

## JDX JobSchema+ for Pilot Testing

The [Job Data Exchange™](#) (JDX) is a set of open data tools and resources that leverage global data standards and advancements in artificial intelligence (AI) to transform how employers send signals about hiring requirements for in-demand jobs—including competencies—to their education and workforce partners. The result? Better, clearer, faster signals.

Using structured, linked data, the JDX improves how job descriptions and postings are communicated.

This is accomplished through the development of a JDX schema (JDX JobSchema+) that extends and improves upon a widely-deployed schema in the employment context, the JobPosting Schema, in partnership with HR Open Standards.

### **JOBSHEMA+ PILOT**

The JDX JobSchema+ will be pilot tested through the JDX prototype in 2019 by eight pilot partner teams across multiple industries in seven states and the District of Columbia. On an ongoing basis, the progress of the JDX JobSchema+ pilot will be shared with the W3C Talent Marketplace Signaling (Talent Signal) Community Group for its consideration and feedback.

Below is a chart that shows the key terms to be pilot tested along with their definitions. Additional guidance on the use of the terms is included along with the differences between the JDX JobSchema+ and the existing Schema.org job posting schema.

KEY TERM	DEFINITION	ADDITIONAL GUIDANCE	COMPARISON TO SCHEMA.ORG
<b>CATEGORY: JOB OVERVIEW</b>			
<b>Applicant Location Requirement</b>	Location(s) applicants can apply from	Typically used for telecommuting jobs where applicant does not need to be in a physical location	Same intention with plural Application Location Requirements (Schema.org) changed to the singular Application Location Requirement (JDX)
<b>Employer Overview</b>	Description of the employer, career opportunities, and work environment		Not included in Schema.org
<b>Employment Unit</b>	Department, unit, and/or facility where the employee reports and/or in which the job is to be performed	The organization identified should be the instance where the industry is identified using the Industry Code and Industry properties	Not included in Schema.org
<b>Formatted Description</b>	Complete representation of the job including job responsibilities, qualifications, skills, working hours, education requirements, and experience requirements	Includes HTML markup for formatting	Not included in Schema.org
<b>Hiring Organization</b>	Organization offering the job position		Same as Schema.org
<b>Identifier</b>	Identifier for any entity for internal or external uses (e.g. job, job posting, and department)		<ul style="list-style-type: none"> <li>• Schema.org provides for identifiers to be expressed as "Text", "URL", or "Property Value"</li> <li>• JDX limits to "Property Value"</li> </ul>
<b>Industry</b>	Description of the most critical economic or work activities performed (e.g. software development, electronic manufacturing, motor vehicle production, or diagnostic and therapeutic services)	Description of the primary activity at the location of employment from which an industry code may be derived (e.g., NAICS in the U.S. and ESCO in the EU)	<ul style="list-style-type: none"> <li>• Schema.org: Industry is a literal (text) or property value (defined term) and may capture a description of an industry or a code identifying the industry</li> <li>• JDX: A description of the primary activity at the location of employment from which an industry code may be derived, with actual industry codes recorded in the Industry Code property</li> </ul>
<b>Industry Code</b>	Code from a controlled vocabulary of industry types identifying the primary economic activity of an establishment defined as a single physical location where business is conducted or where services or industrial operations are performed	Industry code identifying the primary activity at the location of employment (e.g., NAICS in the U.S. and ESCO in the EU)	Not included in Schema.org (see Industry)

KEY TERM	DEFINITION	ADDITIONAL GUIDANCE	COMPARISON TO SCHEMA.ORG
<b>Job Agreement</b>	Employment agreement (e.g. employee, contract-to-hire, contract, internship, externship, apprenticeship, student, volunteer, under collective bargaining, eligible for overtime)		JDX properties Job Agreement, Job Schedule, and Job Term are all included in a single property Employment Type in Schema.org
<b>Job Location</b>	Geographic location associated with the job position (typically single)	<ul style="list-style-type: none"> <li>Should specify where the job will be physically performed</li> <li>Should not be used if no physical job location is stated</li> </ul>	Schema.org: Refers to a geographic location associated with the job position and may or may not consider where the job is physically performed
<b>Job Location Type</b>	Description of locations where job can be performed including in-person, remote/telecommute, or combination		Same intention, slight changes to definition text to make it more inclusive
<b>Job Schedule</b>	Schedule of the employment (e.g. full-time, part-time, flextime, hourly, shared-time)		JDX properties Job Agreement, Job Schedule, and Job Term are all included in a single property Employment Type in Schema.org
<b>Job Term</b>	Term of employment (e.g. temporary, regular, seasonal)		JDX properties Job Agreement, Job Schedule, and Job Term are all included in a single property Employment Type in Schema.org
<b>Occupation Category</b>	Category of the relevant occupation of the job used in the country of employment	Recommends use of occupational taxonomies appropriate to the country of the job location to accommodate international use	Same intention, slight changes to definition text to make it more specific to the country of employment
<b>Title</b>	Title of the job		Same as Schema.org

**CATEGORY: COMPETENCY RELATED INFORMATION**

<b>Assessment</b>	Direct, indirect, formative, or summative evaluation or estimation of the nature, ability, or quality of a person's performance or outcome of an action	Entity referenced describes the key characteristics of an assessment administered to candidates for a job and may include subject areas assessed, type of assessment, and any associated assessment rubric	Not included in Schema.org
<b>Competency</b>	Acquired capability of an individual enabling task performance, attainment of which can be observed, measured, or otherwise assessed	Includes: abilities, attitudes, knowledge, skills, tasks, and tools/technologies (associated with some task)	Not included in Schema.org

KEY TERM	DEFINITION	ADDITIONAL GUIDANCE	COMPARISON TO SCHEMA.ORG
<b>Responsibility</b>	Key work tasks or activities in which this job exercises some degree of authority, control, or leadership		Same intention, with plural Responsibilities (Schema.org) changed to the singular Responsibility (JDX)
<b>CATEGORY: CREDENTIALING &amp; OTHER HIRING REQUIREMENTS</b>			
<b>Alternative Credential</b> <b>Alternative Education</b> <b>Alternative Experience</b>	Description of an alternative credential, education, or experience fulfilling requirements for the job	<ul style="list-style-type: none"> <li>Award of some form of credential for an education or training experience should use credential properties, not the education properties (e.g. two years of postsecondary education leading to a “dental assistant certificate” would use credential, not education)</li> <li>Education or training experience without award should be recorded as an educational experience (e.g. a requirement of “two years of postsecondary education” would use the education properties, not the credential properties since no credential is identified)</li> </ul>	<ul style="list-style-type: none"> <li>Not explicitly included in Schema.org</li> <li>Schema.org provides Education Requirements, Experience Requirements, and Qualifications to which the more discriminating alternative, minimum, equivalent, preferred, and required can be mapped</li> </ul>
<b>Citizenship Requirement</b>	Country of applicant's citizenship		Not included in Schema.org
<b>Equivalent Credential</b> <b>Equivalent Education</b> <b>Equivalent Experience</b>	Description of an equivalent credential, education, or experience for the job	See alternative credential, education, experience for more information	<ul style="list-style-type: none"> <li>Not explicitly included in Schema.org</li> <li>Schema.org provides Education Requirements, Experience Requirements, and Qualifications to which the more discriminating alternative, minimum, equivalent, preferred, and required can be mapped</li> </ul>

KEY TERM	DEFINITION	ADDITIONAL GUIDANCE	COMPARISON TO SCHEMA.ORG
<b>Minimum Credential</b> <b>Minimum Education</b> <b>Minimum Experience</b>	Description of the minimum credential, education, or experience needed for the job	Minimum has two potential states: 1. Minimum entity combined with alternative entity (e.g. minimum of associate of arts degree with preference for bachelor of arts degree) 2. When minimum is used by itself it is the equivalent of required  See alternate credential, education, experience for additional information	<ul style="list-style-type: none"> <li>Not explicitly included in Schema.org</li> <li>Schema.org provides Education Requirements, Experience Requirements, and Qualifications to which the more discriminating alternative, minimum, equivalent, preferred, and required can be mapped</li> </ul>
<b>Physical Requirement</b>	Resource identifying types of physical activity associated with a job		Not included in Schema.org
<b>Preferred Credential</b> <b>Preferred Education</b> <b>Preferred Experience</b>	Description of the preferred credential, education, or experience needed for the job	See minimum credential, education, experience	<ul style="list-style-type: none"> <li>Not explicitly included in Schema.org</li> <li>Schema.org provides Education Requirements, Experience Requirements, and Qualifications to which the more discriminating alternative, minimum, equivalent, preferred, and required can be mapped</li> </ul>
<b>Required Credential</b> <b>Required Education</b> <b>Required Experience</b>	Description of the required credential, education, or experience needed for the job	See minimum credential, education, experience	<ul style="list-style-type: none"> <li>Not explicitly included in Schema.org</li> <li>Schema.org provides Education Requirements, Experience Requirements, and Qualifications to which the more discriminating alternative, minimum, equivalent, preferred, and required can be mapped</li> </ul>
<b>Security Clearance Requirement</b>	Description of any security clearance requirements for the job		Not included in Schema.org
<b>Sensory Requirement</b>	Resource identifying sensory requirements and levels necessary to function on the job including hearing and vision		Not included in Schema.org
<b>Special Commitment</b>	Special commitments associated with the job posting (e.g. low-income, native American, ex-offenders) along with any special exclusions (e.g. criminal records)		Same intention; JDX definition expands by acknowledging additional target populations (e.g. low-income, native American, ex-offenders) along with any special exclusions (e.g. criminal records)

KEY TERM	DEFINITION	ADDITIONAL GUIDANCE	COMPARISON TO SCHEMA.ORG
<b>CATEGORY: COMPENSATION &amp; WORK HOURS</b>			
<b>Base Salary</b>	Base salary of the job or of an employee in an employee role including minimum and maximum salary and unit value (e.g. hour, day, week, month, or year)	References the schema.org Monetary Amount type, which provides for stating minimum and maximum salary, type of currency, and valid from/through dates	Same as Schema.org
<b>Currency</b>	The currency (e.g. USD) used for the main salary information in this job posting or for this employee		Same intention with slight changes to definition text
<b>Incentive Compensation</b>	Description of bonus and commission compensation aspects of the job		Same as Schema.org.
<b>Job Benefit</b>	Description of benefits associated with the job (e.g. employee discount, health insurance, U.S. 401K plan)		Same intention with plural Job Benefits (Schema.org) changed to the singular Job Benefit (JDX)
<b>Work Hours</b>	Typical working hours for this job	Should include, where appropriate: 1. Normal work hours 2. Changing work hours 3. Flexible work hours (set your own schedule)  Additionally, state if overtime is available, optional, or required.	Same intention with best practice guidance
<b>CATEGORY: JOB POSTINGS ONLY</b>			
<b>Date Posted</b>	Publication date for the job posting		Same as Schema.org
<b>Total Job Openings</b>	Number of positions open for this job posting		Not included in Schema.org
<b>Valid Through</b>	The date after which the item is not valid		Same intention with slight change from Schema.org definition from “when” to “which”
<b>Estimated Salary</b>	Estimated salary for job postings or occupations computed by outside organizations, not the hiring organization	Expressed using Schema.org Monetary Amount Distribution type; supports description of median salary and salaries at percentiles 25, 50, 75, and 90	Same intention with slight changes to definition text