iTwin® Learning Path

The Bentley iTwin platform makes it easy to build digital twin applications for infrastructure. The platform is a collection of APIs and cloud services that accelerate software development by solving challenges such as data integration, visualization, change tracking, and security. We receive many inquiries asking for advice on how to learn to use the platform, so we have put together this learning path to help you get started.

Prerequisites: Laying the Foundation

Before you get started, we recommend that you have some familiarity with basic development tools. You don't have to be an expert in these prerequisites, so do not worry if some or all of this is new to you. The best way to learn is by doing. If you have questions, watch the linked videos below, or search the internet. There is a large community of web developers who have already answered many of the questions you might ask.

- **HTML, CSS, and JavaScript:** Web development fundamentals.
- **TypeScript:** A programming language that is a superset of JavaScript.
- **React:** A JavaScript library for building user interfaces.

iTwin 101: Build Your First iTwin App

Once you have the prerequisites in hand, the best place to start is the **iTwin Developer Accreditation, Associate-level Course**. This entry-level course covers core topics including data federation and synchronization, visualization, writing queries, and UI customization. You will learn to build your first iTwin app, step-by-step.

Intermediate Skills

After taking the Associate-level accreditation course, you will have an idea of how to apply the core principles of the iTwin platform. To take the next step, we suggest the following:

- **Learn to use iTwin sample code in your own apps.** Using iTwin sample code can help you create powerful apps quickly. Want to add heat maps or IoT alerts to your app? This **tutorial** uses the iTwin Viewer to show you how. You will already be familiar with the iTwin Viewer.
- **Learn to find specific iTwin APIs to meet your app's needs.** Once you know how to integrate iTwin sample code into your apps, you can start incorporating many powerful APIs.

Resources

These additional resources can be helpful as you learn how to use the iTwin platform.

- **The iTwin Platform Portal**
- Learning **ECSQL** to read and query data in iModels.
- **Base Infrastructure Schemas** (BIS) is a family of modular schemas for modeling federated digital twins for infrastructure engineering.
- **The iTwin.js Library** is an open platform for creating, maintaining, and accessing **iModels**.
- **iTwin Community Support** Helps to address iTwin-related questions and exchange ideas.
- **The Bentley iTwin Platform YouTube Channel**
- **The iTwin Education Portal**

Advanced Topics

Once you are familiar with the platform's core principles and APIs, you may want to go deeper.

- Check out the **iTwin Developer Webinars playlist** (on the **iTwin platform YouTube Channel**), which has a growing list of deep dives into topics such as **querying iTwin data** and **connecting the Unity game engine to the iTwin platform**. You can also re-watch videos from the **Associate-level course**.

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