

Solution Brief

IBM Watson Talent Frameworks for Software

Industry specific job skills for organizational success



From self-driving cars to virtual personal assistants and wearable tech, software is everywhere. The continuous integration of, interest in and reliance on software in personal and business life, demands constant innovation and adaptability. In these highly competitive and disruptive shifts, your workforce needs to keep pace with dynamic consumer demands to successfully drive business results. Watson Talent Frameworks helps ensure you have the right people with the right skills in the right positions.

Our solution is designed to help you quickly onboard new developers through a detailed set of skills and abilities specific to individual roles. Retain your best product managers providing clear visibility to future career opportunities, and engage existing data management staff with skill-specific content to drive their day-to-day performance and on-going development.

Connect People to Business

Watson Talent Frameworks for Software ensures a benchmark model to centralize and provide consistency in how you define jobs and skills across all aspects of talent management. It provides HR both data and content to match the right talent with company requirements,

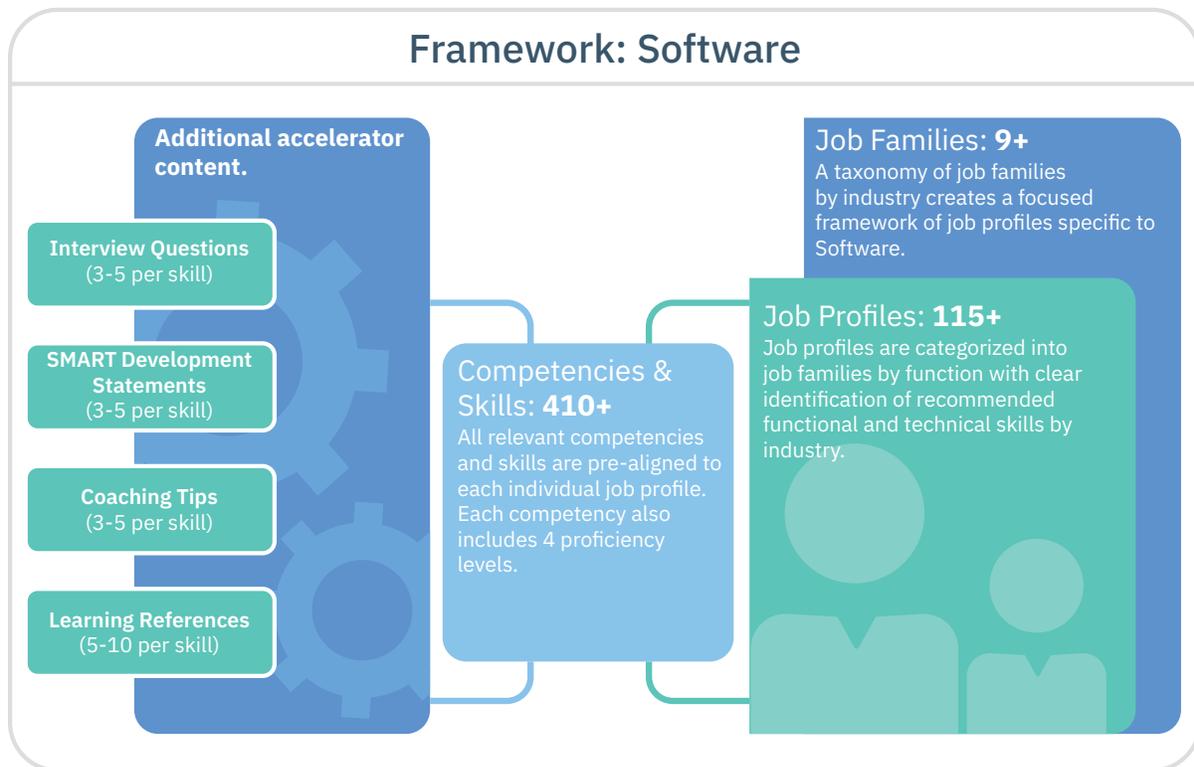
creating an engaging employee experience to drive better business results.

Watson Talent Frameworks includes several key elements:

- Pre-defined job profiles detail the skills and levels of proficiency employees need to excel.
- Standard job descriptions attract qualified candidates by clearly defining key responsibilities.
- Interview questions provide a guide for accurately assessing candidates.
- Job-specific skills, behaviours and coaching tips support managers in facilitating clear, objective performance reviews.
- SMART development statements give employees specialized, actionable practices to help them improve and achieve more.
- Learning References provide a path for growth and development.
- The jobs taxonomy drives engagement with clear and transparent career opportunities.

Watson Talent Frameworks powers people analytics and cognitive HR with a data rich foundation.

Fig 1: IBM Watson Talent Frameworks architecture



Deep Dive: Job Profile

Let us peruse a job profile from Watson Talent Frameworks for Software to better understand the data and content available. Consider the job profile of a 'Mobile Applications Developer' highlighted below as a sample.

Table 1. Job profile classification with descriptions.

| | |
|-------------------------------|--|
| Job Family Code | THSENG |
| Job Family Name | Software Engineering |
| Job Family Description | Design, development, delivery, and enhancement of software products, systems and platforms. |
| Job Profile Code | THSENG-5SDM |
| Job Profile | Mobile Applications Developer |
| Job Role Description | Develops applications (apps) for use on mobile devices such as smartphones, tablets, notebooks, and netbooks. |
| Job Band ID | 5 |
| Job Responsibility | <ol style="list-style-type: none"> (1) Contributes to the architectural design of mobile apps. (2) Creates prototypes and writes example cases for presentation to business units and customers. (3) Develops processes for app distribution through pre-installation, downloading, and other methods. (4) Follows design specifications and writes code, solving technical issues that arise. |

* Each job profile is assigned a unique job code ID, mapped to a job family, and tagged to an appropriate job band.

* Apart from descriptions of the main job family and the job role, each job profile includes four key job responsibilities.

Table 1.1. Job band categories and descriptions for each.

| Job Band ID | Job Band Name | Job Band Description |
|-------------|---|---|
| 1 | Executive Management | Vision, policy, strategy and direction setting; Enterprise and industry view; Driving organizational goals |
| 2 | Senior Management | Strategy formulation; Vision implementation; Operational responsibility; Cost and risk management; Enterprise view |
| 3 | Management; Senior Level Consulting | Functional, technical or process leadership; Management of multiple teams; High complexity and ambiguity; Tactical responsibilities |
| 4 | First Line Management; Senior Professional | Team or technical supervision; Expertise and experience with complex technical activities; Project management and consulting |
| 5 | Team Leadership; Technical Professional | Difficult technical tasks; Implementation experience; Self-sufficiency; Small project responsibility; Technical supervision |
| 6 | Administrator; Technician, Trainee | Routine technical or administrative tasks; Follows procedures; Operates under supervision |

* Each job profile is mapped to one of six pre-defined job bands.



Deep Dive: Competencies & Skills - Overview

Let us explore recommended competencies and skills data for the sample job profile highlighted in Table 1.

Table 2. List of competencies recommended for Mobile Applications Developer: THSENG-5SDM.

| Competency Code | Competency Name | Proficiency Level | Priority |
|-----------------|--|---------------------------------|-----------------|
| B0150 | Products and Services | 2 - Working Experience | 2 - Medium |
| B0250 | Global Perspective | 2 - Working Experience | 2 - Medium |
| B0295 | Business Orientation | 2 - Working Experience | 2 - Medium |
| HTS0010 | Computer Software Industry | 1 - Basic Understanding | 2 - Medium |
| HTS0150 | Application Development Consulting | 2 - Working Experience | 2 - Medium |
| HTS0230 | Software Product Technical Knowledge | 2 - Working Experience | 2 - Medium |
| HTS0410 | Software Development Life Cycle | 2 - Working Experience | 3 - High |
| HTS0420 | Software Product Design/Architecture | 2 - Working Experience | 2 - Medium |
| HTS0430 | Software Integration Engineering | 2 - Working Experience | 2 - Medium |
| HTS0440 | Human Computer Interface (HCI) Design | 2 - Working Experience | 3 - High |
| HTS0460 | Application Programming Interfaces (API's) | 3 - Extensive Experience | 3 - High |
| HTS0470 | Software Development | 3 - Extensive Experience | 3 - High |
| HTS0510 | Software Product Installation and Support | 2 - Working Experience | 3 - High |
| HTS0850 | Software Product Testing | 2 - Working Experience | 3 - High |
| HTS0930 | Mobile Application Testing | 3 - Extensive Experience | 3 - High |
| HTS1120 | Server Operating Systems and Platforms | 3 - Extensive Experience | 2 - Medium |
| HTS1130 | Mobile Operating Systems and Platforms | 3 - Extensive Experience | 3 - High |
| HTS1140 | Open Systems and Platforms | 3 - Extensive Experience | 3 - High |
| HTS1190 | Software Security Assurance | 2 - Working Experience | 3 - High |
| I0150 | Creativity | 2 - Working Experience | 2 - Medium |
| I0350 | Problem Solving | 2 - Working Experience | 2 - Medium |
| I0480 | Effective Communications | 2 - Working Experience | 2 - Medium |
| I0950 | Teamwork | 2 - Working Experience | 2 - Medium |
| M1010 | Producing Results | 2 - Working Experience | 3 - High |
| T0140 | Application Design, Architecture | 2 - Working Experience | 2 - Medium |
| T0150 | Programming | 2 - Working Experience | 3 - High |
| T0240 | Prototyping | 2 - Working Experience | 3 - High |
| T0475 | Big Data Management and Analytics | 1 - Basic Understanding | 1 - Low |
| T0945 | Technical Troubleshooting | 3 - Extensive Experience | 3 - High |
| T1500 | Social Applications | 2 - Working Experience | 2 - Medium |
| T3700 | Cloud Computing | 2 - Working Experience | 1 - Low |
| T3740 | Mobile Applications | 3 - Extensive Experience | 3 - High |

* THSENG-5SDM Mobile Applications Developer has 9 more competencies not shown herein.



Deep Dive: Competencies & Skills - Detail

Let us explore all the data and content available for the sample competency highlighted in Table 2.

Table 3. Competency and skill details of Mobile Applications: T3740.

| Competency Code: T3740 | | Competency Name: Mobile Applications | |
|------------------------------------|---|--------------------------------------|--|
| Competency Description | Knowledge of, and the ability to use, develop, and support, applications for handheld devices, such as smart phones, tablets, notebooks, and netbooks. | | |
| Proficiency Levels | Level 1: Basic understanding | | |
| | Level 2: Working experience | | |
| | Level 3: Extensive experience | | |
| | Level 4: Subject matter depth/breadth | | |
| Proficiency Level Behaviors | <ol style="list-style-type: none"> (1) Carries out tasks associated with the design, development, and distribution of mobile applications. (2) Implements techniques such as haptics to enhance user experience when accessing and using content. (3) Leverages mobile data to provide location-based services and contextual information; adheres to all privacy regulations. (4) Provides for mobile application security and access control. (5) Uses the integrated development environment tools to write, test, and distribute applications for a variety platforms such as Android, iOS, BlackBerry, and Windows Mobile. (6) Works with all basic functions and features of a mobile applications development toolkit. | | |

* Each competency is defined by four levels of proficiency – Level 1: Basic understanding, Level 2: Working experience, Level 3: Extensive experience, Level 4: Subject matter depth/breadth

Table 3.1. Accelerator content for each competency includes – Interview questions & SMART Development statements.

| Competency Code: T3740 | | Competency Name: Mobile Applications | |
|------------------------------|---|--------------------------------------|--|
| Interview Questions | <ol style="list-style-type: none"> (1) Tell me about the advantages and disadvantages of the application delivery processes in your organization. (2) Tell me about your role in delivering application-related projects in your previous job(s). (3) Tell me about your participation in the selection, evaluation and implementation of a development toolkit, for a job or client. (4) What suggestions did you make to improve the application delivery process, in your previous organization? (5) How did your organization and you specifically stay current with the trends and directions of the industry? | | |
| Development Statement | <ol style="list-style-type: none"> (1) In the next three months, either enhance existing or create new best practice documentation for this product and/or process. (2) Create a 6 month plan for getting to the next level of proficiency for this competency. Review available learning resources, look around for possible projects/assignments. Then discuss with your manager. (3) By the end of the month, research, summarize and present a case study relevant to a successful mobile application. (4) Improve the accuracy of application testing by 10% in the next year. (5) Organize a 1-2 hour session on this technology within the next 3 months. Invite team members and other stakeholders. Ask one or more people using the technology to discuss their experiences. | | |

*Accelerator content helps managers and employees engage with competency and skill data in an on-going manner.



Table 3.2. Accelerator content for each competency also includes – Coaching tips & Learning references.

| Competency Code: T3740 | | Competency Name: Mobile Applications | | | | |
|----------------------------------|--|--|--|--|--|--|
| Coaching Tip Descriptions | (1) Look for bottlenecks and possible solutions. Prepare your case by reviewing with others; refine the proposed solution and gain support. If you cannot get support, build a better case, or move on to a different problem/solution scenario. | | | | | |
| | (2) Attend training courses to keep abreast of the latest mobile application development tools. | | | | | |
| | (3) Convert business requirements into a technical application design by describing which business processes and architecture will be used on a project. | | | | | |
| | (4) Find opportunities to communicate with internal or external customers and ask for their feedback on application delivery issues. | | | | | |
| | (5) Attend related conferences, seminars or roundtables. See what others in your industry are doing. | | | | | |
| Learning References | | | | | | |
| Learning Reference Type | Books | Books | Internal References | External Publications | Vendors | World Wide Web |
| Learning Reference Name | Designing the Mobile User Experience | Mobile Interaction Design | Best Practice Documentation | Application Development Trends | Amazon | Open Mobile Alliance |
| Learning References Description | Provides the experienced product development professional with an understanding of the users, technologies, devices, design principles, techniques and industry players unique to the mobile and wireless space. | Presents key interaction design ideas and successes, case studies, and ideals and techniques to create the next generation of effective mobile applications. | In order to learn from the successes of others and avoid reinventing the wheel, many organizations document best practices. If not readily available, ask managers, subject-matter experts and colleagues. | Magazine that delivers strategic and tactical information to I/S application development managers in large enterprises | One of the largest suppliers of books online. Most titles and authors are available. | The mission of the OMA is to facilitate global user adoption of mobile data services by specifying market driven mobile service enablers that ensure service interoperability across devices, geographies, service providers, operators, and networks. |
| Author | Ballard, Barbara | Jones and Marsden | | | | |
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Keeping it Current

Watson Talent Frameworks is developed by a dedicated team using an independent research methodology and augmented by Watson. IBM applies machine learning to analyze and synthesize daily feeds of job board data. Watson identifies new or updated content which is then further refined by the IBM content curation team.

As part of the process, every framework goes through a comprehensive review to identify changes relevant to industry trends. These changes are validated to ensure that the job architecture is up to date with current skill demands in the industry.

Sources include:

- Career and recruiting websites
- Client surveys and content workshops
- Disruptive industry changes
- New disciplines, job functions, job roles, or skills in technology or new industries
- Organizational development and HR best practices
- Regulatory legislation and industry compliance requirements
- Research organizations and professional associations
- Vision and thought leading vertical experts

To learn more about Watson Talent Frameworks, visit ibm.biz/talentframeworks or contact your IBM representative.



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