



This course concentrates on K2 blackpoint from a SharePoint Site Collection owners perspective, that is, a person who already has a basic understanding of SharePoint concepts and terms before attending this class.

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|---------------------------------------|--|
| Course Presentation and Demos: | This course provides students with the skills necessary to understand the K2 blackpoint concepts and to build a functioning solution using the K2 blackpoint software platform. |
| Hands on Lab: | Students will gain hands on exposure to using K2 blackpoint functionality to build one or more solutions. |
| Course Training Objectives: | After completing the course, you will be able to: <ul style="list-style-type: none">> Define the different phases of K2 development, including: understand, model, build, maintain and extend> Identify the various designers and tools used during K2 development> Build and deploy a solution using the K2 tools |
| Materials: | The course materials include: <ul style="list-style-type: none">> This slide presentation, including the instructor's slides (available by selecting View > Slide Show) and the student's notes (available by selecting View > Notes Page).> A corresponding Virtual PC, including all the necessary software and prerequisites for students to complete the lab exercises. |



[WWW.K2.COM](http://www.k2.com)

EXPECTATIONS AND PREREQUISITES

- > This course is designed for a SharePoint Site Collection Owner, or someone who is very familiar with SharePoint features and functionality
- > The K2 terminology will be defined as it is used throughout the course, but many SharePoint terms will be expected to be understood
- > There are many excellent resources online for SharePoint knowledge, including:
 - > <http://office.microsoft.com/sharepoint>
 - > <http://technet.microsoft.com/events>
 - > <http://msdn.microsoft.com/events>



Before you go through this course, you should have a basic understanding of several SharePoint concepts. These SharePoint concepts are important to understand before building the solutions, so if you are unfamiliar with a concept, please refer to the additional resources and review the materials.

-  Website
  Document
  Webinar
  Online Training

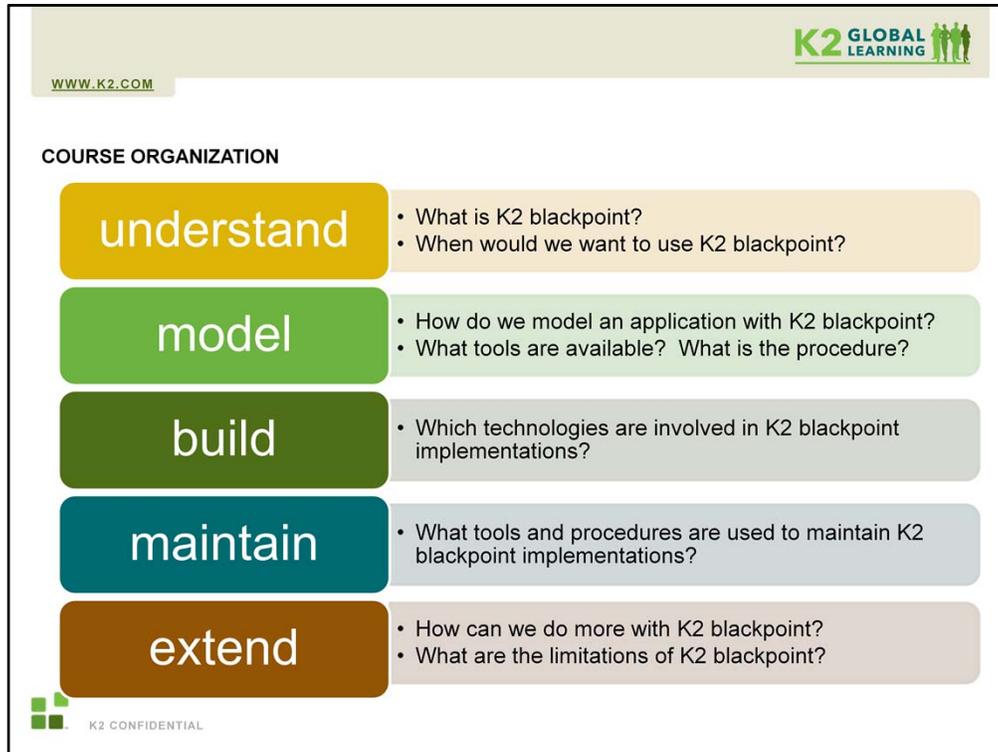
Type	Title	Link
	Introduction to Microsoft Office SharePoint Server	http://office.microsoft.com/en-au/training/HA102358581033.aspx
	Introduction to Microsoft Office SharePoint Server	http://office.microsoft.com/en-us/sharepointserver/HA101732171033.aspx
	Demo: Tour a Windows SharePoint Services 3.0 site	http://office.microsoft.com/en-us/sharepointtechnology/HA102055631033.aspx?pid=CH101934531033
	Introduction to workflows	http://office.microsoft.com/en-us/sharepointserver/HA101544241033.aspx
	Understanding Workflow in Microsoft Windows SharePoint Services and the 2007 Microsoft Office System	http://www.microsoft.com/downloads/details.aspx?FamilyId=DBBD82C7-9BDE-4974-8443-67B8F30126A8&displaylang=en

In addition to the basic understanding of SharePoint and workflow, it would also be helpful to understand many of the specific features of SharePoint.

Type	Title	Link
	Introduction to lists	http://office.microsoft.com/en-us/sharepointtechnology/HA100242741033.aspx
	Add, edit, or delete a list item	http://office.microsoft.com/en-us/sharepointserver/HA100992281033.aspx?pid=CH101788381033
	Create a calendar	http://office.microsoft.com/en-us/sharepointserver/HA100992361033.aspx?pid=CH101788381033
	Introduction to site navigation	http://office.microsoft.com/en-us/sharepointtechnology/HA101488271033.aspx
	Introduction to libraries	http://office.microsoft.com/en-us/sharepointtechnology/HA100929131033.aspx
	Understand groups and permissions on a SharePoint site	http://office.microsoft.com/en-au/sharepointserver/HA102371171033.aspx?pid=CH101248581033
	Introduction to the Records Center site	http://office.microsoft.com/en-us/sharepointserver/HA101735961033.aspx?pid=CH101824451033
	Demo: Enterprise Content Management with SharePoint Server 2007	http://office.microsoft.com/en-us/sharepointserver/HA102500981033.aspx?pid=CH100305441033
	Watch this: Create and publish Web pages on a publishing site	http://office.microsoft.com/en-au/sharepointserver/HA102742741033.aspx?pid=CH101782981033
	Administer publishing	http://technet.microsoft.com/en-us/library/cc627259.aspx
	Work with pages in a publishing site	http://office.microsoft.com/en-au/sharepointserver/HA100996631033.aspx?pid=CH101782971033

You will also be using InfoPath technologies, including InfoPath Forms Services and Microsoft Office InfoPath 2007 to build forms and integrate forms with processes.

Type	Title	Link
	Introduction to Microsoft Office InfoPath 2007	http://office.microsoft.com/en-us/infopath/HA101635771033.aspx http://office.microsoft.com/en-au/infopath/HA101672661033.aspx
	Introduction to form templates and forms	http://office.microsoft.com/en-au/infopath/HA100626851033.aspx?pid=CH100211501033
	Introduction to InfoPath Forms Services	http://office.microsoft.com/en-au/infopath/HA101649561033.aspx?pid=CH100211501033
	How InfoPath uses XML	http://office.microsoft.com/en-au/infopath/HP101308351033.aspx?pid=CH101492751033



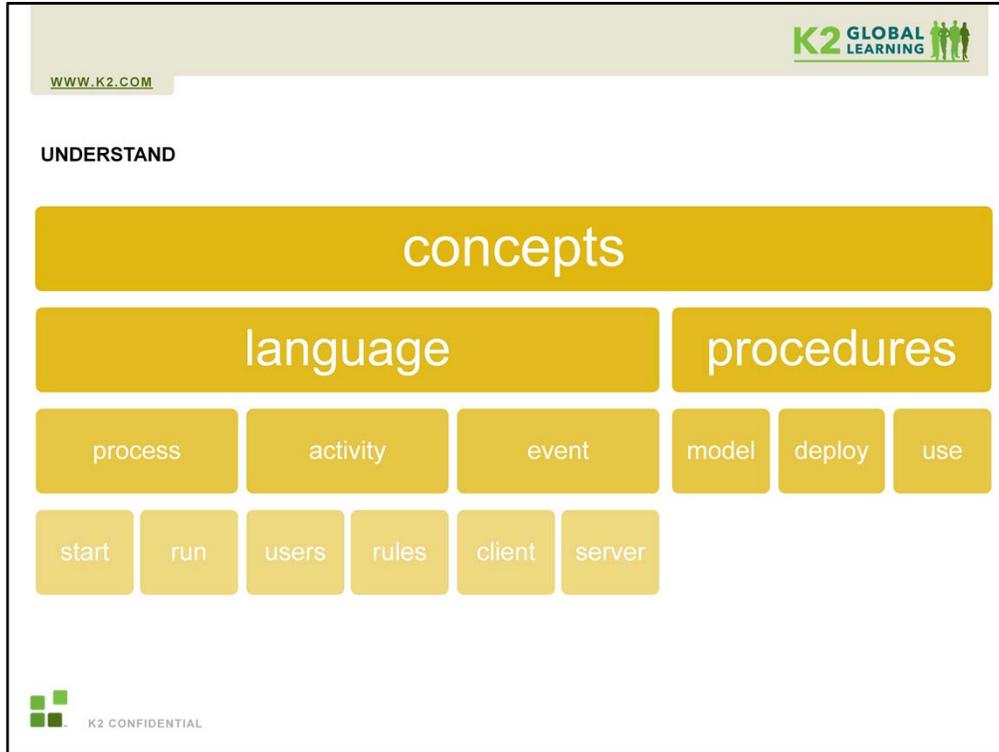
This course is organized into the following five sections:

- > Understand
- > Model
- > Build
- > Maintain
- > Extend

Each section will be discussed in more detail over the next five modules. These sections are designed to help you answer questions around K2 development, such as:

- > Why use K2 blackpoint ?
- > What are some of the common terms and concepts that are used in K2 solutions? What do they mean to me?
- > What tools and technologies are used in K2 blackpoint to build solutions?
- > What tools are available to help maintain the environment, such as reports, logs, and administrative tools?
- > Where can we extend K2 blackpoint?

These questions and more will be answered throughout this course.



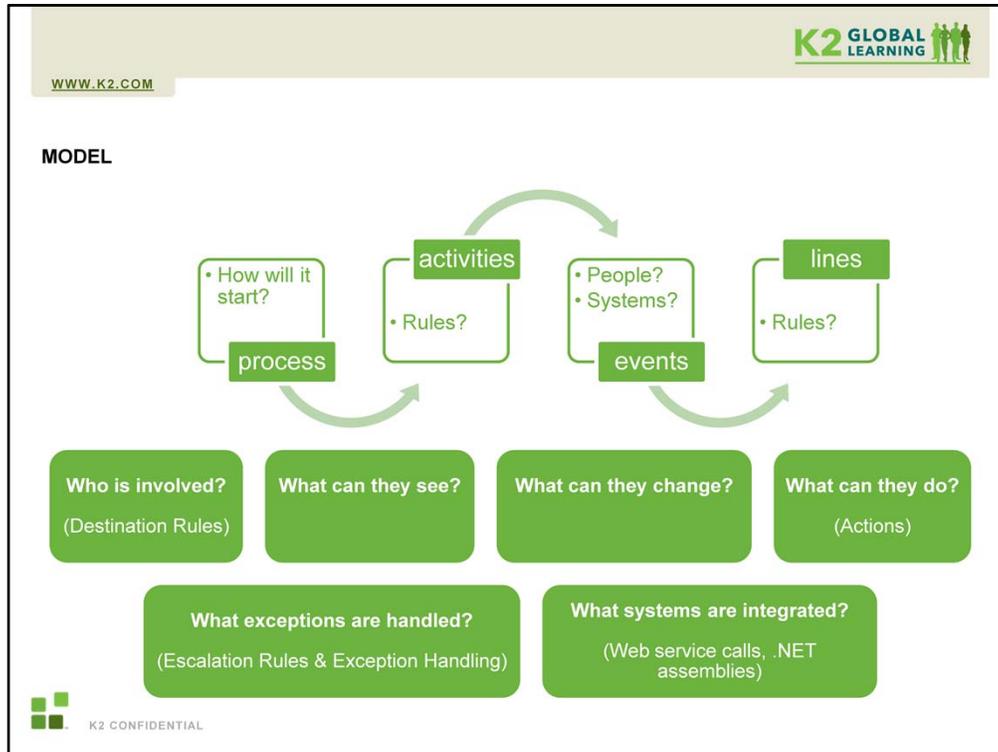
As part of understanding a K2 application, you should be familiar with several terms. You will see the following K2 vocabulary words as you are building your process:

Term	Definition
Concepts	K2 can be summarized as the “managed movement of data among people and systems.”
Language	K2 applications are fundamentally based on a “managed group of milestones where stuff happens.” The managed group is called a process. The milestones are called activities. The stuff that happens at a milestone is called an event.
Process	K2 applications are driven by a managed group of milestones called a process. A process has two fundamental states to consider: start and run. Questions to answer at this point are: <ul style="list-style-type: none"> • How does the process start? • What happens while it’s running?
Activity	A milestone within a process is called an activity. Activities offer a wide variety of sophisticated features to manage milestone behavior, including users and rules.
Event	All the stuff that happens at the milestone is called an event. An event comes in two fundamental flavors: client and server. <ul style="list-style-type: none"> • Client events assign work to people • Server events assign work to systems

In addition to the concepts and terms used while building your application, you will also see some terms that are used to describe the development process:

Term	Definition
Procedures	K2 application development typically follows this path: <ul style="list-style-type: none">• Model the application in a designer• Deploy the application to a server• Use the application through a set of user interfaces, optionally generated by K2
Model	K2 blackpoint includes two designers: K2 Studio and the K2 Web Designer for SharePoint K2 blackpearl offers a compelling upgrade path with additional designers in Visual Studio and Visio.
Deploy	K2 applications are deployed to a K2 server that makes the application generally available and manages the application runtime.
Use	K2 applications can be used by anyone who has access. K2 does not mandate the use of any particular user interface.

These terms will be used throughout the training and product as you build your solutions.



To model K2 applications, one needs access to a K2 design environment.

K2 blackpoint ships with two design environments:

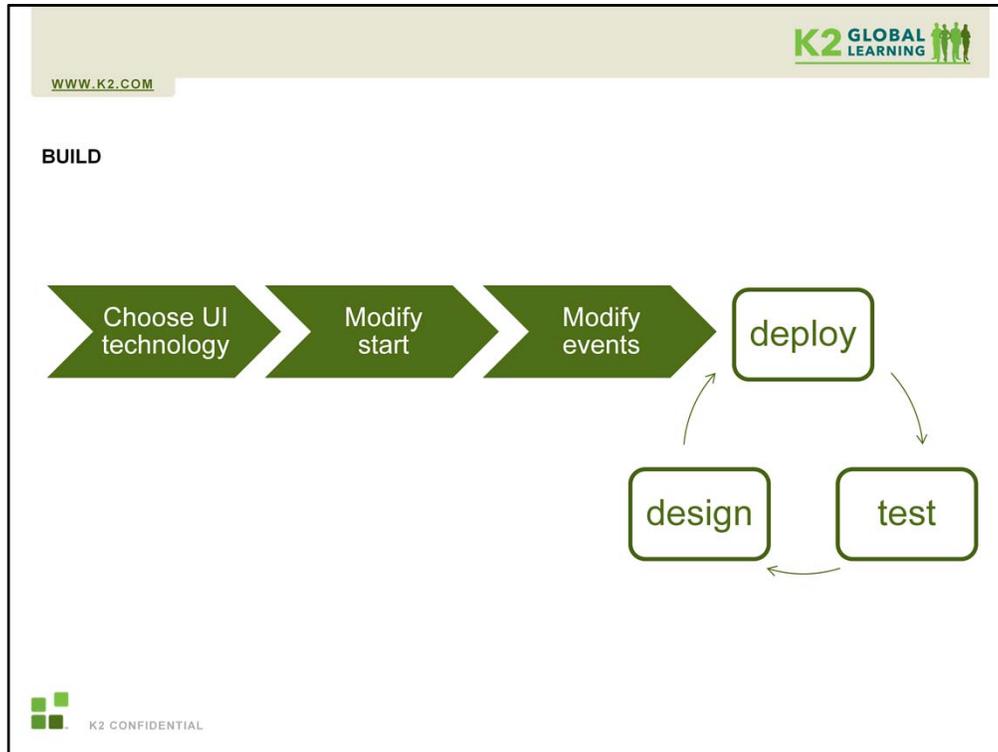
- > K2 Studio – an Office-style designer
- > K2 Web Designer for SharePoint – a Web-based designer

The minimum set of decisions that can be made while modeling a K2 application are:

- > How many milestones (or activities) are needed?
- > How many events per activity?
- > What kinds of events are needed (client or server or both)?
- > How are the activities connected (i.e., where do the lines go)?

To add some kind of procedure to the modeling of K2 blackpoint application, we can answer six basic questions about the application at each milestone (or activity):

1. Who is involved? (i.e., what are the destination rules for this activity?)
2. What can they see?
3. What can they change?
4. What can they do? (i.e., which actions can they take at this activity?)
5. What exceptions are handled? (e.g., expected exceptions (escalation rules) and unexpected exceptions (exception handling))
6. What systems need to be integrated? (e.g., Web service calls, .NET assembly calls)



Once the basic process logic is defined during the model phase, some decisions need to be made in order to fully build your application. These decisions include:

> **What User Interface (UI) should be used?**

- > Options include InfoPath Forms and SharePoint Task Forms
 - > InfoPath offers thick and thin client options, depending on if the InfoPath client is installed on users' desktops, or InfoPath Forms Server is available on the SharePoint Server
 - > SharePoint Task Forms are browser based and integrated into SharePoint, so users do not ever leave SharePoint to interact with the process
- > A common UI can be used throughout the process. UIs can not be mixed in a single process. For example, if InfoPath is the selected interface, then SharePoint task forms cannot be used in the process.

> **How should the process start?**

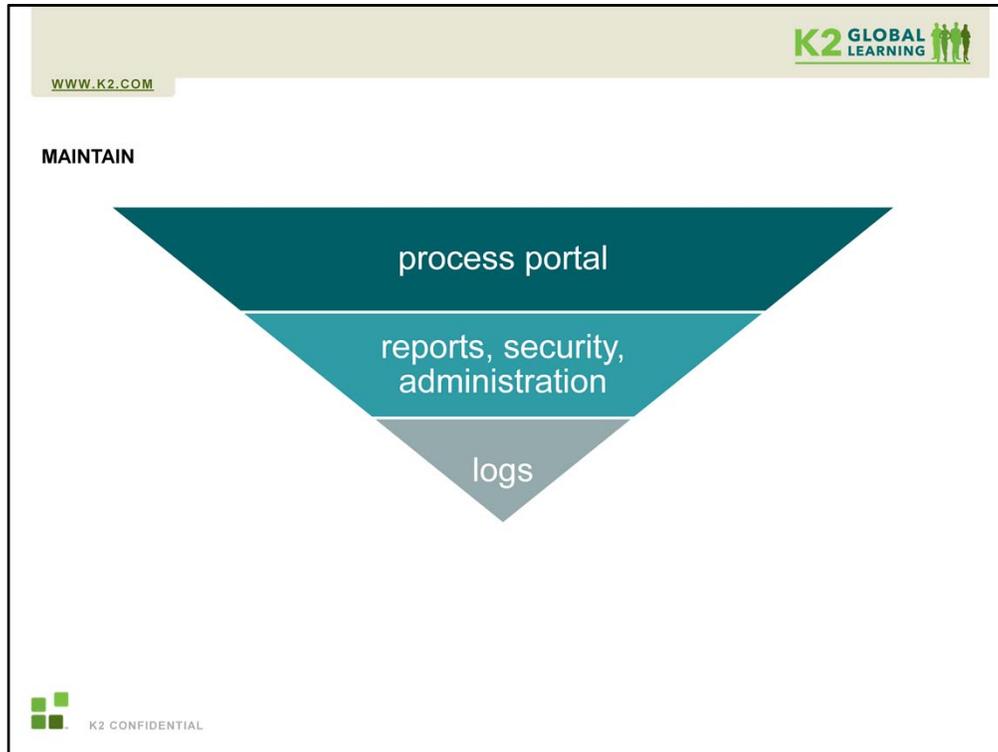
- > Options include based on an InfoPath view, SharePoint event, or manual or automatic start
 - > If InfoPath is used for the UI, a specific view can be associated with the start of the process
 - > SharePoint events, including things like item added, document checked-in, document deleted, item modified and more can be used to start the process
 - > Processes can also be started automatically, when an item is added or modified, or manually by a user
- > More than one start option can be selected for a process; however, this will add complexity to your process and each option should be tested thoroughly.

> What events need to be configured?

- > Options include the various Event wizards, which can be broken down into the following categories:
 - > SharePoint Administration wizards (such as the Sites and Workspaces, Lists and Libraries, and User Management wizards),
 - > SharePoint Content Management wizards (such as the Documents, List Items, Records Management, Search, and Publishing wizards)
 - > Client Event wizards (such as the InfoPath Client Event and SharePoint Workflow Integration Client Event wizards)
 - > Data Manipulation wizards (such as the SmartObject Event and Data Event wizards)
 - > Notification wizards (such as the Mail Event wizard)
 - > Integration wizards (such as the Reference Event and IPC Event wizards)

- > During the model phase, these events may have been stubbed out with placeholder values. It is now time to fully configure these wizards.

During this build phase, it is important to approach the implementation cycle in an iterative fashion. This means that the deploy-test-design revision cycle may happen many times during this phase, as changes are needed or issues are found during testing.



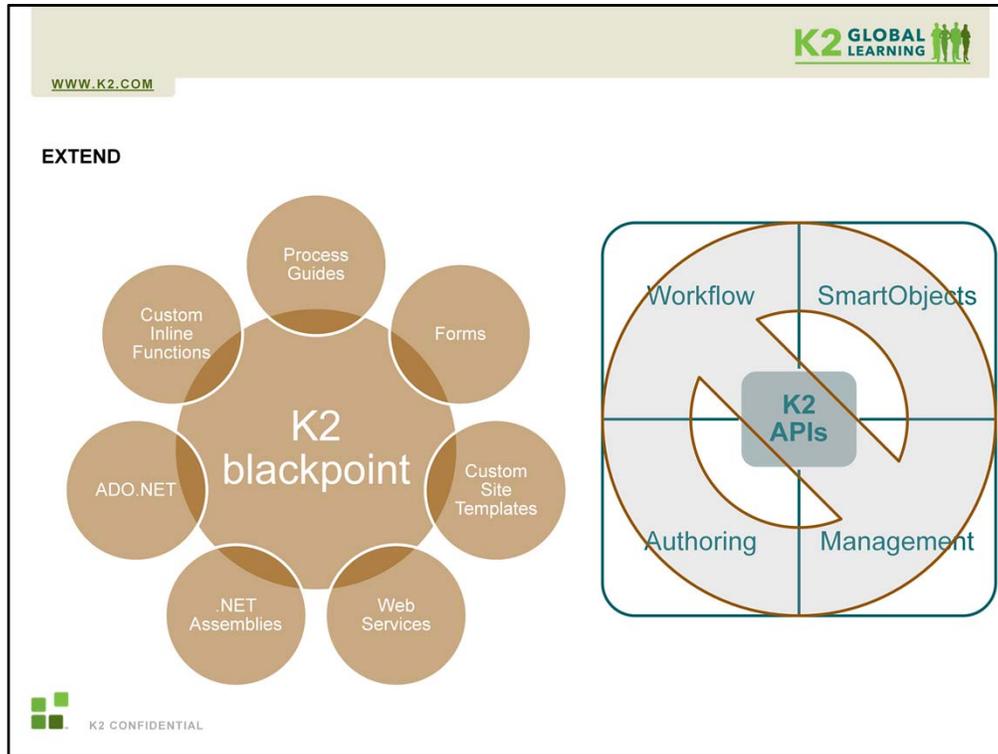
Once your application has been deployed and is running in your environment, several tools are available to monitor the application and ensure that everything is running smoothly.

Maintaining K2 blackpoint solutions is accomplished primarily through a Process Portal. When K2 blackpoint is installed, a custom site template is also installed for the K2 Process Portal. This site definition includes a series of Web Parts and reports that allow the process administrator to watch and perform administrative tasks on his or her process.

The Process Portal includes the following sections:

- > **Instance Management** – allows you to see active, stopped, or errored process instances
- > **Reports** – displays the built in reports, including activity and process statistics or instance information
- > **Process Management** – allows for the configuration of process and action rights, and displays error logs, roles and version information
- > **Administration** – links to the K2 Server Management console for server wide administration tasks
- > **Settings** – allows you to add one or more processes to the Process Portal

While only view rights are necessary to view the reporting information about a process, admin rights are necessary in order to make any changes to the process rights or manipulate process instances, such as retrying instances in error, viewing error logs, or redirecting tasks from users' worklists.



K2 blackpoint can be extended using several methods:

- > **Process Guides** – these guides walk a user through implementing a specific solution or for using a solution template
- > **Forms** – InfoPath forms or SharePoint lists or libraries with customized columns can be used as the interface for the process
- > **Custom Site Templates** – K2 supports site provisioning and management functionality, which includes built-in and custom SharePoint site definitions or templates
- > **Web Services** – any WCF-compatible Web service can be called from K2, including data exchange
- > **.NET Assemblies** – any .NET compatible assembly can be called from K2, including data exchange
- > **ADO.NET** – K2 exposes ADO.NET interfaces for use with Microsoft .NET implementations, allowing easy access to SharePoint data and workflow process data for custom reports
- > **Custom Inline Functions** - Developers can build custom Inline Functions to surface organization-specific information into process designers in any of the K2 design canvases.

While these methods allow you to extend slightly the K2 blackpoint product, it is not as extensible as K2 blackpearl. For example, absolutely no K2 APIs are supported in K2 blackpoint. This means that no custom development is supported with K2 blackpoint, including custom ASP.NET applications or other technologies, such as mobile forms or java based forms. The only access to K2 information is through the K2 ADO.NET provider, which allows access to the data. This allows for custom reporting, but no code-manipulation can be done in K2 blackpoint. If you need to extend beyond the capabilities of K2 blackpoint, upgrading to K2 blackpearl can give you more flexibility and functionality.



This module has been an introduction to K2 blackpoint Fundamentals course. Each of the topics described will be broken down into further information in the upcoming modules. If you have any questions about the course outline or material presented thus far, be sure to ask your instructor.