizard for Integration Studio
	Know how to handle transactions between OutSystems and SAP
Performance	
Assess Application Performance	Able to drill down into reports and identify bottlenecks .
	Use performance reports (understand difference between client-side vs server-side time)
	Use the browser performance tools
Optimize Application Code	Reduce the page size
	Reduce the size of page resources to load and cache them
	Reduce the data fetched from the database
	Cache data from external data sources
Optimize Application Infrastructure	Avoid database degradation
	Use maintenance plans
	Tune database file growth
	Improve application server and web server memory settings

Appendix B

Developer quotes from interviews

"The learning path with OutSystems is accelerated and it helps you to learn faster. I am learning not only programming but also services, DevOps and other things because I have time for that and it makes part of the platform."
OutSystems Developer, Brasil, ex-Java, less than a year working with OutSystems

"It gives you 100% power in development, with the integration studio you can do anything! It's like .Net on steroids!"
Senior Tech Lead, Portugal, ex-C#, 3 years working with OutSystems

"No. 1 reason for choosing OutSystems was the speed and end-to-end application cycle management; With traditional development, you need to use many different tools and OutSystems unifies everything in the platform. OutSystems carefully thought about all the unifying experiences!"
System Engineer, Singapore, ex-Java, 6 years working with OutSystems

"With low-code I can finally bridge the gap between business and IT, and with OutSystems, these two really work well together. With low-code, I can combine my technical background and interest in the business.
With OutSystems you actually build what business wants, because they are involved."
Tech Lead, Belgium, ex-Javascript, 1 year working with OutSystems

"It is really a bridge between IT and business - bridge to digitalization!
As a Project Manager, I never had the opportunity to do my work like this and transform the business in a digital way, and now with OutSystems, I can."
Product Owner, Germany, non-IT person feeling like a developer, 1,5 years working with OutSystems

"OutSystems threatens to democratize application development, dramatically minimizing technical debt and unleashing the collective genius of a key stakeholder - Citizen Developers in every enterprise seeking to be truly agile!"
Business Analyst, US, currently changing career to OutSystems

Responses from the 2019 OutSystems Developer Survey

It is in a sweet spot with the right level of abstraction. I feel that I'm not locked up to a technology given the fact that in OutSystems I use industry-standard technologies: SQL, C#, HTML+CSS+Javascript. OutSystems provides an ecosystem that allows me to be on top of new trends. Examples as PWA and react. It acts as a source of information for me.

I like that I can still deliver the same high quality, high-value solutions that I could with high code, but at 4-10x the speed. As someone who leads junior developers as well, I like the fact that I can have a resource who isn't even a developer by trade be able to pick up OutSystems quickly and deliver something in a short period of time.

It helped me understand and like Front-End more and more. It also encourages more of my logic skill rather than my skill of finding that bug that ruined the code.

The speed with which I can solve problems, fix bugs, adapt business logic/flows, and deliver a quality user experience. The ease of explaining business logic to product owners by showing them the logic in the IDE.

I started as an OutSystems Intern, after 2 months already became Junior, and now 9 months later working with OutSystems I am already a mid-level professional so the career progression is much faster than with other technologies.

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