

Information Technology (IT) Job Skills and Competencies Framework

*Job families and competencies defined to meet end-to-end
needs within IT industry*



IBM recognizes that organizations' IT function faces some of the most dynamic talent and skills management issues of any organization and functional group. These issues may appear tactical, but can also have wide ranging impact on the successful and continuing operations of the overall business. Through a structured approach to capturing the skills and talent required, you can capture, recognize and manage risk against such issues as:

- Major product version updates
- Mission critical infrastructure operations
- Security management and updates
- Vendor certification and support
- Compliance (regulatory, security, ISO/CMMI, etc.)
- Application development and support
- Changing contractor population
- Outsourced vendor services

In an organization it may be easy to answer a question such as "how many printers do we have?" or "where are they?", but the same cannot be said when asked about knowledge, skills or people. By using the IT Job and Competency Framework, you will be able to lay a foundation for answering:

- How many people and who are the ones that can implement the mission critical failover procedure?
- What is our mission critical knowledge and how much of that institutional memory resides in our contract workforce?
- What skills based SLAs can we drive our outsource vendors to deliver?
- What's our capability to migrate from one version of a technology to the next?

For more than 20 years, the IBM Kenexa Talent Frameworks has been deployed in many organizations to help them - either independently or as part of a larger HR strategy - improve learning, development and performance of a company's most critical components. Using the content library is a rapid and robust way to customize your organizationally aligned competencies and job profiles.

IBM offers Job Skills & Competencies across 20 different industries. This is but one of those libraries. IBM Kenexa offers complete solutions to support your Talent Management requirements including cloud based software to manage your workforce Job Skills & Competencies, Employee Self-Assessment, Manager Assessment, Skills Gap analysis and more.

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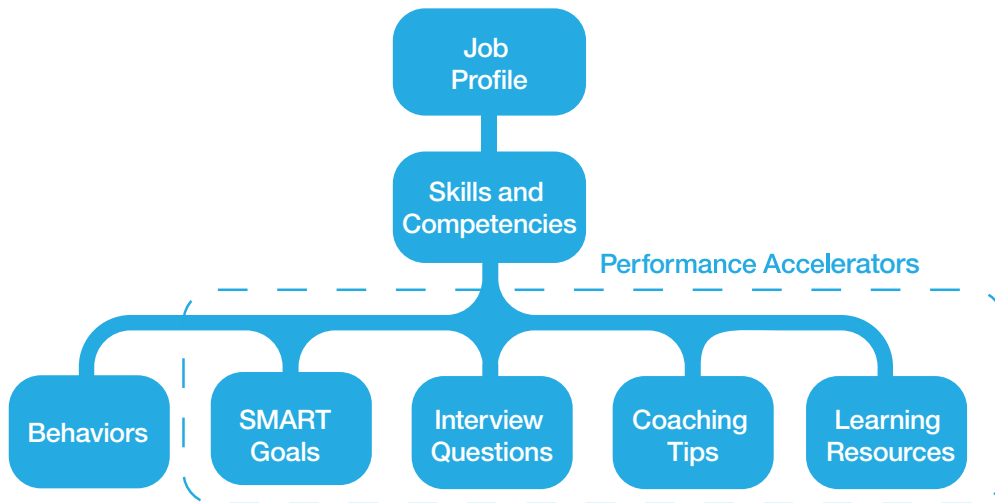
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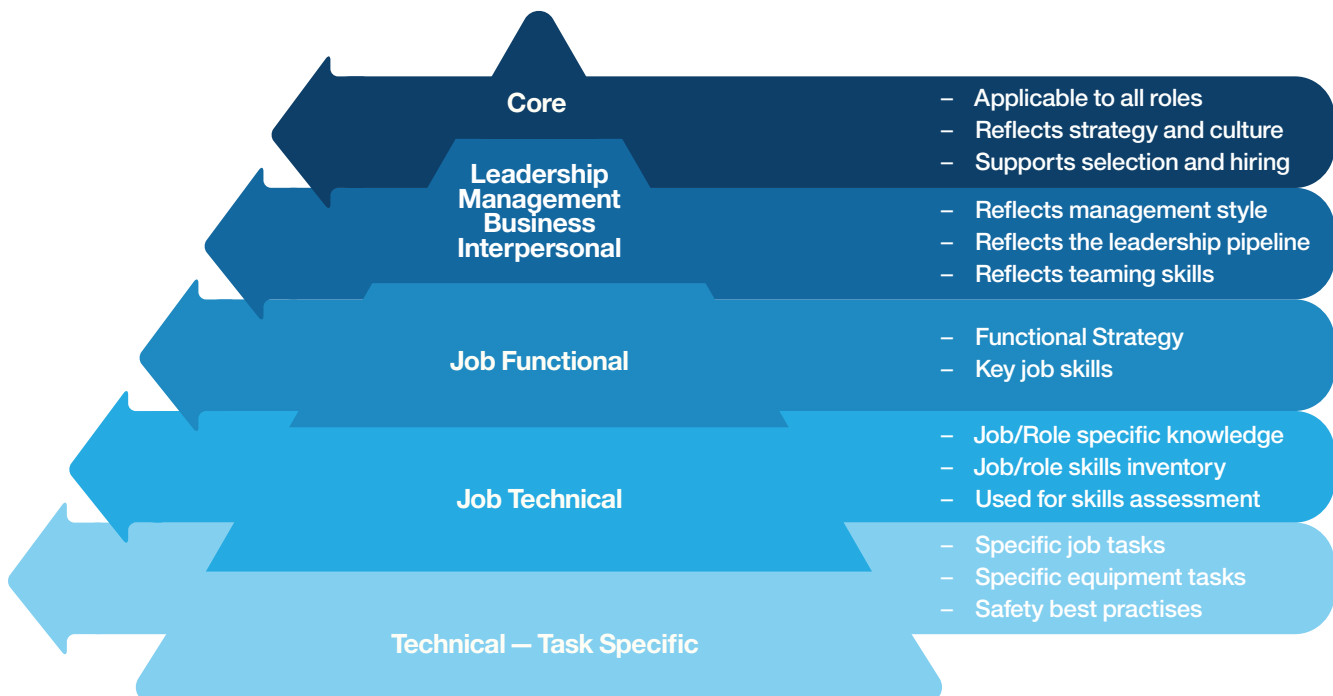
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Jobs Competency Architecture



Types of Skills & Competencies



NOW: 21 Job Families

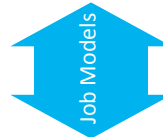
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NEW:	
* Business Analytics	10
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NOW: 21 Job Families

414 Jobs
 Job Descriptions, profile, primary responsibilities and expected proficiency levels for incumbents in the role.



685 Competencies	
Technical-IT	206
Technical-Tools/Product	218
Technical-Other	58
Core/Foundational	98
Business, Individual, Management and Leadership Functional	105
Each Competency with 4 Levels of Proficiency defined by 21 unique behavioral descriptions	
Level 1: Basic understanding	
Level 2: Working experience	
Level 3: Extensive experience	
Level 4: Subject matter depth/breadth	



- Mapped to each unique competency tool for applying your framework:**
- Learning References
 - Interview Questions
 - Development Goals
 - Coaching Tips
 - Performance Writing Assistance

NEWEST JOB FAMILIES & JOBS

Business Analytics

Definition, gathering, analysis and interpretation of data related to business intelligence and performance. Implementation and support of applications, infrastructure and technologies for gathering, analysis of business relevant data as well as forecasting future trends.

- Business Analytics Director
- Business Analytics Manager
- Business Analytics Consultant, Master
- Business Analytics Consultant
- Data Mining Specialist, Senior
- Business Analytics Software Specialist, Senior
- Business Analytics Architect, Senior
- Business Analytics Developer, Senior
- Business Analytics Software Specialist
- Business Analytics Developer

Big Data Computing

Design, development and support of applications, very large databases and infrastructure for storing structured and unstructured company data and for use in analyzing business activities, detecting patterns and reporting trends.

- Chief Data Officer - Big Data
- Big Data Manager
- Data Scientist - Big Data
- Application Architect - Big Data
- Application Developer, Senior - Big Data
- Data Architect - Big Data
- Data Visualization Specialist, Senior
- Application Developer - Big Data
- Data Engineer - Big Data
- System Administrator - Big Data

Mobile Computing

Design, development and support of mobile applications for a BYOD (Bring Your Own Device) environment that allows access to corporate information through a variety of mobile devices.

- Mobile Services Director
- Mobile Applications Manager, Group
- Mobile Applications Specialist, Master
- Mobile Technologies Specialist, Master
- Mobile Application Developer, Senior
- Mobile Security Specialist, Senior
- Mobile/BYOD Support Specialist, Senior
- Mobile Application Developer
- Mobile Device (BYOD) Support Specialist
- Mobile Device (BYOD) Administrator

Job Family and Job Titles

Job Family	Job Title
<p>Application Services Business analysis, application design, development, integration and delivery and application maintenance and support functions</p>	<ul style="list-style-type: none"> • Director of Application Services • Director of Consulting Services • Application Architect, Master • Application Developer, Master • Group Application Manager • Business Systems Consultant • eBusiness Consultant • Group Project Manager (AS) • IT Product Manager • Application Architect • Web Application Architect • Application Developer, Senior • Web Application Developer, Senior • Application Manager • Business Systems Analyst, Senior • Client/Server Programmer • Documentation Specialist, Senior • eBusiness Specialist, Senior • Systems Integrator • Project Manager (AS) • Release Manager (Applications) • Testing Specialist, Senior • User Interface Specialist, Senior • Application Developer • Web Application Developer • Project Team Leader (AS) • Business Systems Analyst • Client/Server Programmer, Junior • Testing Specialist • User Interface Specialist • Application Developer, Junior • Application Librarian • Business Systems Analyst, Junior • Client/Server Programmer, Trainee

Application Services - Specialized

Business analysis, application design, development, integration and delivery and application maintenance and support function for Customer Relationship Management applications and systems.

- Business Development Director - Enterprise Consulting
- Sales Director-Enterprise Information Management
- Business Analyst, Senior - ERP
- Basis Consultant - ERP
- CRM Specialist, Master
- ERP Specialist, Master
- Solution Architect-ERP
- Solution Architect, Senior - ERP
- Technical Quality Manager -ERP
- Business Analyst - ERP
- BI Solution Engineer - ERP
- CRM Architect, Senior
- CRM Integration Specialist, Senior
- ERP Analyst, Senior
- ERP Programmer, Senior
- Implementation Consultant - ERP
- Network Engineer - ERP
- Presales Engineer-ERP
- Quality Engineer - ERP
- Software Engineer - Relational Database Management System (RDBMS)
- Technical Consultant - ERP
- Transportation Management Consultant
- CRM Business Data Analyst
- ERP Programmer
- Implementation Specialist - ERP
- Technical Support Specialist - ERP
- CRM Application Administrator
- ERP Analyst, Junior

Business Unit/Customer Support

Internal or external customer service and relationship management, first line of support, desktop technology support and help desk, site support functions

- Director of Business Unit Support
- CallCenter Architect
- Customer Support Consultant
- Decision Support Consultant
- Field Support Manager
- IT Generalist, Senior
- Help Desk Manager
- Relationship Manager
- CallCenter Specialist
- Consultant, Senior
- Customer Support Specialist
- Decision Support Specialist
- EDI Coordinator
- Field Support Specialist, Senior

	<ul style="list-style-type: none"> • IT Generalist • Help Desk Specialist • Site Manager • EDI Support • Field Engineer, Software • Help Desk Specialist, Junior • PC Specialist • Field Support Specialist, Junior
<p>Cloud Computing Web-based service model for delivering and implementing information technology services.</p>	<ul style="list-style-type: none"> • Director of Cloud Computing Operations • Director of Cloud Services • Cloud Computing Application Architect, Senior • Risk & IT Compliance Manager - Cloud Computing • Cloud Resource Manager • Cloud Integration Architect, Senior • Cloud Integration Engineer, Senior • Cloud Computing Infrastructure Architect, Senior • Cloud Security Architect, Senior • Product Manager - Cloud Computing • System Engineer, Senior - Cloud Computing • Cloud Computing Application Architect • Cloud Computing Solution Architect • Cloud Integration Architect • Cloud Computing Infrastructure Architect • Cloud Integration Support, Senior • Cloud Security Architect • Cloud Security Engineer, Senior • System Engineer - Cloud Computing • Software Engineer, Senior - Cloud Computing • Systems & Network Administrator - Cloud Computing • Cloud Storage Systems Engineer, Senior • DataCenter Facilities Technician • Cloud Integration Engineer • Cloud Integration Support Specialist • Cloud Resource Management Technician • Cloud Security Engineer • Software Engineer - Cloud Computing • Cloud Storage Systems Engineer

Corporate Functions

Traditional corporate functions employed within IT organizations: budgeting, financial and contracts management, audit, compliance, human resources, training & development.

- Director of Human Resources
- Director of Training & Development
- Budget Administration Manager
- IT Competency Program Manager
- Contracts-Vendor Manager
- Finance & Administration Manager
- Staff Development Consultant
- Training Manager (IT)
- Workflow Architect
- Budget-Finance Specialist
- Competency Specialist
- Contracts-Vendor Specialist
- Training Specialist (IT)
- IT Competency Program Administrator
- IT Administrative Assistant
- IT Training Administrator

Data Management

Data standards and procedures, warehousing, design and development of logical and physical data models and databases, distributed data management, information management functions

- Director of Organizational Data
- Business Intelligence Architect
- Data-Information Architect, Master
- Database Consultant, Master
- Data Warehouse Architect, Senior
- Data Warehouse Manager
- ETL Architect
- Project Manager
- Information Architect
- Data Warehouse Auditor
- Business Intelligence Developer, Senior
- Database Administrator, Senior
- Database Developer, Senior
- Database Manager
- Data Manager
- Data Steward
- ETL Developer, Senior
- Information Analyst
- Information Scientist
- Data Modeler
- Business Intelligence Developer
- Data Administrator
- Database Administrator
- Database Analyst, Junior
- Database Developer
- Data Transformation Specialist
- Data Warehouse Developer

	<ul style="list-style-type: none"> • ETL Developer • Information Analyst, Junior • Data Modeler, Junior • Database Librarian
<p>Infrastructure Management Design, development and support of technology infrastructure, hardware, software and office systems support and distribution, systems performance management and technology integration functions</p>	<ul style="list-style-type: none"> • Enterprise Infrastructure Director • Capacity Planner, Senior • Directory Services Administration Manager • E-Mail Administration Manager • Infrastructure Architect, Master • Infrastructure Configuration Manager • Middleware Administration Manager • Office Systems Manager • Software Systems Manager • Asset Manager • Capacity Planner • Configuration Management Analyst • Directory Services Specialist • Middleware Specialist • Network Engineer • Office Systems Specialist, Senior • Performance & Tuning Specialist, Senior • Software Specialist, Senior • Systems Administrator, Senior • Telephony Specialist • Web Infrastructure Manager • E-Mail Administrator • Equipment Specialist • Hardware Service Technician • Middleware Administrator • Office Systems Specialist • Performance & Tuning Specialist • Systems Administrator • Software Specialist • Infrastructure Administrator • Software Administrator
<p>ITIL Implementation and support of processes and practices for managing IT infrastructure, development and operations using the concepts and techniques of Information Technology Infrastructure Library.</p>	<ul style="list-style-type: none"> • ITIL Service Management Director • ITIL Consultant, Senior • ITIL Project Manager • ITIL Specialist • ITIL Service Support Manager • ITIL Specialist, Junior

<p>IT Service Management Development, implementation and management of business aligned IT services. Service Level management.</p>	<ul style="list-style-type: none"> • Service Management Director • Service Delivery Manager • Service Establishment Manager • Service Strategy Manager • Availability Manager • Service Capacity Manager • Change Manager • Financial Manager (IT) • Incident Manager • Problem Manager • Process Manager • Process Consultant • Release Manager (Services) • Service Assurance Manager • Service Manager • Service Management Consultant • Service Support Manager • Problem Management Specialist • Service Analyst
<p>IT Technology Tools This job function contains pseudo jobs which enable the inclusion of technology tool competencies in the IT framework data files. Technology Tool competencies are typically not associated with any given job profile.</p>	<ul style="list-style-type: none"> • Technology Tools for Application Development • Technology Tools for Database Management • Technology Tools for Systems Hardware and Software Management • Technology Tools for Telecommunications • Technology Tools for Data Center Operations • Technology Tools for Miscellaneous Tasks • Technology Tools for Systems Project Management and Security
<p>Network Services Network architecture and operations, telecommunications infrastructure design and development, network support and services, technology integration, and network capacity planning for voice, data and video communications</p>	<ul style="list-style-type: none"> • Director of Telecommunications Services • Network Architect, Master • Network Planning Manager • Project Manager (NS) • Telecommunications Consultant • Telecommunications Manager • Communications Software Specialist • Network Manager • Network Planning Analyst, Senior • Telecommunications Specialist, Senior • Voice Networks Specialist • Wireless Networks Specialist, Senior • Telecommunications Equipment Specialist • LAN Administrator • Network Operator • Network Support Specialist

	<ul style="list-style-type: none"> • Network Services Coordinator • Telecommunications Specialist • LAN Administrator, Junior • Network Administrator • Network Technician
<p>Computer Operations Operation of data center production systems and equipment, production scheduling and control, reports distribution, service level support, backup, recovery, capacity and disaster recovery planning functions</p>	<ul style="list-style-type: none"> • Director of Computer Operations • Disaster Recovery Director • Computer Operations Consultant • Disaster Recovery Manager • Project Manager, Senior (OP) • Production Support Manager • Change Control Specialist • Computer Operations Manager • Computer Operator, Senior • Disaster Recovery Specialist • Disaster Recovery Specialist • Data Storage Specialist, Senior • Output Services Manager • IT Production Support Specialist, Senior • Site Operations Manager • Technology Specialist, Senior • Computer Operator • Disaster Recovery Specialist, Junior • Data Storage Specialist • Operations Analyst • Output Services Specialist, Senior • Output Services Supervisor • IT Production Support Specialist • Scheduler • Storage Library Supervisor • Technology Specialist • Change Control Administrator • Computer Operator, Junior • Disaster Recovery Administrator • Peripheral Equipment Operator • Operations Librarian • Output Services Specialist • Production Administrator • Data Storage Administrator

<p>Program/Project Management Policies and standards for in-house programs and projects, cross-functional project management support and coordination, and business process support functions</p>	<ul style="list-style-type: none"> • Project Office Director • Business Process Manager • Project Management Program Manager • IT Program Manager • Project Management Specialist, Senior • Project Manager Generalist • Business Process Specialist • Project Analyst • Project Management Specialist • Project Lifecycle Specialist
<p>IT Security Physical and electronic protection of data: access control, intrusion detection, virus protection, certification, audit, incident response, security engineering, development and implementation of security policies and procedures</p>	<ul style="list-style-type: none"> • Chief Information Security Officer • Information Security Architect, Master • Data Privacy Officer • Information Security Risk Manager • Security Architect • Information Security Administration Manager • Information Security Specialist, Senior • Web Abuse Specialist, Senior • Information Security Administrator, Senior • Information Security Assurance Specialist • Security Analyst, Distributed Systems • Information Security Specialist • Security Administrator, Senior • Web Abuse Specialist • Information Security Administrator • Security Administrator
<p>Systems Management Management of technology assets and processes, business systems planning, financial and contracts management, audit, compliance, methods, processes and quality assurance functions</p>	<ul style="list-style-type: none"> • Chief Information Officer • Audit Specialist, Senior • IT Audit Manager • Methods & Procedures Consultant • Outsourcing Manager • Quality Assurance Manager • Strategic Planner • Audit Specialist • Business Continuity Specialist • Measurement Specialist • Quality Assurance Specialist, Senior • Standards & Procedures Specialist • Technical Writer • Quality Assurance Specialist

	<ul style="list-style-type: none"> • Software Tester • Standards & Procedures Specialist, Junior • Web Systems Administrator
<p>Social Networking Services Development, Implementation and Management of online/ web service sites, platforms and applications that focuses on building and maintaining of social networks or social relations among individual or organization.</p>	<ul style="list-style-type: none"> • Relationship Director- SNS • Sales & Marketing Director - SNS • User Support and Operations Director • Data Services Manager • Online Advertising Manager • Online Marketing Manager • Relationship Manager – SNS • Social Media Manager • Data Services Engineer, Senior • Product Manager - Service Platform Operations • Product Manager - User Operations • Solutions Consultant - Media Solutions • Software Engineer, Senior - Mobile Applications • Software Engineer, Senior - php, ajax, web2.0 • Software Engineer, Senior- Web Applications • Social Media Producer • Site Reliability Engineer, Senior • User Interface (UI) Engineer, Senior • Data warehouse Operations Engineer • Data Services Engineer • Enterprise Services Representative - SNS • Flash Developer - Games • Network Operations Center Engineer • Online Advertising Support / Sales Representative • Online Marketing Specialist • Product Specialist - Service Platform Operations • Product Specialist - User Operations • Sales Development Specialist – SNS • Software Engineer - Mobile Applications • Software Engineer - php, ajax, web2.0 • Software Engineer - Web Applications • Social Media Research Analyst • Social Media Specialist • Site Reliability Engineer • User Interface (UI) Engineer • User Support and Operations Specialist • Web Developer - Applications • Web Developer - Data Services • Web Developer - Graphical User Interface

Technology Development and Architecture

Enterprise architecture, new technology implementation, research and evaluation of emerging technologies, strategic technology planning, consulting, software validation and e-business support functions

- Enterprise Architecture Director
- Chief Technology Officer
- Director of Technology Development
- Application Tools Specialist, Master
- Business Analysis Manager-IT
- Business Architecture Manager
- Business Architect, Senior
- Data Architecture Manager
- Data Architect, Senior
- Enterprise Architecture Manager
- Enterprise Architect, Senior
- Internet Consultant
- Knowledge Engineering Consultant
- Platform Architect, Senior
- Solution Architecture Manager
- Solution Architect, Senior
- SOA Architect, Master
- Technology Architect
- Technology Consultant
- Technology Development Manager
- Application Tools Specialist, Senior
- Business Analysis Consultant-IT
- Business Architect
- Data Architect
- Enterprise Architect
- Internet Specialist
- Knowledge Engineering Specialist
- Platform Architect
- IT Process Architect
- Solution Architect
- SOA Architect
- Technology Development Specialist
- Business Analyst-IT
- Web Technologist
- Technology Development Specialist, Junior

Website Content Management Services

Development, implementation and support of website content and web-based services.

- Web Executive
 - Web Community Director
 - Content Architect, Senior
 - Content Manager, Group
 - Website Manager
 - Web Community Leader
 - Content Engineer, Senior
-

	<ul style="list-style-type: none"> • Content Development Supervisor • Web Content Manager • Web Content Architect • Web Community Specialist • Web Designer, Senior • Website Content Specialist • Webmaster • Web Content Editor • Web Content Producer • Web Content Developer • Web Content Specialist • Web Content Specialist, Junior
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Sample of IT Tools & Methodologies Competencies

IT Tool Competencies (Sample)

* Anti-Virus Software	* CORBA	* Ethernet	* .NET
* ATM	* CRM systems/tech	* FileNet P8	* Oracle Admin
* Active X	* Crystal Reports	* IBM APA	* Oracle App Server
* Assembler	* Data Mgmt / Governance	* IBM Debug	* Oracle Devel Suite
* Adobe	* Data Mining	* IBM RMF	* Outlook
* ASP.NET	* Data Warehousing	* IBM Tivoli	* Peoplesoft
* Baan ERP	* DB2 Admin	* Internet Explorer	* Photoshop
* BEA WebLogic	* DB2 Connect	* JAD	* Project
* BMC	* DB2 Development	* Java/Javascript	* RAD
* C / C++ / #	* e-Commerce	* J2EE/J2ME	*SAP R/3
* CA DB2 Tools	* EDI	* Lotus Notes	* SAS
* CMMI	* e-Mail systems	* Macromedia FLASH	* Sharepoint
* Centra Software	* Enterprise JavaBeans	* Microsoft Office	* SQL
* CICS	* EPSS	* Microsoft Access	* VoIP
* COBOL / 390	* ERP	* Mozilla Firefox	* WebSphere

Methodologies (Sample)

- | | |
|---|--|
| * Agile Methodology (Scrum) | * OSI 7-layer model |
| * Business Process Modeling | * PRINCE2 Project Mgmt Methodology |
| * CobiT (Control Obj for Info & Tech) | * RAD (Rapid Application delivery) |
| * DSDM (Dynamic Systems Devel Method) | *SFIA: Skills framework for Info Age |
| * FDD (Feature Driven Development) | * SDLC (Software Development Life Cycle) |
| * ISO 9000-3 | * Software Product Quality Assurance |
| * ISO/IEC 200000 | * Six Sigma DMAIC / DMADV |
| * ISPL (Info Svcs Procurement Library) | *Six Sigma Framework |
| * ITIL (Info Tech Infrastructure Library) | *SSPM (Six Sigma Project Methodology) |

Software Developer (e.g. programmer) - Sample Job Profile

Job Title	Software Developer
Job Band ID	4
Job Family	Software Engineer
Job Definition	Develops and designs software programs and products. Participates in technical design of software sub-systems or components.
Job Responsibility 1	Develops complex software components. Provides team and project leadership for software development activities.
Job Responsibility 2	Develops interfaces and drivers for hardware devices, software platforms and data exchange.
Job Responsibility 3	Advises developers on best methods of software development and code creation.
Job Responsibility 4	Monitors and modifies development work to make sure resulting software meets established goals.

Software Developer (e.g. programmer) - Job Band

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	Technician, Trainee, Administrator	Routine technical or administrative tasks; Follows procedures; Operates under supervision

Skills + Competencies at Core, Functional and Technical levels

Profile Name: Job Title		Software Developer
Competencies Per Job		
Competency Code	Competency Name	Proficiency
I0100	Interpersonal Relationships	2: Working Experience
I0150	Creativity	2: Working Experience
I0250	Conflict Management	2: Working Experience
I0350	Problem Solving	2: Working Experience
I0480	Effective Communications	2: Working Experience
I0600	Coaching	2: Working Experience

I0700	Decision Making and Critical Thinking	2: Working Experience
I0950		3: Extensive Experience
I1010	Relationship Management	2: Working Experience
M1010	Producing Results	2: Working Experience
I0100	Interpersonal Relationships	2: Working Experience
HTS0300	Technical Documentation Management	2: Working Experience
HTS0400	Software Engineering	2: Working Experience
HTS0410	Software Development Life Cycle	2: Working Experience
HTS0420	Software Product Design/Architecture	2: Working Experience
HTS0430	Software Integration Engineering	3: Extensive Experience
HTS0440	Human Computer Interface (HCI) Design	2: Working Experience
HTS0450	Web Software Design	2: Working Experience
HTS0470	Software Development	3: Extensive Experience
HTS080	Software Release Management	3: Extensive Experience
HTS0515	Software Problem Management	2: Working Experience
HTS0800	Software Quality Assurance and Testing	1: Basic Experience
HTS0810	Software Product Quality Assurance	2: Working Experience
HTS0820	Software Test Engineering	3: Extensive Experience
HTS0850	Software Product Testing	3: Extensive Experience
HTS0890	Software QA & Testing Tools	2: Working Experience
T0025	Service Oriented Architecture (SOA)	2: Working Experience
T0090	Capability Maturity Model (CMMI)	2: Working Experience
T0250	RAD (Rapid Application Delivery)	3: Extensive Experience
T0280	Extreme Programming (XP)	3: Extensive Experience

Let's
explore
this skill

**Software Developer (e.g. programmer)
Proficiency Levels and Behavioral Indicators for Competency Assessment**

Consistent Skill Code

Recommended Proficiency Level

Competency Code	HTS0450
Competency Name	Web Software Design
Competency Description	Knowledge of and experience with designing, developing, and enhancing web-based or web-enabled software.
Level 1 - Basic understanding	Describes basic tool-kit for building and maintaining web-based application.
	Highlights common web services available.
	Describes security challenges related to software designed for web use.
	Identifies conventions already established for the web.
Level 2 - Working experience	Participates in designing a component of a web-based or web-enabled software product.
	Identifies key concepts and factors of web design and site engineering.
	Describes the major functions and features of a web design or prototyping tool.
	Describes design and operational considerations for static versus dynamic content.
Level 3 - Extensive experience	Explains basic web services concepts and components using relevant language.
	Has participated in development of multiple or large web-based or web-enabled software products.
	Discusses key issues and challenges associated with web-based software.
	Elaborates on risk, exposure and security issues; explains the uses of filtering software.
	Describes CORBA and CGI and associated design considerations.
Level 4 - Subject matter depth and breadth	Contrasts alternative approaches and facilities for integrating image, audio and video.
	Leads the selection in integration of WSDL and UDDI to describe and deploy web services.
	Demonstrates in-depth experience in designing web-based software products for large consumption.
	Is considered an expert on designing for open database connectivity and open systems architecture.
	Consults on design considerations for high-traffic, high-volume and associated performance.
	Researches emerging hardware and software technologies that leverage web resources.
Creates and publishes web services best practices.	
Monitors industry and vendor experiences with web technologies and methodologies.	

Web Software Design Skill Learning Reference Materials & Development Statements (SMART Goals)

Consistent Skill Code	Competency Code	HTS0450
	Competency Name	Web Software Design
Learning Reference Materials	Learning References	
	LR1	ACT-147: Many vendors provide case studies and tutorials in both hardcopy and online form. Sometimes they contain bibliographies of additional learning tools.
	LR2	BK-1301: Written by FBI insiders, the book reveals the computer forensics process and solutions designed to counteract and conquer hacker attacks. Covers Windows, Unix, as well as non-platform-specific resources like Web services and routers.
	LR3	BK-Z0173: Introduces the major ideas behind core and extended Web services' technologies and serves as a primer covering the prominent emerging technologies in this area.
	LR4	ORG-OASIS: A not-for-profit, international consortium that drives the development, convergence, and adoption of e-business standards.
	LR5	PUB-ECW: Covers EDI as it applies to banking, healthcare, retail, manufacturing and other industries. Articles are presented in tutorial and case application format. Emphasis is on the practical, not technical aspects of EDI.
	LR6	REF-WEBPrim: A detailed introduction to Web Services concepts and components.
	LR7	REF-WEBSvc: A detailed introduction to Web Services concepts and components.
	LR10	WEB-IIS1: A clearinghouse of resources to help you deploy, maintain, and support Windows Web Services.
	LR11	WEB-JSPDL: Covers economic, environmental, ethical and social issues in product design and development.
	LR12	WEB-XML1: Website devoted to XML, Web Services and related technologies.

SMART Goals	Development Statements	Development Statement Group	Development Statement Name	Development Statement Description
		Qualitative	Improve the User Interface	Review user experiences on a quarterly basis. Leverage this information to improve the usability, intuitiveness, and overall look-and-feel of the website.
		Quantitative	Improve User Satisfaction with Website	Improve user satisfaction with the website by 5% in the next year through usability testing and solicitation of feedback.
		Qualitative	Reviewing Web Design Trends	Conduct a quarterly review of trends impacting web software design. Compare these to the organization's site in order to maintain a competitive advantage.

Web Software Design Skill Coaching Tips and Interview Questions

Consistent Skill Code	Competency Code	HTS0450		
	Competency Name	Web Software Design		
Coaching Tips	Coaching Tip Group	Coaching Tip Name	Coaching Tip Description	
	Improving Operations	Develop Multiple and Diverse Web Software	Use varying web software design technologies to tailor the software to the particular user and/or situation (business vs consumer clients, mobile devices, etc.).	
	Vigilance	Balancing Features with Function	Ensure that website styles and features aren't limiting functionality or usability.	
	Planning	Ensuring Web Server Scalability	Ensure that underlying web servers are scalable, in order to effectively manage spikes in usage.	

Interview Questions	Interview Question Group	Interview Question Name	Interview Question Description
	Problem	Web Software Design or Usability Problems	How did you solve web software design flaws and usability problems you encountered in your previous jobs?
	Results	Impacting the Business with Web Software	In what ways did your web software impact the overall success of the business?
	Solution	Impacting the User with Web Software Design	How would the web software you designed enhance the user's normal workflow or daily activities?
	Fit	Past experience in Web Software Design	Tell me about web software design projects you have been involved in as a part of your previous jobs.
	Solution	User Feedback on Web Software	How did you solicit feedback from users on web software design? What changes were made as a result of this feedback?



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