



**Tutorial 2B Title: PROV-O:
The W3C Provenance
Ontology**

14:30–18:00 — Monday, 2
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Tutorial Lead: Daniel Garijo

Daniel Garijo is a Ph.D. student in the Ontology Engineering Group at the Artificial Intelligence Department of the Computer Science Faculty of Universidad Politécnica de Madrid. His research activities focus on e-Science and the Semantic Web, specifically on how to increase the understandability of scientific workflows using provenance, metadata, intermediate results and Linked Data. He has participated in the W3C Provenance Incubator Group, Dublin Core Metadata Provenance Task Group and is currently a member of the W3C Provenance Working Group.

Abstract: Provenance is key for describing the evolution of a resource, the entity responsible for its changes and how these changes affect its final state. A proper description of the provenance of a resource shows who has its attribution and can help resolving whether it can be trusted or not. This tutorial will provide an overview of the W3C PROV data model and its serialization as an OWL ontology. The tutorial will incrementally explain the features of the PROV data model, from the core starting terms to the most complex concepts. Finally, the tutorial will show the relation between PROV-O and the Dublin Core Metadata terms.

Who Should Attend: This tutorial is intended for information professionals who are not familiar with the W3C standard for provenance in the Web (PROV), or who want to learn more about the specific concepts and properties of the model and its relation to the Dublin Core terms. A basic knowledge in OWL/RDF is recommended for following the tutorial (although it is not critical).

Summary Outline:

1. Introduction and background: Provenance and the W3C Provenance Working Group.
2. The PROV Data model.
 - a. A simple example of PROV
 - b. PROV starting point terms: basic terms for describing resources
 - c. PROV extended terms: advanced terms for enriching provenance descriptions. How do we assert the provenance of provenance?
 - d. PROV qualified classes and properties: classes and properties
3. The PROV-O Ontology: Starting points, extended terms and qualified classes in OWL.
4. Mapping Dublin Core to PROV:



- a. Relation of Dublin Core to Provenance
- b. PROV entities and Dublin Core resources
- c. Direct mappings
- d. Complex mappings.