

## Illumina Experiment Manager: Narration Transcript ..... 1

### Illumina Experiment Manager: Narration Transcript

Section	Narration
Welcome	<p>Welcome to the Illumina Experiment Manager course.</p> <p>Illumina Experiment Manager helps you to create sample sheets for your Illumina sequencing projects.</p> <p>Press Next to continue.</p>
Course Navigation	<p>Before we begin, take a moment to review tips for navigating through this training.</p> <p>To view these directions from any page of the course, click Help, in the top right corner of the page.</p>
Course Objectives	<p>By the end of this course, you will be able to:</p> <ul style="list-style-type: none"> <li>• Identify the purpose of Illumina Experiment Manager</li> <li>• Identify terms in the Illumina Experiment Manager wizard</li> <li>• View or edit the default file repositories</li> <li>• Create or edit a sample plate</li> <li>• Create or edit a sample sheet</li> </ul>
Overview	<p>Illumina Experiment Manager is off-instrument software that allows you to enter sample information in a 96-well plate format, choose the indexes that identify those samples upon data analysis, and export a sample sheet in the proper format.</p> <p>Use Illumina Experiment Manager to create a sample sheet <i>before</i> starting sample or library preparation.</p> <p>For guidance in plate setup, you can print a plate layout page to take into the lab.</p>
Downloading the Software	<p>Always use the latest version of Illumina Experiment Manager. You can download it from the Illumina website.</p>
Sample Sheets and Sample Plates	<p>Illumina Experiment Manager helps you to create sample plates and sample sheets.</p> <p>First, create a sample plate. Sample plates store information about the samples in each well of a 96-well (or fewer) plate.</p> <p>Second, create the sample sheet. The sample sheet stores information required to set up, perform, and analyze a sequencing run.</p>
Terms in the Wizard	<p>When creating your sample sheets and sample plates, you will encounter the following terms.</p> <p>Click the terms to learn more.</p>
Quick Reference Cards	<p>Quick Reference Cards provide instructions specific to the sample or library preparation kit you are using. They are available for download from the Illumina website.</p>

Section	Narration
Getting Started	<p>This demo shows the steps to view version and contact information, and view or change your repository locations.</p> <ul style="list-style-type: none"> <li>• Click the IEM shortcut to launch the software.</li> <li>• Click the “I” icon from the home page to access version and Illumina contact information.</li> <li>• The Folder Settings option allows you to specify where you store the sample plates and sample sheets created with Illumina Experiment Manager.</li> <li>• Click Folder Settings. The current folders for your sample plate, sample sheet, manifest, and genome repositories display. To change the location where your files are saved, press Browse and choose a new location.</li> <li>• To ensure that files are accessible from the sequencing instrument in your lab, consider saving the files in a shared network folder or on a USB drive.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>
Creating Sample Plates	<p>This demo shows the general steps to create a sample plate. You can create your sample plates before creating your sample sheet, or you can create them during sample sheet creation. Consult the Illumina Experiment Manager Quick Reference Cards for instructions specific to the sample or library prep kit you are using.</p> <ul style="list-style-type: none"> <li>• Click Create Sample Plate.</li> <li>• Select your Sample Prep Kit type. In this example, we’ll use TruSeq HT. Click Next.</li> <li>• Enter a Unique Plate Name. Then, specify the number of Index reads. Available options depend on the kit you selected. Click Next.</li> <li>• Now, enter information for each of the samples on the plate.</li> <li>• Each line of the table corresponds with a well in a 96-well plate.</li> <li>• We enter information for the sample in well A1 in the first line of the table.</li> <li>• The Fill feature quickly populates any type of data for the wells in your sample sheet. The Fill feature automatically increases numerical data by 1 to create sequential data or copy data as-is from cell to cell.</li> <li>• Enter sequential data in 2 adjacent wells. Then, highlight the other cells you want to populate. Right-click the highlighted area and select Fill Down or Fill Right.</li> <li>• Click Apply Default Index Layout to auto populate the indexes for all index reads for 96 wells. After the index adapters are populated, you can edit them if you want to try a different combination of adapters.</li> <li>• If you want to use your modified index layout in the future, click Save As Default Index Layout. The next time you create a sample plate clicking Apply Default Index Layout will use your version, rather than the Illumina default index layout.</li> <li>• You can always restore the Illumina layout as the default later by clicking Restore Illumina Default Index Layout.</li> <li>• Click the Plate Tab for the plate view. You can use the pulldown field at the top of the page to change the view shown.</li> <li>• Click the Plate Graphic tab to view the plate wells. You can save a copy of your plate graphic by clicking Copy to Clipboard. You can paste the image into any graphics-enabled program, such as Paint, Microsoft PowerPoint, Microsoft Word, and Adobe Photoshop.</li> <li>• Click Finish to save the sample plate.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>

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Editing Sample Plates	<p>This demo shows you how to edit a sample plate.</p> <ul style="list-style-type: none"> <li>• Click Edit Sample Plate. Browse to the sample plate you want to change. Click Open.</li> <li>• You can change the Plate Name, if necessary. Click Next.</li> <li>• Update information for each of the samples. In this example, we update the sample ID for the third sample. The Plate Graphic also updates with our change.</li> <li>• Click Finish to update the sample plate. You can overwrite the existing sample plate, or you can save the edited sample plate as a new file.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>
Creating Sample Sheets	<p>The steps to create sample sheets in Illumina Experiment Manager depend on the instrument you are using.</p> <p>Select your instrument to view a demo of the steps.</p>
Creating MiSeq Sample Sheets	<p>This demo shows the general steps to create a MiSeq-compatible sample sheet. Consult the Illumina Experiment Manager User Guide or the appropriate Quick Reference Card for instructions specific to the library prep kit you are using.</p> <ul style="list-style-type: none"> <li>• Click Create Sample Sheet.</li> <li>• Click MiSeq, then click Next.</li> <li>• MiSeq Reporter requires that an analysis application is specified in the MiSeq sample sheet. You can learn more about the available MiSeq applications in the Illumina Experiment Manager User Guide.</li> <li>• Choose a MiSeq application category. We choose Small Genome Sequencing.</li> <li>• Then, choose a MiSeq application. We choose Resequencing.</li> <li>• Click Next.</li> <li>• Consult the Illumina Experiment Manager User Guide or the appropriate Quick Reference Card for more information on each of the fields listed here. Only fields with an asterisk are required.</li> <li>• Enter the Reagent Cartridge Barcode. You can find this barcode on the cartridge label.</li> <li>• Choose a Sample Prep Kit. You can find a list of supported sample prep kits, by application, in the Illumina Experiment Manager User Guide. We choose TruSeq LT.</li> <li>• Select the number of indexes for the samples on the plate. The number of indexes selected here must match what you selected when you created the sample plate. We choose 1.</li> <li>• Type an Experiment Name, Investigator Name, and Description.</li> <li>• Select the date.</li> <li>• Select the Read Type. We choose Paired End.</li> <li>• Select the number of cycles for each read, plus 1. If you are performing a paired-end run, Illumina recommends performing the same number of cycles in both reads.</li> <li>• Complete the workflow-specific settings. Options depend on the application you are using. Consult the Illumina Experiment Manager User Guide and/or the appropriate Quick Reference Card for more information on each of the fields here. Only fields with an asterisk are required.</li> <li>• Click Next.</li> <li>• Uncheck the Maximize checkbox if it is checked.</li> </ul>

Section	Narration
	<ul style="list-style-type: none"> <li>• Click Select Plate and select the plate you previously created.</li> <li>• Select the samples from the plate and add Add Selected Samples to move them to the sample sheet.</li> <li>• If you did not previously create a sample plate in IEM, click New Plate and enter information for the plate. Save the plate. Then, move the selected samples to the sample sheet.</li> <li>• Click Maximize to view only the sample sheet portion of the screen.</li> <li>• To remove any samples, click a field and click Remove Selected Rows.</li> <li>• If you want to enter sample information manually, click Add Blank Row and enter the sample information. If you want to enter sample information manually, click Add Blank Row and enter the sample information. You can use this method to create a sample sheet without a sample plate.</li> <li>• Certain applications require a genomic reference. Use the pulldown field to specify the path where the FASTA reference fields are saved.</li> <li>• Click Finish and save the sample sheet. Save the sample sheet with the same name as the MiSeq reagent barcode. Using this filename allows the MiSeq Control Software to find the correct sample sheet when you set up your run in MiSeq Control Software.</li> <li>• Click Yes to view the sample sheet in Microsoft Excel, if desired.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>
Creating Sample Sheets - Creating a HiSeq/HiScanSQ/GA Sample Sheet	<p>This demo shows the general steps to create a HiSeq, HiScanSQ, or Genome Analyzer-compatible sample sheet. Consult the Illumina Experiment Manager User Guide for specific instructions.</p> <ul style="list-style-type: none"> <li>• Click Create Sample Sheet.</li> <li>• Click HiSeq/HiScanSQ/GA, then click Next.</li> <li>• Choose the instrument you are using. Click Next.</li> <li>• Select an application. You can learn more about the available applications in the Illumina Experiment Manager User Guide. We choose HiSeq FASTQ Only. Click Next.</li> <li>• Consult the Illumina Experiment Manager User Guide and/or the appropriate Quick Reference Card for more information on each of the fields here. Only fields with an asterisk are required.</li> <li>• Enter the Reagent Kit Barcode. You can find this number on the reagent kit ID from the label of either Box 1 or Box 2 of the SBS kit.</li> <li>• Select the Sample Prep Kit you are using. Consult the Illumina Experiment Manager User Guide for more information on the supported sample prep kits by application. We choose TruSeq HT.</li> <li>• Select the number of indexes for the samples on the plate. The number of indexes selected here must match what you selected when you created the sample plate. We choose 2.</li> <li>• Type an Experiment Name, Investigator Name, and Description. Select the date.</li> <li>• Select the Read Type. We choose Paired End.</li> <li>• Select the number of cycles for each read, plus 1. If you are performing a paired-end run, Illumina recommends performing the same number of cycles in both reads.</li> <li>• Complete the workflow-specific settings. Options depend on the application you are using. Consult the Illumina Experiment Manager User Guide and/or the appropriate Quick Reference Card for more information on each of the</li> </ul>

Section	Narration
	<p>fields here.</p> <ul style="list-style-type: none"> <li>• Click Next.</li> <li>• Uncheck the Maximize checkbox, if it is checked, to view both the sample plate and sample sheet information on the screen.</li> <li>• For each lane you are using on the flow cell, click the lane number 1 through 8 on the sample sheet area of the screen.</li> <li>• Click Select Plate and select the plate you previously created.</li> <li>• Select the samples from the plate and Add Selected Samples to move them to the sample sheet in the selected lane.</li> <li>• If you did not previously create a sample plate, click New Plate and enter information for the plate. Save the plate. Then, move the selected samples to the sample sheet.</li> <li>• Click Maximize to view only the sample sheet portion of the screen.</li> <li>• To remove any samples, click a field and click Remove Selected Rows.</li> <li>• If you want to enter sample information manually, click Add Blank Row and enter the sample information. You can use this method to create a sample sheet without a sample plate.</li> <li>• Click Finish and save the sample sheet.</li> <li>• Click Yes to view the sample sheet in Microsoft Excel, if desired.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>
<p>Creating Sample Sheets - Creating a NextSeq Sample Sheet</p>	<p>This demo shows the general steps to create a NextSeq-compatible sample sheet. The sample sheets generated by Illumina Experiment Manager are for use when operating the NextSeq in standalone mode, with the bcl2fastq2 software package.</p> <ul style="list-style-type: none"> <li>• Click Create Sample Sheet.</li> <li>• Click NextSeq. Click Next.</li> <li>• Select the NextSeq FASTQ Only application. Click Next.</li> <li>• Consult the Illumina Experiment Manager Use Guide or the appropriate Quick Reference Card for more information on each of the fields here. Only fields with an asterisk are required.</li> <li>• Enter the Reagent Kit Barcode. You can find the reagent kit ID on the label of either Box 1 or Box 2 of the SBS kit.</li> <li>• Select the Sample Prep Kit you are using. See the Illumina Experiment Manager User Guide for a list of supported sample prep kits by application. We choose TruSeq HT.</li> <li>• Select the number of indexes for the samples on the plate. The number of indexes selected here must match what you selected when you created the sample plate. We choose 2.</li> <li>• Type an Experiment Name, Investigator Name, and Description.</li> <li>• Select the date.</li> <li>• Select the Read Type. We choose Paired End.</li> <li>• Select the number of cycles for each read, plus 1. If you are performing a paired-end run, Illumina recommends performing the same number of cycles in both reads.</li> <li>• Complete the workflow-specific settings. Consult the Illumina Experiment Manager User Guide and/or the appropriate Quick Reference Card for more information on each of the fields here. Click Next.</li> <li>• Uncheck the Maximize checkbox to view both the sample plate and sample sheet information on the screen.</li> <li>• Click Select Plate and select the plate you previously created.</li> </ul>

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	<ul style="list-style-type: none"> <li>• Select the samples from the plate and Add Selected Samples to move them to the sample sheet in the selected lane.</li> <li>• If you did not previously create a sample plate, click New Plate and enter information for the plate. Save the plate. Then, move the selected samples to the sample sheet.</li> <li>• Click Maximize to view only the sample sheet portion of the screen.</li> <li>• To remove any samples, click a field and click Remove Selected Rows.</li> <li>• If you want to enter sample information manually, click Add Blank Row and enter the sample information. You can use this method to create a sample sheet without a sample plate.</li> <li>• Click Finish and save the sample sheet.</li> <li>• Click Yes to view the sample sheet in Microsoft Excel, if desired.</li> <li>• This demo is complete. Click Next to continue the course.</li> </ul>
Creating Sample Sheets - Creating a NeoPrep Sample Sheet	<p>This demo shows you the general steps to create a sample sheet for a NeoPrep Library Prep System run.</p> <ul style="list-style-type: none"> <li>• Select Create Sample Sheet.</li> <li>• Select NeoPrep. Click Next.</li> <li>• Choose the Sample Prep Kit you are using. We select TruSeq DNA.</li> <li>• Type a run name, operator name, and notes.</li> <li>• Select the date.</li> <li>• Enter the number of samples. The default is 16.</li> <li>• The Insert Size field is specific to the TruSeq DNA kit. We use an insert size of 350. Click Next.</li> <li>• Type a sample name for each sample.</li> <li>• The default well, index adapter, and index sequence display for each sample. If necessary, you can edit the defaults for well, index adapter, or insert size. Click the field and selecting a default value.</li> <li>• Click Finish to save the sample sheet.</li> <li>• Click Yes to view the sample sheet in Microsoft Excel, if desired.</li> </ul> <p>This demo is complete. Click Next to continue the course.</p>
For More Information	For more information, see the resources listed here.
Summary	You should now be familiar with Illumina Experiment Manager. Take a moment to review the key points for this course.
Course Completion	Congratulations! You have completed this course.