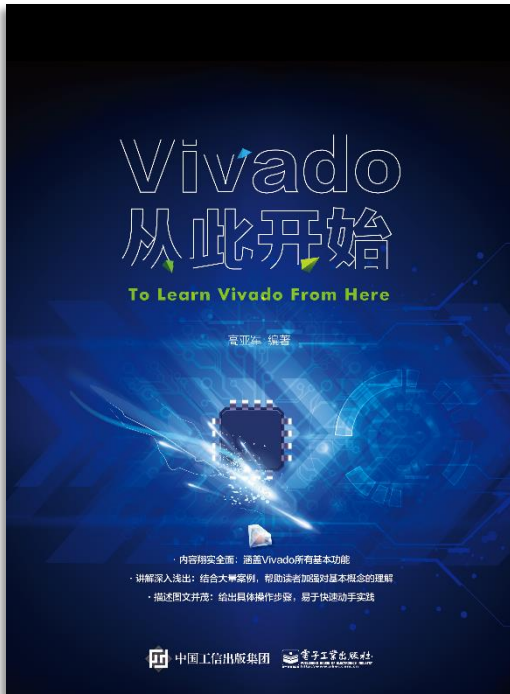


Vivado从此开始 (To Learn Vivado From Here)



本书围绕Vivado四大主题

- 设计流程
- 时序约束
- 时序分析
- Tcl脚本的使用



作者：高亚军（Xilinx战略应用高级工程师）

- 2012年2月，出版《基于FPGA的数字信号处理（第1版）》
- 2012年9月，发布网络视频课程《Vivado入门与提高》
- 2015年7月，出版《基于FPGA的数字信号处理（第2版）》
- 2016年7月，发布网络视频课程《跟Xilinx SAE学HLS》

- ◆ 内容翔实全面：涵盖Vivado所有基本功能
- ◆ 讲解深入浅出：结合大量案例，帮助读者加强对基本概念的理解
- ◆ 描述图文并茂：给出具体操作步骤，易于快速动手实践



XILINX

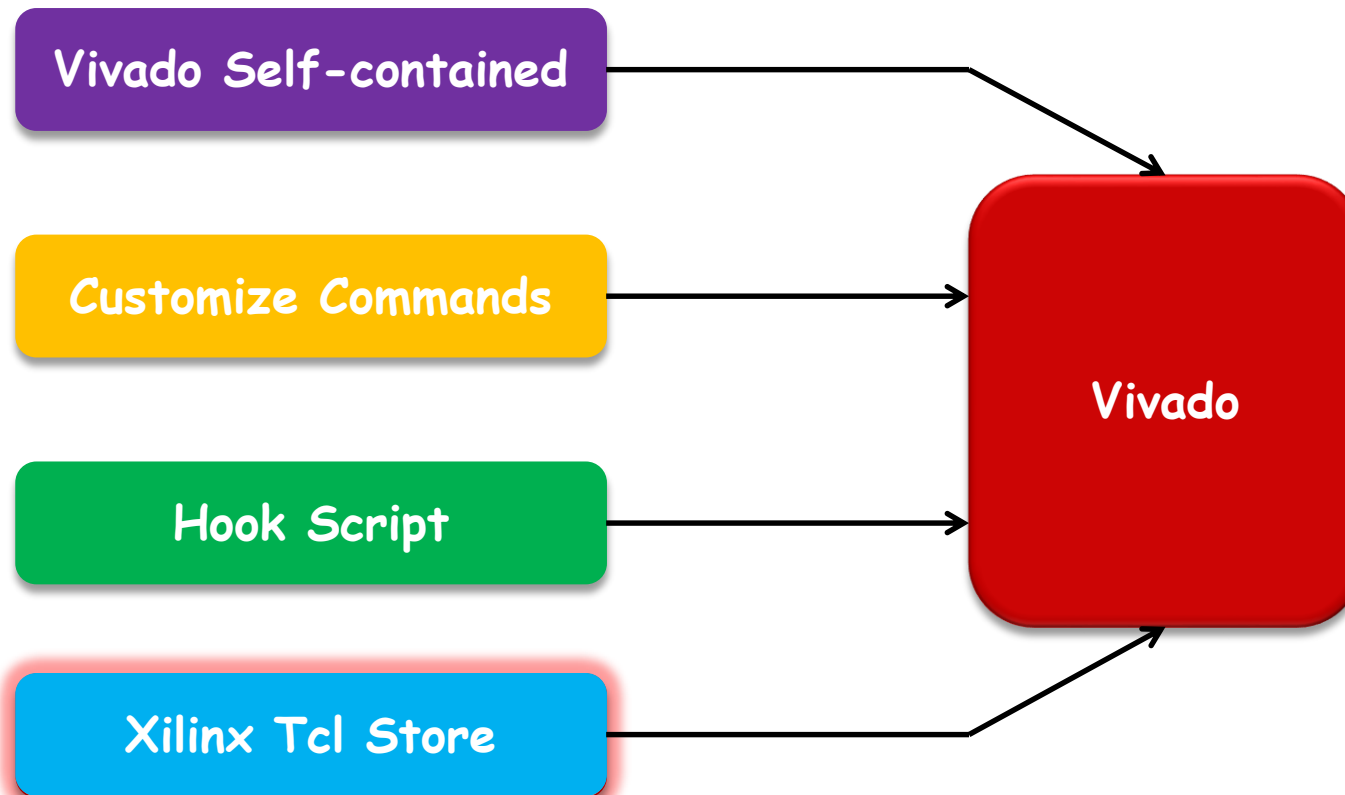
ALL PROGRAMMABLE™

TCL, Vivado One World

Part 5: Xilinx Tcl Store

Lauren Gao

Tcl Sources in Vivado



Introduction to Xilinx Tcl Store

➤ Tcl - Tool Command Language

- Common scripting language for all of Vivado
- Extremely important for constraining and debug

➤ A method to develop and share useful Tcl code

- Xilinx
- 3rd Parties
- Customers and users

➤ Controlled Experience

- Tested code - no malware
- Native integration - searching, using, packaging
- Common, basic coding standards
- Documentation and help

What's a Tcl App?

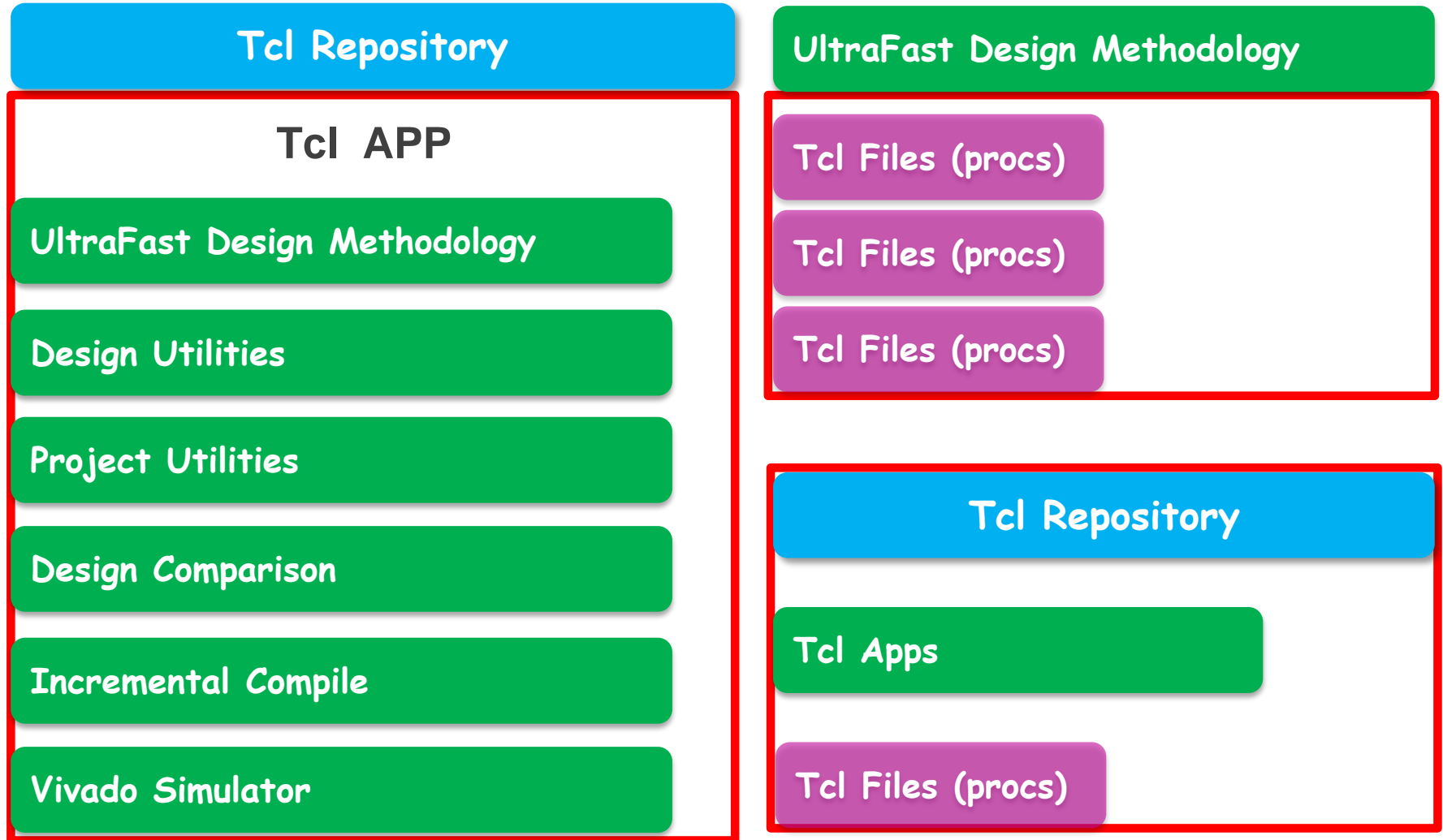
➤ A module that has functionality that extends Vivado native Tcl

- Consists of some code
 - one or more Tcl files, with procs
 - some packaging files (more Tcl)
 - A catalog xml file
 - An icon - optional

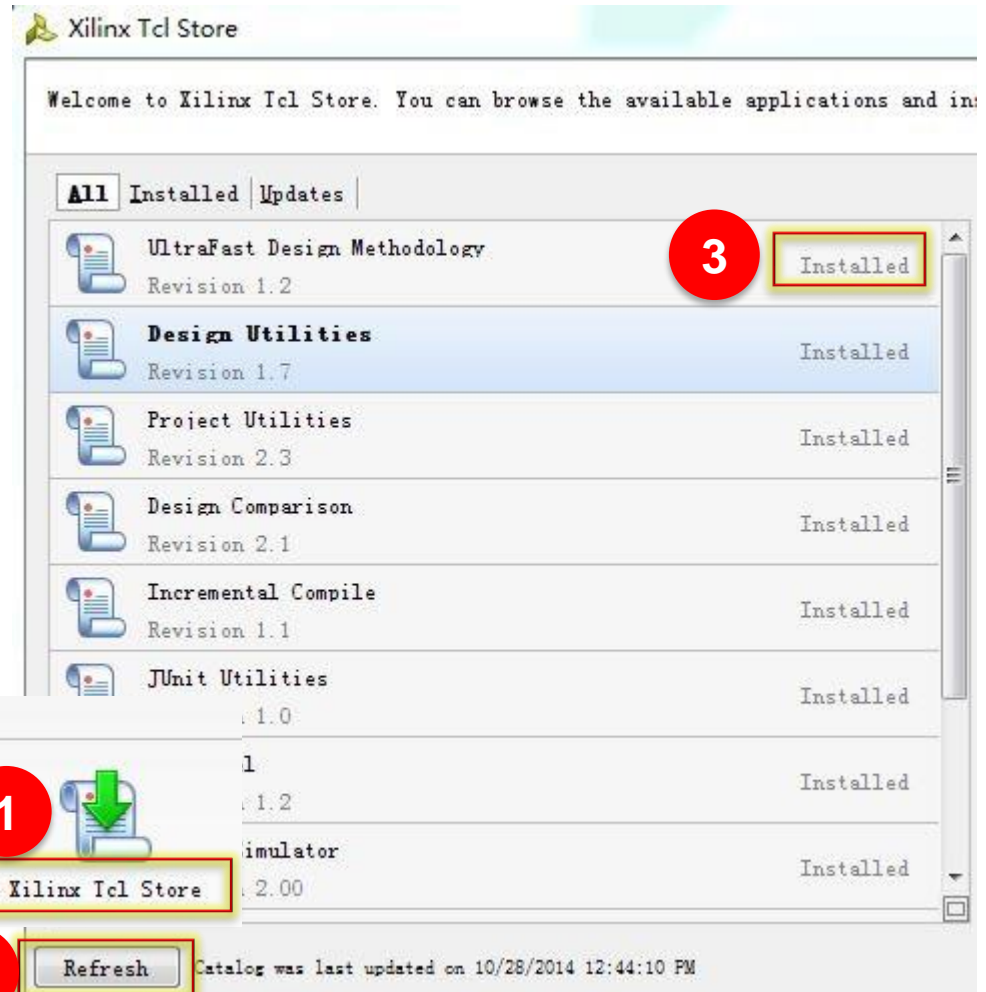
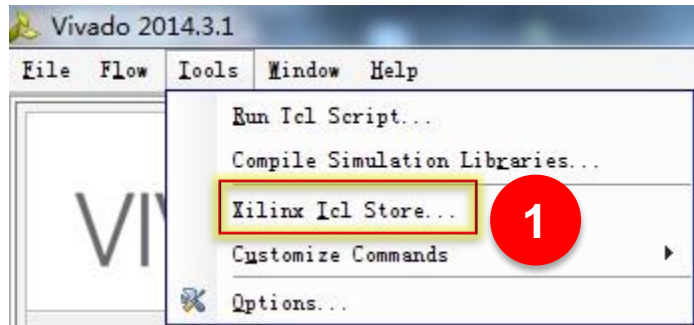
➤ Tcl App Repository

- A collection of Tcl Apps
- Repository is hosted by a 3rd party web server
- Latest versions of all apps are shipped with Vivado

Architecture of Xilinx Tcl Store



Installing an App



Tasks



Manage IP



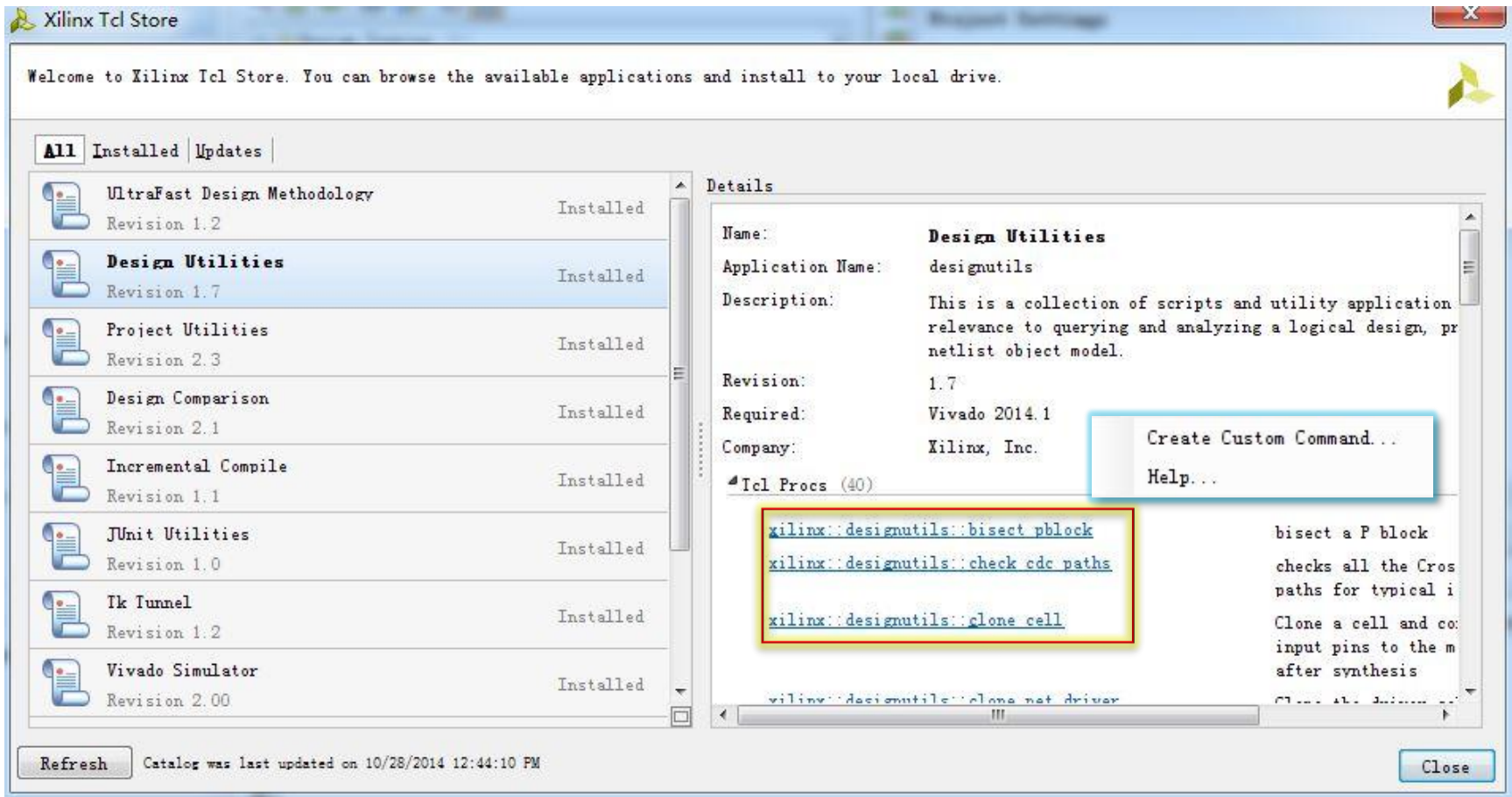
Open Hardware Manager




Xilinx Tcl Store


Refresh

After Installing the Tcl App...



Accessing the Tcl procs from an Installed App

- Once an app has been installed, all the procs that belong to this app can be accessed in two different ways
 - From the `::xilinx::myapp namespace::Tcl Proc` 
 - From the app namespace `::tclapp::mycompany::myapp`

```
vivado>::xilinx::designutils::write_template   
Vivado>::tclapp::xilinx::designutils::write_template
```

*The first way supports number of default command line arguments such as **-help**, **-verbose** and **-quiet***

Updating an App

The screenshot shows the Xilinx Tcl Store window. At the top, it says "Welcome to Xilinx Tcl Store. You can browse the available applications and install to your local drive." Below this, there are tabs for "All", "Installed", and "Updates". The "Updates" tab is selected, and a red circle with the number "2" is placed over it. In the main list, the "Incisive® Enterprise Simulator IES" app is shown with a yellow warning icon and a red circle with the number "1" next to it. The "Update" button for this app is highlighted with a red box. To the right, the "Details" panel for the app is visible, showing the "Improved script generation runtime" update with its own "Update" button. At the bottom left, a "Refresh" button is highlighted with a red box, and the text "Catalog was last updated on 10/28/2014 12:44:10 PM" is displayed. A "Close" button is at the bottom right.

Xilinx Tcl Store

Welcome to Xilinx Tcl Store. You can browse the available applications and install to your local drive.

All | Installed | **Updates**

Incisive® Enterprise Simulator IES [What's New](#) **Update**

Revision

1

2

Refresh Catalog was last updated on 10/28/2014 12:44:10 PM

Details

Improved script generation runtime [Update](#)

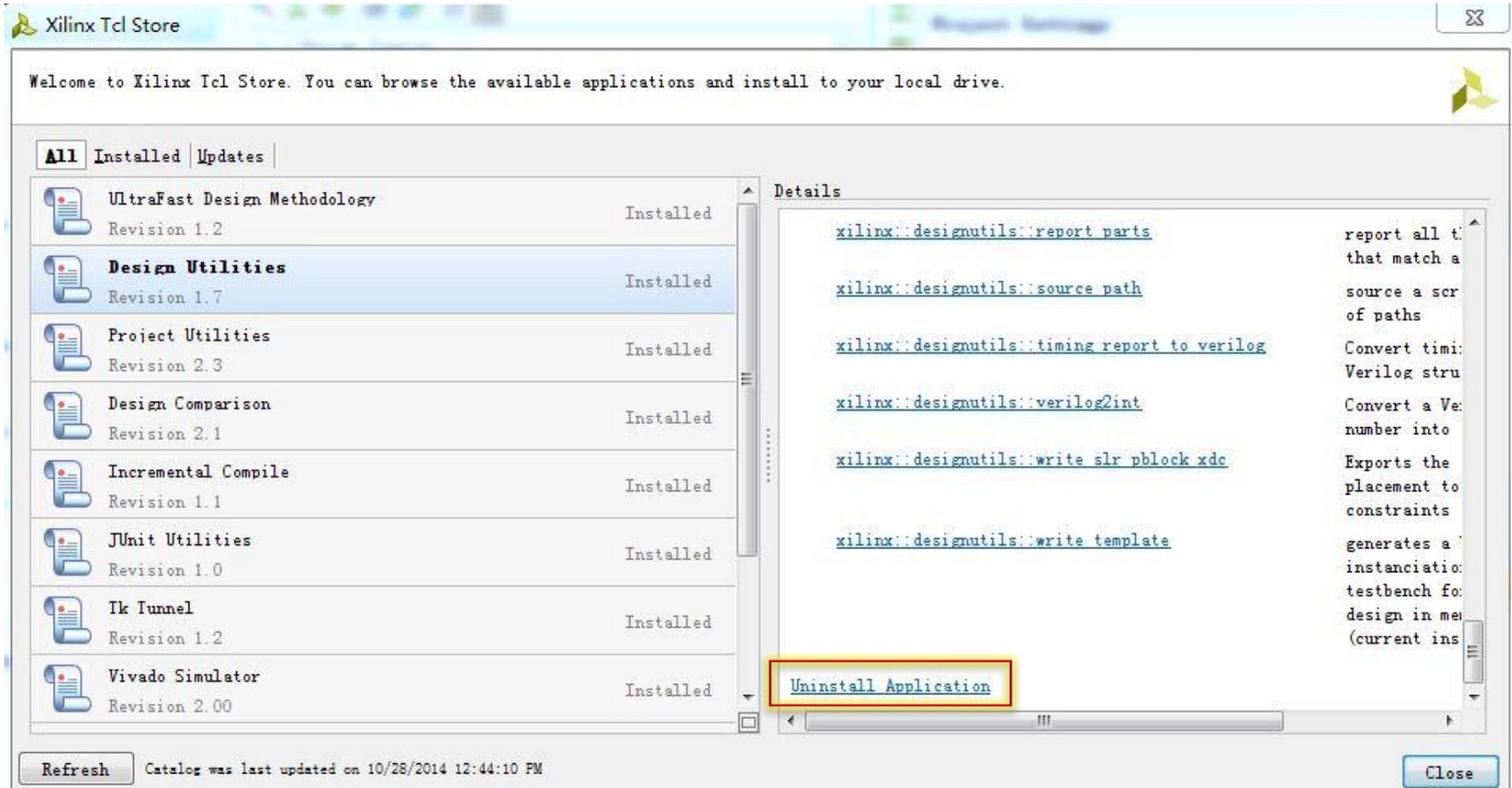
Name: **Incisive® Enterprise Simulator IES**

Application Name: ies

Description: This is a Cadence® Incisive® Enterprise Simulator (IES) integration app that implements the simulation flow in Vivado to allow users to compile, elaborate and simulate a design. To simulate a design this app, set the target simulator in th simulation settings to 'Incisive Enterpr Simulator (IES)' and then click on the 'Simulation' button in the IDE to launch simulation. You can also generate simula scripts for the design in the 'scripts o

Close

Uninstalling an App



The screenshot shows the Xilinx Tcl Store application window. The title bar reads "Xilinx Tcl Store". Below the title bar, a welcome message states: "Welcome to Xilinx Tcl Store. You can browse the available applications and install to your local drive." The main area is divided into two panes. The left pane, titled "All", contains a list of installed applications with their revision numbers. The right pane, titled "Details", shows the details for the selected application, "Design Utilities". A red box highlights the "Uninstall Application" link at the bottom of the details pane. At the bottom of the window, there is a "Refresh" button, a timestamp "Catalog was last updated on 10/28/2014 12:44:10 PM", and a "Close" button.

Application Name	Revision	Status
UltraFast Design Methodology	Revision 1.2	Installed
Design Utilities	Revision 1.7	Installed
Project Utilities	Revision 2.3	Installed
Design Comparison	Revision 2.1	Installed
Incremental Compile	Revision 1.1	Installed
JUnit Utilities	Revision 1.0	Installed
Tk Tunnel	Revision 1.2	Installed
Vivado Simulator	Revision 2.00	Installed

Details for Design Utilities:

- [xilinx::designutils::report_parts](#): report all t... that match a...
- [xilinx::designutils::source_path](#): source a scr... of paths
- [xilinx::designutils::timing report to verilog](#): Convert timi... Verilog stru...
- [xilinx::designutils::verilog2int](#): Convert a Ve... number into
- [xilinx::designutils::write slr_pblock xdc](#): Exports the... placement to... constraints
- [xilinx::designutils::write template](#): generates a... instanciatio... testbench fo... design in mer... (current ins...

[Uninstall Application](#)

Refresh Catalog was last updated on 10/28/2014 12:44:10 PM Close

Additional Information for Contributors

➤ Repository Hosted on GitHub:

– <https://github.com/Xilinx/XilinxTclStore>

➤ How to set up Git and GitHub:

– <https://help.github.com/articles/set-up-git>

➤ Wiki explains how to contribute:

– <https://github.com/Xilinx/XilinxTclStore/wiki/Xilinx-Tcl-App-Store-Home>

DEMO