SPARX SYSTEMS

Enterprise Architect

User Guide Series

Amazon Web Services (AWS)

CREATED WITH ENTERPRISE ARCHITECT

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Amazon Web Services (AWS)

Creates Amazon Web Services Diagrams that Specify and Document AWS Virtual Infrastructure

Amazon Web Services (AWS) is one of the market leaders of services to define IaaS (Infrastructure-as-a-Service) and PaaS (Platform-as-a-Service) in Cloud environments. The services can be used in isolation, but more typically are used in combination to create scalable Cloud applications and services, reducing any of the delays and issues associated with infrastructure provisioning and device management such as Compute, Storage and Network devices. Enterprise Architect provides modeling constructs that allow you to create expressive AWS diagrams that specify new Cloud infrastructure and platforms or document existing ones. You can also model other Cloud Infrastructure and platform providers such as Google Cloud Platform and Microsoft's Azure.
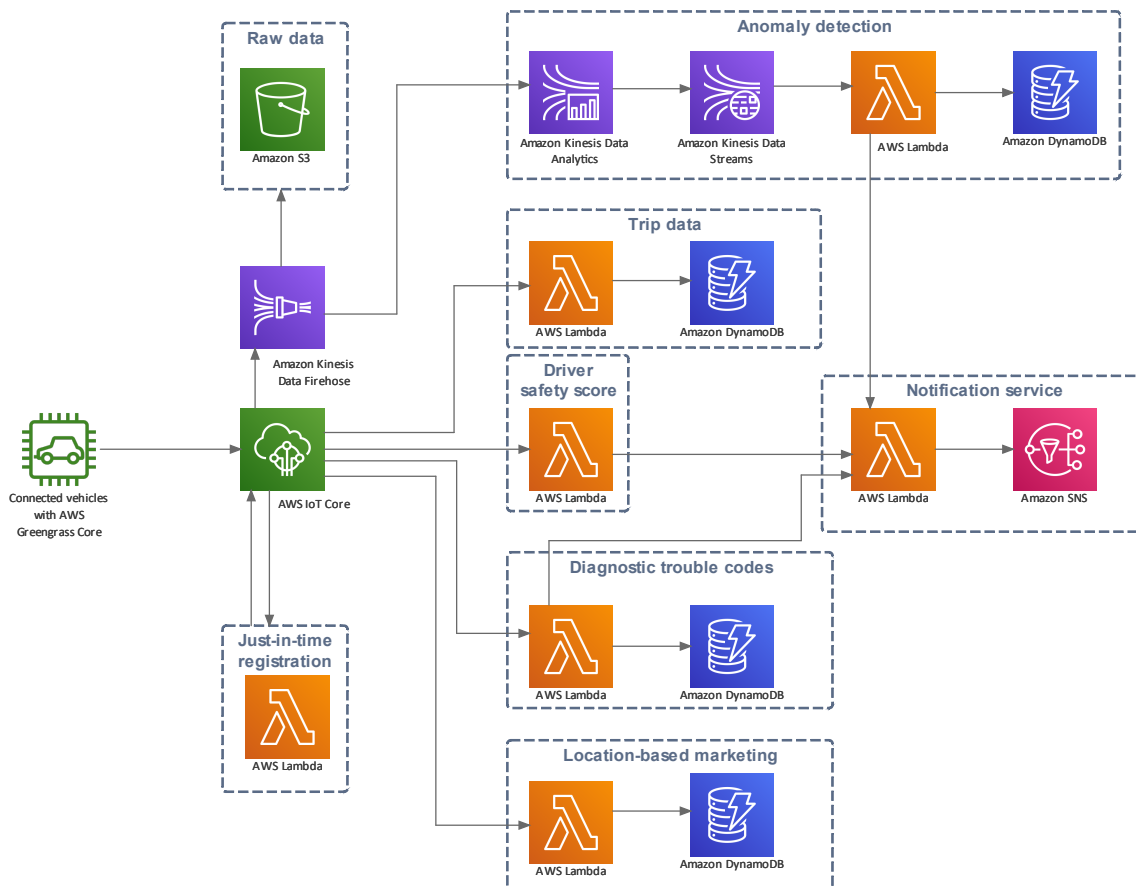
AWS Diagram of a Connected Vehicle Solution

While AWS has tools for doing this, the power of Enterprise Architect is that you can create visualizations that show the relationship to on-premise platforms, and the elements and services can be related to other system life-cycle artifacts such as Strategy, Business Rules, Requirements, Constraints, XML and Database Schemas, just to mention a few.

Getting Started

Creating AWS platform diagrams is straight forward - all the AWS service constructs are available from the Toolbox or from the Browser in the AWS Packages. This allows you to create expressive diagrams containing element items such as EC2 compute and RDS databases, as well as container items such as VPCs and Subnets.

Amazon Web Services (AWS) Architecture provides all of the graphics (icons and images) required to build AWS architecture diagrams. The icons and images are provided by a Model Builder framework pattern, which must be imported into your model before you can start creating AWS architecture diagrams. The Amazon AWS Web Images pattern contains over 350 Image Assets that can be dragged-and-dropped onto diagrams.
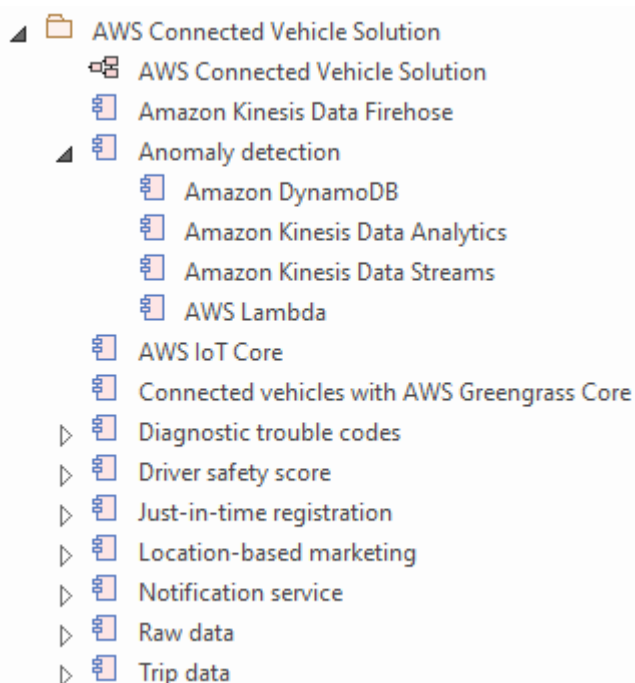
Working with AWS diagrams is straight forward; this topic

will guide you through setting up AWS modeling in Enterprise Architect, creating diagrams and tracing to other project Artifacts.

Selecting the Perspective

Enterprise Architect partitions the tool's extensive features into Perspectives; this ensures that you can focus on a specific task and work with the tools you need without the distraction of other features. To work with the Amazon Web Services (AWS) features you first need to select the AWS Architecture Perspective:

<perspective name> > > Analysis > AWS Architecture

Setting the Perspective ensures that the Amazon Web Services diagrams, their tool boxes and other features of the Perspective are available by default.

Example Diagram

An example diagram provides a visual introduction to the topic and allows you to see some of the important elements and connectors that are created in specifying or describing the way a Cloud Architecture is defined including: Availability Zones, VPC's, Subnets, EC2, RDS and more.

Import Amazon Web Services Patterns

Before you can start creating AWS diagrams to specify or document your Cloud services you must first import the

graphics from a pattern. This will inject all the AWS icons as components into the selected location in the Browser window.

Create an Amazon Web Services Diagram

Once the AWS images have been imported creating AWS diagrams is straight forward as all the icons including Products and Resources such as EC2 and RDS and Containers such as VPCs and Availability Zones are available from the Browser window and Toolbox respectively. You will simply create a diagram and then drag-and-drop elements from the AWS Browser Packages or the Toolbox.
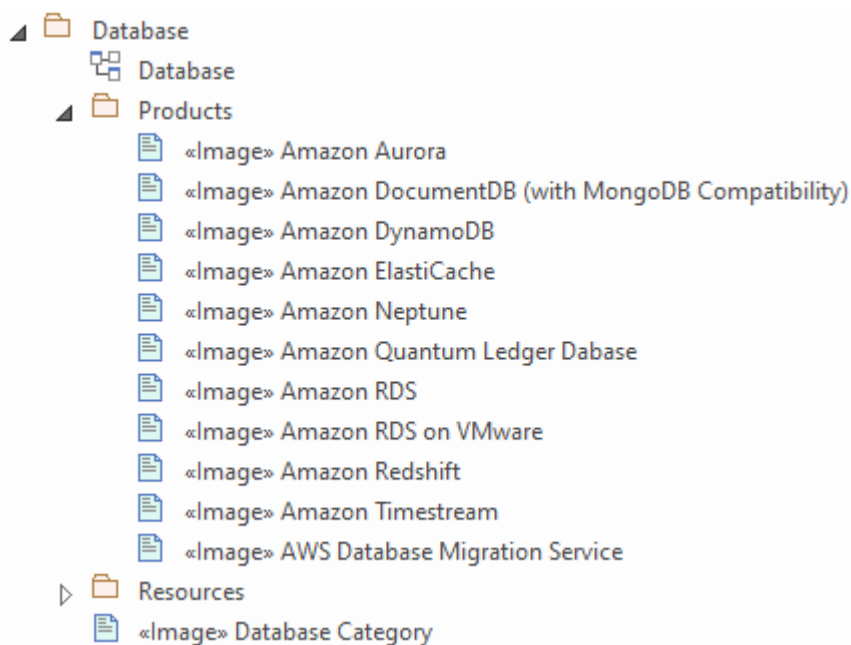
The Browser window showing AWS database Product Images.

Tracing to Project Artifacts

Enterprise Architect is a collaboration platform for all disciplines and one of the great advantages of modeling Amazon web Services is that parts of the cloud based infrastructure can be related to other domains in your projects. You can trace elements in the AWS diagrams to a wide range of other artifacts including: Requirements, Business Rules, Database Schemas, On-Premise Infrastructure and more.

More Information

This section provides useful links to other topics and resources that you might find useful when working with the Amazon Web Services tool features.

Example Diagram

Using AWS diagrams you can model cloud architectures. You can add new elements to the diagram from the Imported AWS Icons, the AWS toolbox or existing elements dragged from the Browser. This example is the Instances on AWS example that contains two availability zones and auto-scaling groups.
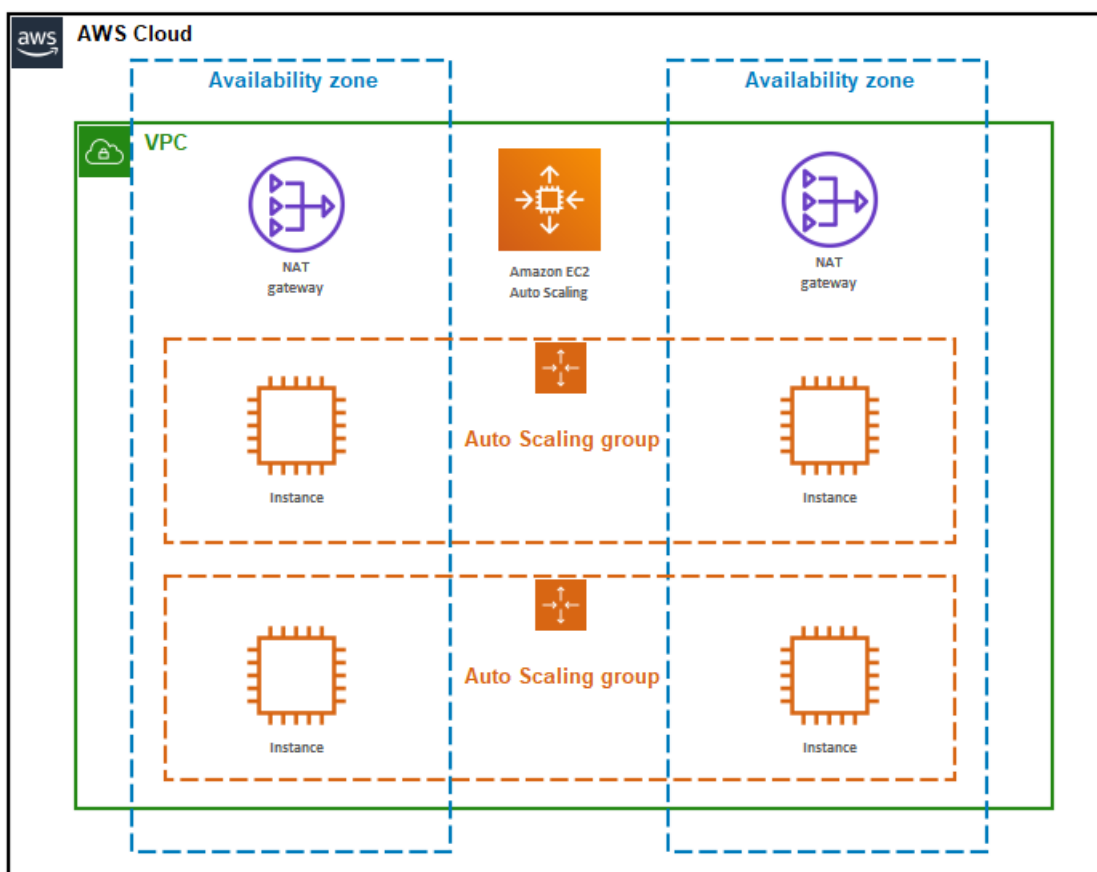
AWS diagram showing two availability zones and auto scaling groups.

Import Amazon Web Services Patterns

Before you import the 'Amazon/AWS Web Images' pattern into your model, click on the 👁 icon and select the 'Analysis > AWS Architecture' Perspective.

This automatically opens the Model Builder dialog at the AWS Architecture Perspective page.

Click on the target Package in the Browser window, then on the 'Amazon/AWS Web Images' pattern and click on the Create Model button.

In the Model Builder there are three example patterns that show typical use of the images in diagrams, reproduced from the 'AWS Architecture Icons' Powerpoint.
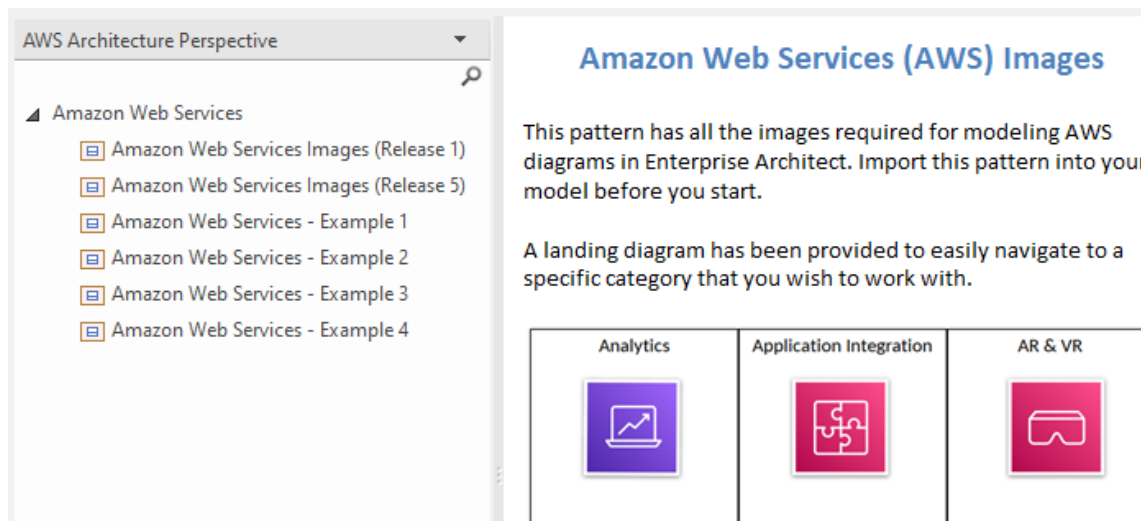
Patterns window showing AWS pattern for Import.

Note: When you have the Web Images packet in your model, do not copy it to another location in the model or save it as XMI; always use the Model Builder to import the pattern into a new model. The reason for this is that the provided

Diagram Toolbox patterns, described here, refer to the Image Assets by their GUIDs. Copying the Image Assets will give them new GUIDs and the Diagram Toolbox patterns will not work.

Create an Amazon Web Services Diagram

You can create a diagram by right-clicking on its parent Package and selecting the 'New Diagram' menu option to display the 'Diagram Builder' tab of the 'Model Builder' dialog.

If you do not have the AWS Architecture Perspective selected, click on the drop-down arrow in the Type field and select 'Analysis > AWS Architecture'.

In the 'Diagram' field type an appropriate name for the diagram, in the 'Select From' panel click on 'AWS', in the 'Diagram Types' panel click on 'AWS', and then click on the OK button. The AWS pages of the Diagram Toolbox open, including:

- AWS Groups - This page provides a number of patterns that will create a Group with an icon (from an Image Asset) in the top left corner and the name left-justified at the top; the exceptions are Auto Scaling Group and Elastic Load Balancing, which have their icons centered at the top, and Generic Group and Highlight which don't have an icon
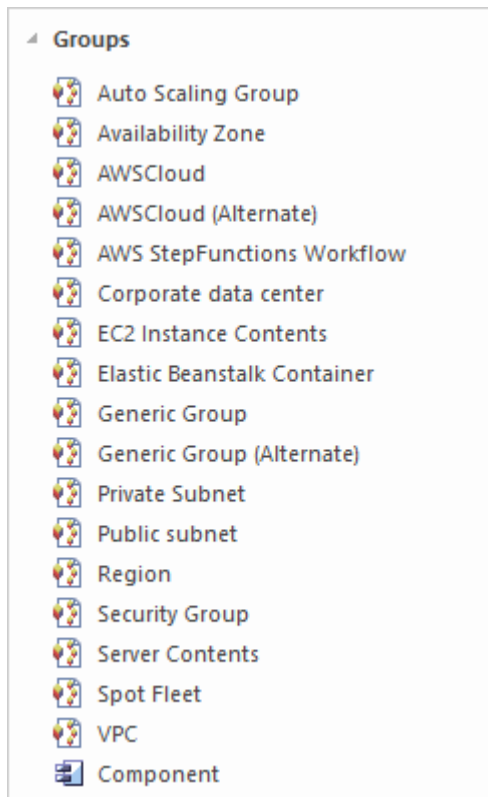
- AWS Illustrations - This page provides five illustrative patterns, containing images for Users, Notification, Devices, Desktop and Office building
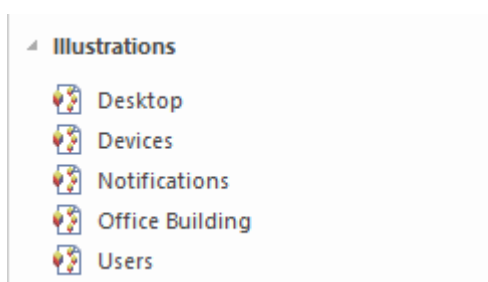
- UML Base Types - This page provides a small number of UML elements that you can use within the AWS diagrams
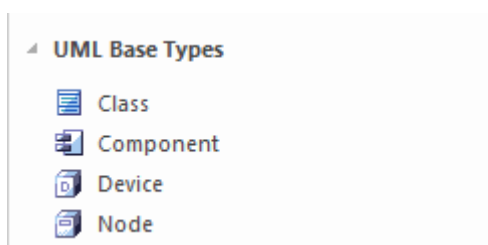
Note that the AWS diagrams are automatically set to Custom Style, and when you right-click on an element in the diagram you can make use of the Custom Style icons on the Custom Style Toolbar.

All the icons in the Diagram Toolbox generate Image Assets as listed in the _General Package of the AWS Model Buidler pattern. The other 22 Packages in the AWS Model Builder pattern contain all the other images. Each Package has a diagram that shows every image that is included in the Package, and two sub-Packages 'Products' and 'Resources' containing Image Assets for the images. 'Product' images are white on dark gray, and 'Resource' images are dark gray on white.

To add one of these images to your diagram, locate it in the Browser window by either:

- Searching for it by name or
- Opening the diagram for the Package that you believe it should be in, finding it in the diagram and pressing Alt+G to highlight the Image Asset in the Browser window

Now drag-and-drop the Image Asset onto your diagram. You can choose to:

- Add it as an element with an icon
- Add it as an element with an image, or
- (If you have made an element from the icon already) Add as link

Traces to Project Artifacts

You can create expressive diagrams that can show how the AWS elements relate to other artifacts in your projects. This is achieved by placing any AWS element into a diagram and creating a Trace, Dependency, Association or other relationship between the AWS elements and other elements such as Requirements, User Stories, Conceptual, Logical and Physical database tables.
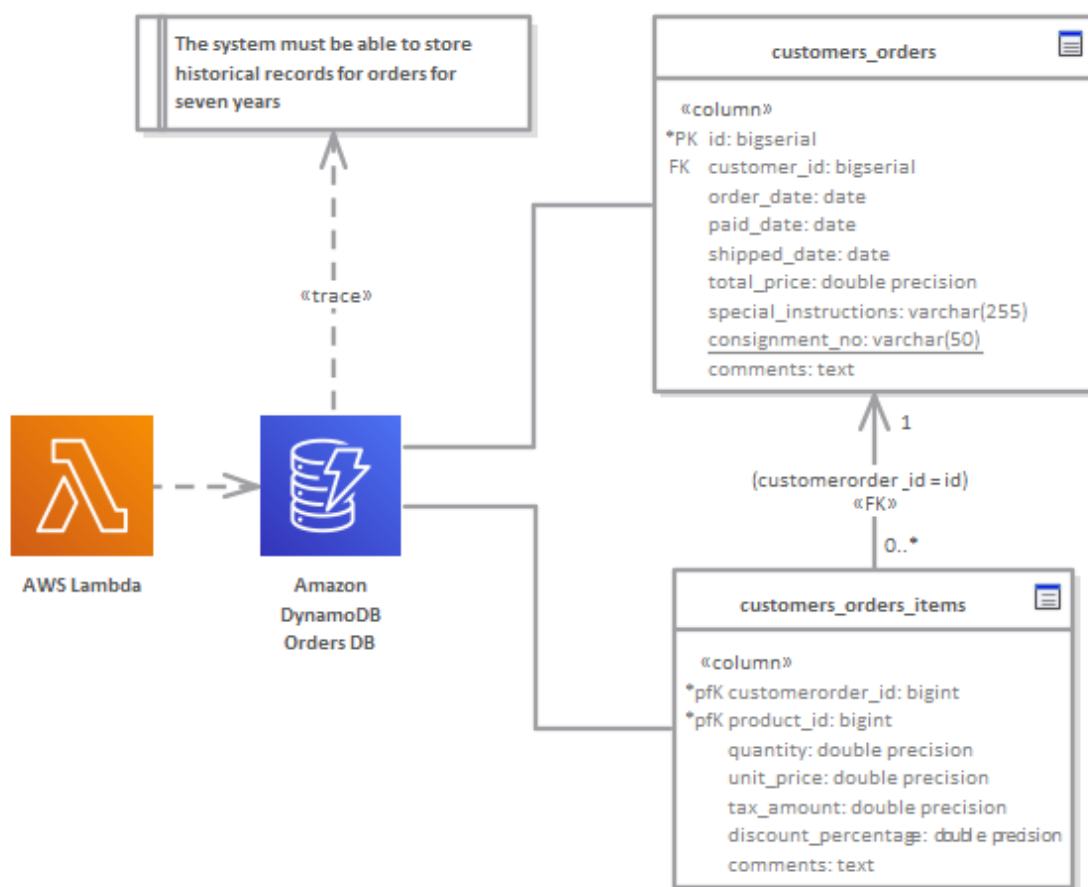
AWS diagram showing traces to a requirement and two database tables.

More Information

Edition Information

This feature is available in the Corporate, Unified and Ultimate Editions of Enterprise Architect, from Release 15.0.

Enterprise Architect Release 15.2.1559 supports Release 7 of the AWS Architecture graphics file.