



BLACKBAUD

Software Development Kit

▶ ABOUT BLACKBAUD SDK BOOTCAMP

The Blackbaud SDK Bootcamp is an intensive 5 day training session held at Blackbaud corporate training sites. The SDK Bootcamp is designed to provide the student with the tools required to take full advantage of the Blackbaud Software Development Kit. The intended audience for all SDK training consists of .NET and SQL Server IT professionals with technical expertise in software design and development. **Specifically, proficiency in the following skillsets is required:**

- Application development using Visual Studio and .NET object-oriented programming techniques.
- Extensible Markup Language (XML)
- Creating Data Definition Language (DDL) and Data Manipulation Language (DML) queries within SQL Server 2008 or comparable database platform.
- Web development using HTML
- Web development using JavaScript

The Blackbaud Software Development Kit is a collection of feature-rich development tools and utilities used to customize Blackbaud CRM and other proprietary Infinity-based applications. Having command of the SDK allows a developer to take advantage of the advanced features of Blackbaud CRM. Students attending the 5 day bootcamp will learn the following skills:

- Author custom components and features
- Extend or repurpose the functionality of existing features
- Tailor the behavior, look, and feel of the Infinity product to align with an organization's unique business practices.
- Provide data exchange with ancillary systems
- Explore and review the native source code and database schema
- Deploy and administer customizations to the Infinity application.

[Click here for course schedule and registration](#)

 DAILY AGENDA**Day 1 Agenda (9:00 AM – 5:00 PM)****SDK Introduction**

Participants are introduced to the underlying technologies and networking architecture of Blackbaud CRM and the core capabilities of the SDK. Participants will gain fundamental understanding of the customization model, best practices, and core SDK concepts as itemized in the following outline.

- Programmatic capabilities of the SDK
- XML metadata catalog system
- Guidelines for authoring customizations with the SDK
- Gain a high level understanding on how to:
 - » Add new features and sub applications to Blackbaud CRM by authoring catalog items
 - » Interact with Blackbaud CRM features via one of many APIs
- Introduction to the contents of the SDK including:
 - » Visual Studio project and item templates used to create features in Blackbaud CRM
 - » Relationship between catalog items and XSD schemas
 - » Code samples
 - » API architecture and code generation tools (BBMetal/Web.exe)
 - » Documentation/resources
 - » Code discovery of database features (tables, fields, indexes, relationships, stored procedures, functions, XML, etc.)

**Day 2 Agenda (9:00 AM – 5:00 PM)****SDK Custom Table Development & Database Modeling**

Participants learn how to use the SDK to create the database table components that are used to model custom fields and points of data in Blackbaud CRM that the organization wishes to capture.

These concepts comprise the cornerstone and the supporting framework of customizations authored to extend the product to align with an organization's unique business needs, as itemized in the following course outline:

- Understand the importance of XML metadata framework as applies to Blackbaud CRM.
- Describe the elements native to all catalog items in a customization.
- Develop a catalog project and its relative components.
- Specify the database artifacts generated by the SDK to support the data model.
- Use the SDK to build custom tables, relationships, constraints, indexes, and triggers.
- Use the SDK to build custom functions.
- Use the SDK to build query views.



Day 3 & 4 Agenda (9:00 AM – 5:00 PM)

SDK Create, Read, Update, Delete (CRUD) Data

Participants learn the mechanics of creating and deploying the custom components used to create, read, update, and delete custom data in Blackbaud CRM. Collectively the following components comprise the mechanics of building a complete, robust customization using the data model created in the previous course outline:

- Use the SDK to build custom CRUD elements necessary to support database operations with Blackbaud CRM.
- Use the SDK to build navigational artifacts to support CRUD elements.
- Build and deploy a custom server-side Catalog assembly.
- Create the following types of specs:
 - » AddDataFormTemplate Spec
 - » FunctionalAreaSpec
 - » TaskSpec
 - » PackageSpec
 - » EditDataFormTemplate Spec
 - » ViewDataFormTemplate Spec
 - » RecordOperationSpec
 - » DataListSpec
 - » SimpleDataListSpec
 - » PageDefinitionSpec
 - » SearchListSpec
 - » TranslationFunctionSpec
 - » Page Expression Data Form



Day 5 Agenda (9:00 AM – 5:00 PM)

SDK User Interface (UI) Model API

Participants learn the principles of custom web-based form development and how to embed custom business logic into the behavior of their custom user interface components. Participants also learn how to extend and repurpose non-custom components by adding their own custom fields and/or business logic. While the Infinity Platform supports various APIs, this course specifically focuses on data form development by implementing the following course outline:

- Describe the functionality, capabilities, and framework of the UI Model API
- Differentiate between a UI Model, Data Form Add-In, and Data Form Extension, and Custom UI Model Metadata object models.
- API architecture and code generation tools (BBMetal/Web.exe)
- Create the following artifacts using the Infinity SDK:
 - » UI Model Project and .NET Code
 - » Data Form Extension
 - » Data Form Add-In