LabVantage Training Course Catalog

LabVantage strives to provide leading-edge technology, best-in-class solutions, and unparalleled educational programs for getting the most value from your investment. One of the largest contributors to the success of an enterprise solution is a well-rounded understanding of the software capabilities. Completing the appropriate training allows you to take full advantage of the full range powerful tools LabVantage provides and avoid downstream complications.

This document describes the various courses offered by LabVantage educational services. These courses are designed for LabVantage version 8. Other classes that are specific for other versions of LabVantage can be delivered on request. These courses are open to customers of LabVantage solutions and our affiliates. Information about our courses is subject to change without further notice. Please contact training@labvantage.com or visit http://labvantage.com/training for the most up-to-date information.

The Student Manual

Our training programs have been offered since 1992 giving us the opportunity to fine-tune the curriculum and include education for not only software operation but also best practices. Our curriculum is designed to deliver an understanding of how to best approach the data structure through theory, demonstrations, and hands-on practice. Each course has scripted exercises giving you valuable experience in the classroom and an example to follow once you have returned back to your workplace to begin the job of managing your laboratory's data. Each of our LabVantage classes is lead by an experienced, professional instructor able to help you with your questions.

Virtual Classroom

If attending a training course in-person is a challenge due to travel and scheduling restrictions, LabVantage offers the option of attending a class remotely. Some classes are scheduled specifically for this type of environment. You can sign up for a virtual classroom using an internet connection and telephone to participate in a fully interactive session with your course instructor and other learners.

e-Learning

LabVantage e-Learning modules provide you the opportunity to gain an awareness of LabVantage terminology, sample life cycle process flow, and system navigation techniques prior to participation in classroom or virtual learning. The LabVantage e-Learning program can be used to get you started on the basics or serve as a refresher. These scripted and professionally produced recordings offer you the chance to progress at your own page without leaving your workplace.

Pricing

Participation in any classroom or virtual class entitles you to one printed copy of the student manual per person, access to the LabVantage software on the cloud during the class, and for some courses, a certification exam demonstrating your understanding of the subject. The standard rate is USD$800 per person, per day. Rates may vary by global region. Contact your sales representative to obtain a quote.

Table of Contents

101 – End User

This three-day course teaches you how to operate the LabVantage software using the LIMS site map. From logging a sample to managing a request and all process points in between, you will gain experience in using LabVantage to record and maintain your laboratory's vital data. As an end-user you will learn how to take advantage of the rich feature sets built into the solution allowing you to focus more on the science and less on the software. As an administrator, before you begin configuring or re-configuring your LabVantage application, you may want to understand how your end-users are going to interact with the software and the terminology used within. Working examples are provided during hands-on instruction.

Prerequisites and Target Audience

This is an introductory level course with no knowledge of LabVantage software required. Students should have a basic working knowledge of computer technology to include operation of a web browser. This course is intended for those who will need to understand the process flow of data through the application including but not limited to samples being logged, test results being entered, data being reviewed, and reports being issued. All end users of all market spaces including manufacturing QC, research, bio-medical, and environmental monitoring will need to know the concepts of this course.

1. **Overview:** What is LabVantage? How does it work? Connecting to the application. Universal interface features. Understanding security. Navigation techniques. Using the help system.

2. **Site Maps:** What features are available to different user types? Where do I go to access these features? Who will be responsible for different types of administration? Using charts and graphs to prioritize work.

3. **Master Data:** How does LabVantage promote consistent record-keeping? What terminology does LabVantage use to represent different types of laboratory data? Understanding how the software promotes efficiency and precision through data harmonization.

4. **Sample Life Cycle:** How does LabVantage treat data as it flows from one process phase to the next? What is the status of a sample telling me? When does the data get locked to prevent further unauthorized changes? Utilizing various pages to record sample information, receive samples, enter test results, review for accuracy and approve data before releasing and disposing. Incoming samples can be stored in many different places. Banks of shelves, refrigerators, freezers, and incubators house many different samples. Assigning a location makes finding them a snap!

5. **Queries and Searches:** I know the data is in there, how to I retrieve it? Take advantage of the search bar, categories, folders, ad-hoc search, dashboards and system search to give you a picture of what is happening with your data. Just as important as putting data in, is getting data out. Learn how LabVantage incorporates various reports to show you your key performance indicators.

6. **Batches:** How do testing tasks get grouped and assigned to analysts? When manufacturing a finished product, how is the data structured to support genealogy? Learn how samples are grouped, tests are grouped and manufacturing stages are grouped to facilitate multiple business and laboratory practices.

7. **Request Management:** In what ways can I group samples together to keep track of them? Now that a group of samples is completed, what should happen next?

8. **Instruments and Analysts:** Keeping track of who performed a test using which instrument is important when it comes to audits, investigations, and reporting. Gain experience in recording instrument calibrations and analyst training.

9. **Stability:** Executing work orders, pulling samples from inventory and keeping track of stability study progress.

10. **Reagents and Standards:** An important part of any laboratory test is keeping track of those substances that factor into the results obtained. This could include solutions that are purchased or mixed using raw materials. Managing inventory of stockroom supplies is also included.

11. **Workflows:** Utilize flowcharts to guide you through the execution of a process from beginning to end. Learn how to indentify tasks that need to be executed and the steps required to complete those tasks.

Typical daily agenda

Day One	Day Two	Day Three
Overview	Reporting	Stability
Site Maps	Batches	Reagents and Standards
Master Data	Request Management	Workflows
Sample Life Cycle	Instruments and Analysts	Review
Performing Searches		

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 336 pages of indexed chapters each having a table of contents for your reference. The manual provides a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage.

121 – Administration

A four-day course tailored for administrators. You will learn how to create master data and configure LabVantage to suit the data management needs of your company. As a data architect, you will gain hands-on experience in building: tests to include parameters; parameter lists; calculations and units; limits such as detection limits and specifications; approvals and approval types; schedule plans; instruments and analysts; and, workflow basics. You will also learn how to perform some application administration such as configuring user security, creating dashboards, changing the table structure and web page design.

Prerequisites and Target Audience

The LabVantage application has features that can be broadly divided among three user groups: Application Administration, Laboratory Administration, and daily lab operations. This course addresses two of those user groups: Laboratory Administrators and Application Administrators. Completion of the 101-End User course is recommended but not required. As an administrator level course, this is not an introductory class. Some advanced knowledge of computer technology is assumed to include perhaps some basic database administration and application server theory.

1. **Overview**: What is the component architecture of LabVantage? How do I start JBoss as a service? Accessing the server and application logs and managing them through the LabVantage application. The LabVantage console, how to log in and use its basic functionality.

2. **User Security**: Security concepts of LabVantage. How to enable and configure departmental security for shielding data. Restricting access to modules, understanding the role based security module restricting the user access to pages and functionality. Grouping roles together using jobtypes and assigning jobtypes to users.

3. **Parameters, Parameter Lists, and Test Methods**: Gain experience in architecting your laboratory's master data making it conform to the types of tests you perform on your samples.

4. **Tests**: Configure your test methods to handle calculation functions, rounding, unit conversions, detection limits, and manual data review requirements.

5. **Specifications**: Establish your quality control pass/fail limits to have LabVantage flag the results when they do not meet your criteria.

6. **Reference Types and SDCs**: Creating reference lists to be used for result entry or for property setting. Understanding the System Data Collections and learn how to enhance your installation with user defined columns and reference types.

7. **Queries**: Design filters for data your users want to see on various web pages.

8. **Event Plans**: Add business logic to your system which can automate functions to fire when values change for a record.

9. **Workflows**: Create a flowchart which enables a standard sequence of task execution. Let users easily identify and execute tasks that are assigned to them.

10. **Arrays**: Define the types of plates or other storage implements you use for storage and testing of your samples. Configure how plates can be filled with samples and how patterns can be defined when transferring samples from one plate to another.

11. **Instruments and Analysts**: Identify the instruments that your laboratory uses as well as the calibration and maintenance intervals to make sure preventative maintenance and calibration are performed at the required intervals. Use work orders to demonstrate instrument suitability.

12. **Export Import**: Using the configuration transfer tool for the export of data from one database to facilitate the import into another LV database. Learn how to define a Data File Definition to load data from an Excel or CSV file into LabVantage.

13. **Translations**: Managing the vocabulary used to describe field labels, prompts, error messages, data and more to control how these items are presented to your users in LabVantage. Learn how each user can choose their own local language preference.

14. **Scheduler**: Define schedule plans automating the creation of samples and assignment of tests based upon a sample collection frequency that you establish. Identify different sampling points and sample sources. See how work orders are generated for sample collection, and completion. Schedule other tasks for completion even if the tasks are not related to pulling and testing samples.

15. **Web Page Designer**: An introduction to the LabVantage Web Page Designer studio which allows you to create and modify web pages used within LabVantage.

16. **Dashboards**: Understand the dashboard, learn how to create new gizmos and make them available for the user to add to his own dashboard. Learn to understand the different types of gizmos and how each gizmo type has its own way of representing data.

Typical daily agenda

Day One	Day Two	Day Three	Day Four
Overview	Specifications	Workflows	Translations
JBoss	Reference types	Arrays	Scheduler
Security	SDCs	Instruments	Web Page Designer
Parameters and Parameter lists	Queries	Export and Import	Dashboard
Test Methods	Event plans		Review

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 476 pages of indexed chapters each having a table of contents for your reference. The manual provides a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage.

130 – BioBanking

This two-day course will show you how to configure and operate the LabVantage BioBanking module. It begins with instruction on the basic security concepts that are the foundation of LabVantage's BioBanking solution. You will learn how to create master data, controlled vocabulary, storage locations and more. Options are presented for using advanced storage and logistics (ASL), kits, protocol, and ad-hoc queries. Scripted hands-on exercises provide working examples of how samples can be allocated for a study, accessioned with required information, tracked as an aliquot and inventoried.

Prerequisites and Target Audience

The BioBanking module offered by LabVantage is an extension of the core LIMS software. Topics presented will be of interest to end users and administrators alike. Administration of the BioBanking module is the primary focus of the first day. Day two will show how to perform laboratory operations executed by the end users. Those who are responsible for administration of the BioBanking solution should complete the 121-Administration course first, or 101-End User (if 'core' LIMS features are to be used), or have at least 1 month of working experience with LabVantage.

1. **Introduction**: In what ways does the BioBanking module extend core LabVantage? How do does this change the way I work with LabVantage? What is a Custodial Domain and how does that affect me? Establishing user security for BioBanking.

2. **Studies**: What is a BioBanking study? Controlling the behavior of a study. Create a study.

3. **Master Data:** How do sample types affect the behavior of the BioBanking module when samples are processed in the lab? Defining Preparation Type, Treatment Types, Collections Methods, Container Types, and Assay Types as a laboratory administrator.

4. **Controlled Vocabulary**: What is an ontology? How do we make sure everyone in our laboratory is accessioning or cataloging our samples using the same language including clinical diagnosis, microscopic diagnosis, tissue types, organs, metastasis, and species?

5. **Sample Allocation**: Beginning the life cycle of a sample. Before collecting and labeling samples, you should define what types and how many samples you intend to collect for a study.

6. **Storage**: Before receiving a sample, you should define where the samples will be stored including the environmental conditions.

7. **ASL**: Advanced Storage and Logistics demonstrates how to configure freeze-thaw tracking, set up and track shipments of samples, use the TISM page, and apply advanced storage rules.

8. **Sample Receipt**: When a physical sample is brought to the lab, it will be checked into a location and assigned a custodial domain. Learn how to complete this second phase of a sample's lifecycle.

9. **Accessioning**: Before accepting a sample into a study, certain pieces of information need to be recorded and reviewed. Using master data and controlled vocabulary learn how to catalog the sample.

10. **Lab Operations**: Now that a sample has been approved for use in a study, the next step is to aliquot or divide, create a derivative or pool, add tests and enter results, and keep track of inventory.

11. **Ad Hoc Queries**: Entering data into the system is one thing. Mining the database to find it again or consolidate it is another matter. Learn how to navigate the data structure and design searches to help you make intelligent decisions much faster.

12. **Kits**: This additional optional module allows you to keep track of the artifacts you use for sample collection and group them together. Examples are: syringes, vials, swabs, cups and other containers.

13. **Protocol**: When a clinical trial is executed, it is important to keep track of participants or subjects, hospital visits or collection time points, and to maintain control over the plan. This additional optional module allows you to maintain this organizational data in LabVantage BioBanking.

130 – BioBanking (continued)

Typical daily agenda

Day One	Day Two	Day 3 (Clinical only)
Introduction	Storage	Protocol
Studies	ASL	
Master Data	Sample Receipt	
Controlled Vocabulary	Accessioning	
Sample Allocation	Lab Operations	
	Ad Hoc Queries	
	Kits (if desired)	

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 225 pages of indexed chapters each having a table of contents for your reference. The manual provides a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. There is an entire printed page for each slide making it easy for you to follow along and take notes with the lectures. This workbook has color prints for the exercises leading you though examples of how to make the best use of the BioBanking module.

140 – eForms

LabVantage provides a solution to satisfy the requirements of any application that must collect and process data in a way that resembles existing paper-based systems. This will include an interface with integrated features that allow easy configuration of complex client-side tasks, such as validation and dynamic display, without using JavaScript or other specialized programming. There are special forms that bind to database records and provide features such as immediate data quality evaluations, automatic sample lifecycle processing, and integration with other modules. These features can be broadly grouped into one of three different categories: Data Submission, Document Capture, and Electronic Notebook. This two-day course will lead you through the development of simple to complex forms.

Prerequisites and Target Audience

The eForms module is an extension to the core LabVantage feature sets. Although learning to design eForms does not require an understanding of the core application, it is certainly helpful for all students to have completed other courses or have a working knowledge of LabVantage prior to taking on this subject matter. This course is intended for those who will design, program, and implement various types of eForms.

1. **Using a Simple eForm to Create a Document:** Getting started with eForms. Understanding the basic concepts. Creating fields. Basic page layout considerations.

2. **Advanced Form Design Considerations:** Dynamic field properties and forms. Using sections, pages and groups. Simple field data validation.

3. **Group Attributes and Data Validation:** Using checkboxes, radio buttons, understand how simple declarative and complex Groovy validations can be implemented on a form.

4. **Approvals, Annotations and Follow-Ups:** Now that a form has been completed, what kind of data reviews and workflows can be carried out?

5. **Double Data Entry:** Some data is too important to be left open to one person's interpretation. Learn how to require more than one transcription from paper and how to reconcile the differences.

6. **Fields and Formlets:** Rather than redefining the same components on many different forms, fields and formlets can be used. This is necessary if Ad Hoc queries are to be used.

7. **Ad Hoc Queries on Document Fields:** Capturing data as a document may not make it easy to mine that information. Learn how LabVantage eForms and the Ad Hoc Query tool work together to simplify your search for intelligence within your database.

8. **Simple Worksheet Setup:** Electronic notebook applications allow you to avoid the collection of data on paper and the subsequent need to store that paper. A worksheet is a specialized type of eForm used to address this need.

9. **Multiple-Item Worksheets:** Often, more than one data point is captured on a single page or worksheet. LabVantage eForms support the streamlining of data capture by processing multiple items at once.

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 167 pages providing a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage eForms.

150 – Stability

The Stability module is an extension to the core LabVantage application. In this course you will learn how to create a long-term study beginning with a plan through execution and completion of the plan in order to evaluate performance when samples have been exposed to different environmental conditions.

Prerequisites and Target Audience

This half-day LabVantage Stability module training course is normally offered as an additional option to extend an onsite training event. This is not a stand-alone course. If an introduction to the general aspects of using LabVantage is required, other program offerings such as 101-End User should be completed prior to this subject matter. Students should already be familiar with how studies are executed in their organization. Stability Coordinators and analysts alike will learn from this class.

1. **Static Data:** Creation of data that presumably does not change during the stability study. This includes products, storage locations, packaging containers, environmental conditions, inventory tracking practices, and protocols.

2. **Studies:** Configuring the options for protocol templates, protocols, and individual studies.

3. **Protocol:** Setting up the protocol to include frequency of testing intervals and environmental storage parameters.

4. **Stability Work Orders:** Executing the time points and managing inventory through completion of a work order.

5. **Navigators:** Understanding how the navigators help track the progress of the study.

6. **Study Completion:** After the time points and conditions have been completed, the study can be reviewed and completed.

7. **Study Suites:** Grouping of stability studies under a common umbrella.

8. **Storage Unit Types:** Configuration of LabVantage to reflect the physical layout of a freezer, humidity chamber, warehouse shelf or other structure.

9. **Advanced Study Management:** Managing inventory and testing frequency based on the number and types of tests that need to be performed.

10. **Calendar Maintenance and Planning:** Using the planning tools in LabVantage.

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 108 pages providing a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage Stability.

181 – Jaspersoft Reporting for LabVantage

LabVantage offers several different options when it comes to designing your report output. One option is to use Studio from Jaspersoft. This 2-day reporting class includes instruction for how to use the design tool to build a new report. Additionally, you will learn some of the concepts surrounding the LabVantage data model. This course description is for an LV8 implementation using Jaspersoft Studio. The same course description is used for LabVantage 7.

Prerequisites and Target Audience

A basic understanding of SQL (structured query language) is strongly recommended but not required. By the end of this class, you will understand how to create a new report design or modify an existing example using Studio to suit the needs of your LabVantage data reporting requirements. Note that Studio is supported for developing reports to run with LV7 and above.

1. **Installing and Configuring Studio:** Getting started with the Jaspersoft Studio designer tool requires some installation steps. This chapter shows you what is required to install and configure Studio for use with a LabVantage database.

2. **Creating Your First Report Using the Wizard:** With Studio, a basic simple report is easy to create using the wizard.

3. **Basic Report Developer Features:** Looking at the Studio developer interface, the features might not seem obvious at first. But before you know it, this will become second-nature.

4. **Datasets, Queries, Parameters and Variables:** Designing a report means you need to anticipate what the user will want to see as output and what kind of input they will give you to use as a filter.

5. **Report Display Types:** What will be the overall layout for your report? Is it a chart or a graph? Will you include summary data along with the details? Maybe include a subreport? How often will columns wrap on one page?

6. **Elements:** Adding lines, rectangles, barcodes and other report elements increases the usability and acceptance of your design.

7. **Charting:** Learn the tricks to adding pie, bar, line and other charts to your report.

8. **Installing a Report in LabVantage:** Now that your report is perfect, you want people to be able to execute your report. With LabVantage's built in Jasper Reports Server, all you have to do now is register the report in the LabVantage application and your users can see the output in their browser!

9. **Running a Report from a Button:** Executing a report from LabVantage can be as simple as clicking a button. Learn how to add a button using the LabVantage Web Page Designer so that the button will call your report.

10. **Reports with Parameters:** Some reports require input from the user. This establishes the criteria for the data on the report such as a date range or a record identifier. Here, you will learn how to configure the report to accept this input, configure LabVantage to prompt the user for this input, and pass the user's response to your prompt from LabVantage to the reports server.

11. **Report Events**: Some reports generate output that is used to make important business decisions. These types of reports contain data that, if changed, could have an impact on further downstream processes. Learn how LabVantage can track the execution of a report to include a possible reprint.

12. **Advanced Crosstab and Subreports:** Report output is often desired in a grid fashion with column headers and row headers resulting in a datapoint being displayed as an intersection. Subreports are another way to establish a query that uses the data from another query as criteria.

181 – Jaspersoft Reporting for LabVantage (continued)

Typical daily agenda

Day One	Day Two
Installing and Configuring Studio	Charting
Using the Wizard	Installing a Report in LabVantage
Developer Interface	Running a Report from a Button
Datasets, Queries, Parameters, and Variables	Reports with Parameters
Display Types	Report Events
Elements	Crosstab and Subreports

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 171 pages providing a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. There is an entire printed page for each slide making it easy for you to follow along and take notes with the lectures. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage.

211 – Web Page Designer

Included in the LabVantage toolkit is the ability to modify the page configurations supplied by the LabVantage application. With an additional license (Web Page Designer Pro), you can create new pages and other design elements. This three-day course will teach you how to use the full Web Page Designer suite. The class builds upon the fundamental concepts presented in the LabVantage Administration course. You will learn how to: create a new page, design a custom layout, page type, element and button, add dynamic lookup pages, work with JavaScript, take advantage of the LabVantage API, and use Groovy for conditional formatting.

Prerequisites and Target Audience

This course is beneficial to application administrators who will make changes to the LabVantage user interface appearance and functionality. Completion of 121-Administrator is required for full application administration. For programmers who will only modify the interface and work with the API, there are no prerequisites for this course.

1. **Introduction:** Understanding the components of the Web Page Designer Studio.

2. **List Page:** One of the most often used types of pages in LabVantage is a list page. Learn how to create one or modify one to retrieve records from the database.

3. **Advanced Toolbar:** Operations that the user needs to perform are represented as buttons in the toolbar. Learn how to create buttons and control their behavior.

4. **Gizmos:** To promote a consistent user experience, gizmos are used to present different navigation options or helpful links across all pages. Creating gizmos to control the top bar and the side bar as well as the site maps, tabs, and menu choices. Dashboard, image map gizmos and more.

5. **Maintenance Page:** Using the Quick Page Creation Wizard, employing a page type, adjusting the layout, adding a toolbar, using pseudocolumns, and calling a maintenance page from a list page.

6. **Security and Electronic Signature:** Some agencies require an electronic signature for secure and traceable record keeping. Some activities should only be executed by privileged users. Learn how to enable or disable these options.

7. **Lookup Pages:** When creating associations between records of different tables, lookup pages assist the user in making the link. This includes filtered lookups, queries, and dynamic lookups.

8. **Page Group and Style:** Learn how to create forms with multiple sections, tabs, or grid layouts giving a natural flow your pages and the fields.

9. **Actions:** LabVantage Actions are discrete program modules that perform a specific purpose. They are coded using Java. LabVantage has a library of 290+ standard actions, with APIs for creation of user defined actions. Learn the basics of how to take advantage of this code library.

10. **JavaScript:** What is it? When can it be used? The LabVantage JavaScript API. Using JavaScript for validation. Coding a button for a JavaScript function.

11. **LinkedSDIMaint**: Many maintenance pages include this element as a detail tab. Understand how you can use this important element on your page to allow linked records to be maintained through the relationship to the master record.

12. **Nested Selects:** In some cases it is desirable to perform a sub-select on a page to display summary data instead of pulling data from a column. Your web page might benefit from this design.

13. **Using Groovy in LabVantage:** Groovy is an agile dynamic object oriented language for the Java platform combining features from languages like: Python, Ruby and Smalltalk, making them available to Java developers using Java-like syntax. LabVantage web pages allow Groovy code to be inserted and used. Common uses for Groovy include the ability to import a java class or program for conditional processing.

211 –Web Page Designer (continued)

Typical daily agenda

Day One	Day Two	Day Three
Introduction	Security and eSig	Linked SDI Maint element
List Pages	Lookup Pages	Nested Selects
Advanced Toolbar	Page Group and Style	Groovy
Gizmos	Actions	
Maintenance Pages	JavaScript	

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 225 pages of indexed chapters each having a table of contents for your reference. The manual provides a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage.

220 – Workflow Administration

This three-day LabVantage Workflow designer course gives you the knowledge needed to develop and deploy Workflows. Through a series of lessons and hands-on exercises, this course explores the types and uses of variables, transition statements, queue selectors and many other workflow tools. You will learn how to create and configure steps and tasks in combination with Workflow modifications and other features. Scripted exercises give examples of how to leverage the tools to create a variety of responsive flowcharts and tasks to suit your own environment. Additional topics include assignment, security, and administrator tools and tips.

Prerequisites and Target Audience

Courses LabVantage 121-Administrator or 101-End User training must be completed prior to participating in Workflow Administration. Alternatively, participants should have a minimum of six months working experience as a LabVantage administrator within a production environment.

1. **Introduction to Workflows:** What is Workflow? What are its components? Understand the concepts of workflow behavior and the differences in how administrators and end-users access and use Workflows.

2. **Building & Using a Workflow:** How do I build a workflow? Learn the concepts of building a basic workflow and then explore the different approaches for adding samples to Workflows; understand the use of event plans within a Workflow.

3. **Introduction to Tasks:** Tasks represent an individual defined procedure in the overall completion of a workflow and range in design from quite simple to very complex. To understand how to design tasks ranging in complexity, you will first learn how to define tasks and link a series of tasks together using input/output queues and connectors. Understand the purpose of utility tasks and they are used within a workflow and, how to define steps and modify list pages used within a task. Understand the concept of variables and the ways they are used to affect the behaviors of steps, tasks and workflows. Use action blocks to combine a series of actions into one database transaction. Finally, learn how to enhance task appearances and provide instructions or attachments for the benefit of your end-users.

4. **Introduction to Steps:** Now that you understand tasks, we'll go a level deeper and explore how Steps are used to present data or contain an action within a task. What's the difference between a Form step and an HTML step and when would I use these? What does a Converter step do? How would I use a Splitter step?

5. **Task & Workflow Set-up Variables:** You've built a number of core tasks and workflows and want to reuse them across different projects or lab sections. Using set-up variables, you'll learn how to quickly modify task and workflow behaviors without impacting workflows already in use in your production environment. You'll also learn how auto-executing and descendent tasks are influenced by set-up variables in addition to exploring more new steps introduced in this chapter.

6. **Workflow Executions:** Knowing how you will be using your workflow will determine the type of execution you assign to it during its creation. Learn about the three types of executions and best practices for each one.

7. **Working with Input Queues:** How important is an input queue within my task? Understand the difference applications of queue selectors vs auto-selection and, how event waits influence the behavior of the queue selector.

8. **More Capabilities:** You've designed your workflow using tasks, steps, variables, events, and other features. Is it ready to use? How can I retrieve detailed information about a workflow when it's being used? You'll now explore the use of step tool bar buttons including the design and application of step specific buttons, use attachments within workflow, and discover how notes transfer between LIMS and workflows. Understand how steps can be used as stand-alone actions within LIMS, how a task can be cancelled or paused by your end-users and why this is useful. Finally, you will configure task and summary reports to provide task specific detailed information you and your end-users will find helpful.

9. **Assignment & Security:** How is work assigned within tasks? Is certification possible? How can I limit who has access to samples within a workflow? Discover the use of manual and auto-assignment, how to certify users and tasks and, departmental security concepts.

10. **Administrator Tools:** Just as your end-users have a variety of tools to help them work with their tasks and workflows, administrators also have a set of tools. We'll take an in-depth look at the workflow manager page and both the workflow and task operations tools for administrators.

11. **APIs**: Sometimes the out-of-box tools aren't quite enough when creating highly complex workflows For those who prefer to write their own solutions, you will be given reference materials to aid in the writing of custom steps as JSPs, the workflow processer (Java API) and using the Groovy step. Note: This is an advanced developer chapter and the materials for this chapter are provided for your reference upon completion of the Workflow training. There is no formal instruction for this chapter.

Typical daily agenda

Day One	Day Two	Day Three
Welcome & Overview	Task & Workflow Set-up Variables	More Capabilities (continued)
Introduction to Workflow	Workflow Executions	Assignment, Certification & Security
Building & Using Workflows	Input Queues	Administrator Tools & Tips
Introduction to Tasks	More Capabilities	Course Summary
Introduction to Steps		

The Materials

Recognizing that every student has a different learning style, LabVantage provides this professionally bound manual to benefit all students especially those who are tactile learners. The student manual consists of 328 pages of indexed chapters each having a table of contents for your reference. The manual provides a printed version of each slide used by the instructor during the presentation, along with prepared notes for your reference after the course. This workbook has color prints for the exercises leading you though examples of how to make the best use of LabVantage.